Order Code RL33759

CRS Report for Congress

Health Care and Markets

Updated January 5, 2007

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Prepared for Members and
Committees of Congress

Health Care and Markets

Summary

Health care spending is one of the most rapidly growing portions of the federal budget. Projections suggest if the rapid growth in health care costs is not curtailed, governments at all levels will face an uncomfortable choice between significant cuts in other spending priorities or major tax increases. This report examines the economic justification for government intervention and involvement in health care markets.

Many analysts claim market-oriented policies, in certain instances, could lower costs and enhance efficiency in health care. This report discusses the Invisible Hand Theorem, which states that when certain assumptions hold, market outcomes will be efficient. These assumptions require that no one has an informational advantage over another, that no spillover effects exist in consumption or production, that no one exerts market power, and that no scale economies exist in production.

Many characteristics of health care markets fail to satisfy the assumptions of the Invisible Hand Theorem. Moreover, fundamental characteristics of health care (such as informational asymmetries between patients and health care professionals and between payers and providers, as well as ethical and distributional concerns) complicate efforts to expand the use of market or market-like incentives in health care.

Rising health care costs in part reflect the cost of technological advances, whose benefits exceed their costs, and the aging of the U.S. population. The growing role of third-party reimbursement over the past half century weakened incentives to minimize costs and thus has also led to higher health care costs. Many analysts have called for initiatives which would improve the functioning of health care markets, such as improving consumer information and allowing greater use of bargaining. These initiatives may help reduce or slow the growth of health care costs, but may also have unintended negative consequences. Greater use of market-like incentives can improve the efficiency of the health care system, but only if they take into account the special characteristics of health care.

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Health Care and Markets

Introduction

Many analysts, policy makers, and politicians argue that the U.S. health care system would perform better if market or market-like institutions played a larger role. This view is based on the belief held by economists that markets generally work most efficiently when left alone, provided that certain conditions are met. These conditions essentially state that consumption or production by one person does not affect others, that no one has a privileged position in the market, and that property rights are well-defined. If those conditions are violated, however, markets may function inefficiently, which is what economists call "market failure." Government intervention may enhance economic efficiency, although in other cases government action may exacerbate market failure. The special characteristics of health care often lead to market failures. The extent of government activity vis-a-vis the health system is seen by many economists and health care analysts as a policy response to the inequalities and inefficiencies associated with such market failures.

Health care professionals often view a market orientation as a threat to their traditions, ethics, and culture. A bottom-line mentality, they argue, cannot deliver the same high quality of care as the so-called traditional approach based on professional ethics and responsibilities. Critics such as Arnold Relman, editor emeritus of the *New England Journal of Medicine*, denounce the "medical-industrial complex" for its dedication to profitability rather than patient well-being.[1] Nevertheless, health care institutions have always cared both about profits and patients. As one historian noted, "in many respects [hospitals] have behaved as businesses. But, ... hospitals have simultaneously carried symbolic and social significance as embodiments of American hopes and ideals."[2]

Even if some view market forces and the use of the price system to allocate health care services as an intrusion, consumers and providers of health care are strongly affected by economic incentives. Hospitals cut the average length of an inpatient stay sharply after Medicare switched from cost-based reimbursement to paying a flat diagnosis-related fee.[3] Physicians increased the volume (i.e., number of patient visits) and intensity of patient care (i.e., number or complexity of services

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[1] Arnold S. Relman, "The New Medical-Industrial Complex," *New England Journal of Medicine*, vol. 303 (Oct. 1980), pp. 963-970.

[2] Rosemary Stevens, *In Sickness and Wealth*, (New York: Basic Books, 1989), p. 6.

[3] Louise B. Russell, *Medicare's New Hospital Payment System: Is It Working?* (Washington, DC: Brookings, 1989), pp. 25-46,

provided in an average visit) seen after reductions in Medicare Part B payments.[4] Consumers use less health care when they must pay a larger share of the cost. These behavioral responses, although predicted by economic theory, do not necessarily enhance economic efficiency. The challenge for those who wish to expand the use of market incentives in health care is to design policies that align material incentives facing consumers and providers of health care so that changes in behavior enhance economic efficiency.

Both friends and foes of the expanding role of markets have sometimes relied on crude ideas about what markets can or cannot accomplish. This report explains what well-grounded economic theory has to say about the limits and capabilities of the market in the health care sector. These limits and capabilities then outline what the government can or cannot do to improve the health care system's performance. The report provides an overview of efforts to expand the use of market or market-like institutions in health care and considers effects of these initiatives or proposals on the federal budget. Reforms that are designed to address sources of market failure have better chances of enhancing economic performance than those that are not. Nonetheless, improving the performance and efficiency of the health system presents significant policy and political challenges even to well-designed reforms.

The U.S. Health Care System

The U.S. health care system is a complex mixture of public and private providers of care, paid for by a mixture of public and private payers, staffed by dozens of health professionals working in clinics, hospitals, nursing homes, private offices, health maintenance organizations, work sites, and home settings, among other venues. This patchwork system provides patients with a broad set of alternatives; gives health professionals in general, and physicians in particular, a substantial degree of autonomy; and assigns separate, if often overlapping, responsibilities among various levels of government. The complexity of the U.S. health system, which gives it considerable flexibility, is also one of the principal causes of its inefficiencies. Dissatisfaction with the performance of the U.S. health care system has spurred interest in using market or market-like institutions to generate better results and lower costs.

International Comparisons

While the U.S. is a leader in areas of medical technology, outcomes for several key public health indicators, such as average longevity and infant mortality, are among the bottom quarter of the 30 advanced industrial countries that comprise the

[4] Centers for Medicare and Medicaid Services, "Physician Volume and Intensity Response," memorandum from Volume-and-Intensity Response Team, Office of the Actuary, HCFA, to Richard S. Foster, Chief Actuary, August 13, 1998; available at [http://www.cms.hhs.gov/ActuarialStudies/downloads/PhysicianResponse.pdf.]

Organization for Economic Cooperation and Development (OECD).[5] Comparisons of specific conditions or procedures find the U.S. health system does better in some areas and worse in others. An OECD study of ischemic heart care found that the United States used more intensive procedures and had lower mortality rates for older patients, but had higher mortality rates for younger (40-64) patients compared to other OECD countries.[6] Another study used data from Australia, Canada, England, New Zealand, and the United States to compare quality. Twenty-one quality of care indicators were selected on the basis of comparability and importance. These researchers found that each country was best on at least one indicator and worst on at least one indicator. Among these five countries, the United States did worst on kidney transplant survival rates, second worst on liver transplants, and worst on incidence of Hepatitis B, but did best for breast cancer survival, incidence of measles, and the cervical cancer screening rate.[7]

The United States spends far more on health care by any measure than any other country in the world.[8] National health expenditures per capita reached $7,256 in 2006.[9] One of every six dollars spent in the United States is spent on health care. That proportion is projected to rise to one in five by 2015.[10] In 2004, U.S. health care spending was $6,102 per person, about a third higher than Switzerland, which had the second highest level of spending at $4,077 per person.[11] This spending is not due either to differences in the proportion of population aged over 65 or higher direct costs of malpractice claims.[12]

While the United States spends more on health care than other countries, fewer health care resources per capita are available compared to many other advanced

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[5] Uwe E. Reinhardt, Peter S. Hussey, and Gerard F. Anderson, "Cross-national Comparisons of Health Systems Using OECD Data, 1999," *Health Affairs*, vol. 21, no. 3 (May/June 2002), pp. 169-181.

[6] Pierre Moise, Stéphane Jacobzone, et al., *OECD Study of Cross-national Differences in the Treatment, Costs and Outcomes of Ischaemic Heart Disease*, (Paris: OECD, May 2003), p. 8.

[7] Peter S. Hussey et al., "How Does The Quality Of Care Compare In Five Countries?" *Health Affairs*, vol. 23, no. 3 (May/June 2004), pp. 89-99.

[8] Gerard F. Anderson, Peter S. Hussey, Bianca K. Frogner and Hugh R. Waters, "Health Spending In The United States And The Rest Of The Industrialized World," *Health Affairs*, vol. 24, no. 4 (July/Aug. 2005), pp. 903-914.

[9] Population Projections Branch, U.S. Census Bureau, U.S. Interim Projections by Age, Sex, Race, and Hispanic Origin, released May 11, 2004, and Christine Borger et al., "Health Spending Projections Through 2015: Changes On The Horizon," *Health Affairs*, vol. 25, no. 2 (2006), pp. 61-73.

[10] Ibid., pp. 61-73.

[11] The city-state Luxembourg, which spent $5,089 per person, is excluded. All data were taken from the OECD Health Database, June 2006.

[12] Gerard F. Anderson et al., "Health Spending In The United States And The Rest Of The Industrialized World," *Health Affairs*, 24, no. 4 (July/Aug. 2005), pp. 903-914 and Uwe E. Reinhardt, Peter S. Hussey, and Gerard F. Anderson, "U.S. Health Care Spending In An International Context," *Health Affairs*, vol. 23, no. 3 (May/June 2004), pp. 10-25.

nations. The number of physicians per capita in the U.S. is about two-thirds of the OECD average, and the number of hospital beds per capita is lower than the OECD average, so greater use of medical care cannot explain the spending difference between the United States and other OECD countries. A 1996 McKinsey research project found that health care providers in the United States were more efficient, in the sense of producing more outputs for a given amount on inputs, than those in Germany and to some extent than those in the United Kingdom. However, prices of medical inputs and administrative costs were much higher in the United States.[13]

Health Care Costs and Public Spending

Health care costs take up a large and growing part of the economy and of public budgets. The two largest health programs in the federal budget, Medicare and Medicaid, will cost together $582 billion, or 4.5% of gross domestic product (GDP).[14] Medicare Part A costs per beneficiary grew on average 4.66% a year between 1970 and 2005, and Part B costs grew on average 8.76% a year over the same period.[15] One Congressional Budget Office (CBO) scenario anticipates that in 2050 Medicare spending will take up 8.6% of GDP, with Medicaid taking up another 4.0% of GDP, even aside from state contributions to Medicaid.[16] Medicaid is one of the largest and fastest growing components of state spending budgets. In FY2004, Medicaid accounted for 22.3% of total state spending, which was slightly larger than the 21.4% spent on elementary and secondary education. The size and rapid growth of Medicaid spending led the National Governors' Association and the National Association of State Budget Officers to call the program "the dominant force in state spending."[17]

Governments in general and the federal government in particular are deeply involved in health care markets. Public spending in 2004 accounted for 45% of national health expenditures, up from 38% in 1970. Federal spending alone was 32% of national health expenditures, up from 24% in 1970. Furthermore, federal involvement in health care extends well beyond spending. Health care markets are extensively regulated, and the federal tax code affects health care markets in important ways. In particular, the cost of the federal tax exemption for employer-paid health insurance premiums exceeds that of any federal health program other than

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[13] McKinsey Global Institute, *Healthcare Productivity*, Oct. 1996, available at [http://www.mckinsey.com/mgi/publications/healthcare.asp].

[14] Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2007 to 2016*," Jan. 2006, p. 52 et seq.

[15] Author's calculation using data from Table V.B1, "HI and SMI Average per Beneficiary Costs" in the *2006 Annual Report of the Boards of Trustees of the Federal Hospital Insurance Trust Fund and the Federal Supplementary Medical Insurance Trust Fund* and GDP deflator data from the Bureau of Economic Analysis.

[16] See the discussion of the intermediate spending/lower revenues scenario in the CBO Report, *The Long Term Outlook*, Dec. 2005.

[17] National Governors Association and the National Association of State Budget Officers, *The Fiscal Survey of States*, June 2006, pp.vii and 10.

Medicare and Medicaid. CBO estimates that limiting this exemption could increase federal revenue by $706 billion for the 10-year period 2005-2014.[18]

The pace of health care costs and the expanding public role in health care have stoked interest in using market incentives to slow or limit costs and to improve quality of outcomes. The nature of health care, however, provides some inherent limits to the effectiveness of the market.

Market Failure and Health Care

Economists' belief in the efficiency of markets is based on the Invisible Hand Theorem, which states that market outcomes are efficient, so long as certain conditions hold.[19] These conditions are:

- **No externalities**. An externality, or spillover effect, exists when one's consumption or production affects the ability of another to consume or produce. Public goods, defined as goods which more than a single person can enjoy at the same time, are a special type of externality.[20]

- **Symmetric information**. Everyone knows the same things. No one has an informational advantage over others.

- **No market power**. No one acts as if he can influence prices through his actions.

- **Voluntary trade**. Property rights are well-defined and individuals can refuse trades that make them worse off.[21]

The Invisible Hand theorem takes the distribution of buying power as given. However, to the extent society cares about fairness or the evenness of distribution,

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[18] See discussion of "Revenue Option 15" in the CBO Report *Budget Options*, Feb. 2005. This option would treat employer contributions for health insurance or health care above $720 a month for families or above $310 a month for individuals as taxable income. For a comprehensive discussion of tax benefits for health spending, see CRS Report RL33505, *Tax Benefits for Health Insurance and Expenses: Overview of Current Law and Legislation*, by Bob Lyke.

[19] Among economists, the Invisible Hand Theorem is called the First Welfare Theorem. See Gerard Debreu, *Theory of Value*, (New Haven: Yale, 1959), pp. 94-96 for a proof.

[20] More precisely, a good is considered a pure public good if the cost of allowing one more person to enjoy its benefits is zero. For example, a radio broadcast can be considered a pure public good because the cost of adding one listener is zero.

[21] A technical condition on consumer preferences (non-satiation) that rules out "bliss points," is also required. This discussion uses the assumption of symmetric information, rather that the assumption that individuals possess perfect information used in standard proofs. A proof of the First Welfare theorem with symmetric information requires slightly stronger conditions on consumer tastes.

it may wish to use taxes and transfers to alter the distribution of buying power. If transfers and taxes could be made without economic distortions, then society could move to another distribution of buying power, and the economy would run at full efficiency.[22] In practice, however, all taxes and transfers will cause some economic distortions. Thus, society alters the distribution of buying power to a more "fair" allocation, but at some cost of economic efficiency.

Externalities and Public Goods

Epidemics are a classic example of externalities. Without some form of coordination, individuals will contribute inefficiently small amounts for the prevention of contagious diseases. Therefore, an efficient government can improve public well-being by imposing taxes and spending an appropriate amount on prevention and public health.

Information gained through medical research is an example of a public good, because the same information can benefit many people simultaneously. Individual donations, however, would yield an inefficiently low level of support for medical research. Charging those who benefit from better medical technology or procedures can provide a partial solution; but, to the extent that some patients will be priced out of the market, economic inefficiencies will persist. What economists define as public goods are often financed by private individuals or groups. For example, privately supported basic research is an example of a privately funded public good. Many goods provided by governments are private goods, not public goods. Extending the benefits of police, fire, and municipal trash collection to more people generally requires a proportionate increase in resources, so such services would not be considered a public good by economists.[23]

Redistribution of resources to the poor, according to some economists, can also be considered a public good.[24] In this view, each member of society would benefit by the knowledge that all other members were kept from falling below some minimum standard of living. However, the "warm glow" that each member might feel from redistribution that ensured that minimum standard often falls short of an intensity sufficient to induce opening of one's own pocketbook. Compulsory taxation provides a way to finance redistribution by sharing the cost among all taxpayers. Many people would derive some satisfaction from knowing that a health care system fulfilled the ethical norm that access to medical care was available regardless of ability to pay. Supporting such a system, as a practical matter, requires government intervention.

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[22] This is the Second Welfare Theorem.

[23] Tom Means and Stephen Mehay, "Estimating the Publicness of Local Government Services: Alternate Congestion Function Specifications," *Southern Economic Journal*, vol. 61, no. 3 (Jan. 1995), pp. 614-627.

[24] Mark V. Pauly, "Income Distribution as a Local Public Good," *Journal of Public Economics*, vol. 2 (1973), pp. 35-58.

Informational Advantages and Market Failure

The lack of symmetric information is the source of many of the key problems in health care. When consumers know the quality and price of goods, they can search to find higher-quality and lower-priced goods. This puts pressure on firms to increase quality and reduce price. When consumers cannot see prices or quality, however, markets work less well. In general, when one party knows more than another party, market failure can occur. Economists distinguish among several different types of asymmetric information, which are considered as follows.[25]

The Principal-Agent Problem. The principal-agent problem occurs when one person, the principal, must delegate some decision or activity to an agent, who has special knowledge. If the principal can directly assess outcomes and effort, then no problem exists. However, if the principal cannot observe how hard the agent works or if the principal is unable to tell the difference between incompetence and bad luck, then market failure can result. The interaction of a patient and a physician is an example of principal-agent relationship. The patient goes to a physician because the physician has special knowledge. The physician, however, faces different incentives that are not always aligned with the patient's best interests. For example, the physician may be paid more by ordering a test whose costs exceed its benefit. Or the physician may have a patient make additional visits, whose benefits fall short of their costs.

A physician's reputation can provide one solution to the principal-agent problem. If a good reputation brings benefits to a physician, and if patients occasionally get some information of whether a physician is acting in their best interests or not, then physicians will have an incentive to avoid actions which would damage their reputations. However, if patients rarely obtain information on whether a physician acts in their best interest, or if the penalty of losing a good reputation is too small, then the agents will have weak incentives to be faithful to their principal, and the principal will use physicians less often.

Centralized tracking of physicians is another possible solution. Centralized mechanisms, such as licensure requirements, exist to certify that physicians have received appropriate training. The National Practitioner Data Bank (NPDB) contains information on malpractice claims and disciplinary actions against health care professionals. Governments, hospitals, health plans, and related organizations can access specific records, but individuals cannot. Some consumer groups have attempted to compile their own databases that would allow consumers to assess the quality of different physicians. (So far, these databases are fragmentary and limited.)

Third-party monitoring can also give incentives for health care providers to maintain and improve quality. Accreditation or certification of health care providers gives consumers and payers a seal of approval for institutions that meet certain

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[25] This discussion follows Kenneth Arrow, "Uncertainty and the Welfare Economics of Medical Care," *American Economic Review*, vol. 53, no. 5 (1963). For a modern analysis of market failure in health care markets see Peter Zweifel and Friedrich Breyer, *Health Economics*, (New York: Oxford Univ. Press, 1997), ch. 5.

standards. The National Committee on Quality Assurance (NCQA) conducts research on managed care plans and performs accreditation audits, and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) accredits hospitals and related institutions.

Adverse Selection and Splintering of Risk Pools. Adverse selection occurs when some personal *characteristics* which affect health care costs are hidden from others. Pricing of insurance contracts cannot then depend on differences in those characteristics. If sicker and healthier persons are indistinguishable, they will pay the same health insurance premiums. Legal or administrative measures can also induce insurers to charge the same premiums to individuals with differing characteristics, which is called "community rating" in the context of health insurance. If sicker and healthier persons face the same premiums, sicker persons face stronger incentives to enroll in insurance plans and to choose more generous health plans. Health plans that attract a higher proportion of sicker enrollees will have higher average costs. If health insurers are unwilling to sustain losses, higher average costs lead to higher premiums, which gives healthier individuals incentive to purchase less insurance relative to a situation in which adverse selection were absent.

Insurance companies in a competitive market face strong incentives to attract low-risk customers and avoid high-risk customers, which they can do through underwriting. Underwriting is the process of assessing levels of risk associated with different insurance contracts and setting terms, conditions, and prices for those contracts. Underwriting splinters the insured population into smaller and smaller risk groups, and reduces risk sharing across a broader population. For auto and property insurance this is standard. Adverse selection is less of a problem because insurers can predict risk using observable characteristics of drivers and their claims history. Pooling careful and careless drivers in effect compels careful drivers to subsidize careless drivers. This pooling would be inefficient if such implicit subsidies caused careless drivers to either drive more or drive less well, or if resulting increases in premiums caused careful drivers to buy less insurance. To the extent the risk of having auto insurance claims is associated with choices, including the choice of whether to drive or not, underwriting raises no strong issues of fairness.

Health care is often viewed differently than other kinds of goods, and health insurance has always worked differently than other lines of insurance. Few would argue that anyone has a right to be a careless driver. On the other hand, differences in health costs are often presumed to stem from factors which are beyond the control of individuals.[26] The idea that access to health care should be equal has had enormous influence on health policy. The need to use health care is typically viewed as a result of bad luck or genetics, rather than carelessness. To the extent that individual demand for health care is unaffected by insurance status, the costs of providing health care can be considered a fixed sum. In this case, the practice of medical underwriting, which consists of offering better prices and conditions to the healthy, rearranges the cost burden of health care but does not affect overall costs.

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[26] For example, few employers offer plans which charge non-smokers lower premiums than smokers, suggesting a strong reluctance to use experience rating within groups even when cost differences are strongly associated with behavioral choices.

That is, while an individual insurer earns higher profits by attracting a healthier risk pool via medical underwriting, total costs are not reduced. Because underwriting consumes real resources, administrative costs in a system with medical underwriting will be higher than when all risks are pooled.

Pooling dissimilar risks may be unsustainable in competitive markets. If the proportion of sicker people in a pool is small enough and if economies of scale make larger plans more efficient, then a mixed insurance pool will be stable. If healthier persons remain in the same plans as sicker people, then in effect they subsidize sicker persons. If the proportion of sicker persons is sufficiently large, however, private insurance providers can earn a profit by introducing plans that attract a preponderance of healthier people.[27] As healthier people leave the mixed insurance pools, average costs for remaining enrollees increase, leaving more individuals unable to afford health insurance. This dynamic is often termed a "death spiral."

The ability to organize large pools of diverse individuals is a central advantage of employer-based health insurance, which has dominated the U.S. health care system for the past half century.[28] Blue Cross/Blue Shield's adherence to the "community rating" principle spreads risks across large, heterogenous pools, but was vulnerable to for-profit insurers' pricing strategies that offered lower rates for firms with healthier employees. Some see the shift of market share from Blue Cross plans that use community rating to for-profit insurance plans, which offer lower premiums to healthier groups, as an example of a death spiral.[29] Other researchers, however, contend the introduction of community rating need not result in a death spiral.[30]

The tax exemption for employer-provided health care was a major factor in the expansion of employee-based health insurance. While linking health insurance with employment has advantages of low administrative costs and broad pooling of risks, the tax exemption gives the largest subsidies to those with the most generous health plans, and for employees with a choice of plans, encourages the choice of more generous plans. Tying health insurance to employment, which the tax exemption encourages, can discourage employees from switching jobs, a problem know as "job lock." To address this problem, the President's Advisory Panel on Tax Reform recommended capping this tax exemption.[31]

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[27] For a presentation of the economic theory of insurance in the presence of information asymmetries, see Michael Rothschild and Joseph E. Stiglitz, "Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information," *Quarterly Journal of Economics*, vol. 90, no. 4(1976), pp. 630-49.

[28] For an overview of the U.S. health insurance market, see CRS Report RL32237, *Health Insurance: A Primer*, by Bernadette Fernandez.

[29] Paul Starr, *The Social Transformation of American Medicine*, (New York: Basic, 1983), pp. 327-331.

[30] Thomas C. Buchmueller and John E. DiNardo, "Did Community Rating Induce an Adverse Selection Death Spiral? Evidence from New York, Pennsylvania and Connecticut," *American Economic Review*, vol. 92, no. 1. (Mar. 2002), pp. 280-294.

[31] President's Advisory Panel on Tax Reform, *Simple, Fair, and Pro-Growth: Proposals*
(continued...)

Organizing government-sponsored risk pools is another way to ensure that the risks of incurring major health care costs are spread across a large population. In single-payer systems, such as Canada's, all eligible persons are in the same pool. Putting all Canadians in a single pool and the ban on private health insurance prevents any splintering of the health insurance market that could trigger a death spiral, and ensures that the health care costs of the sickest patients are borne by the whole population.

A more limited approach is to set up risk pools, which allow those with serious medical problems to obtain health insurance.[32] As of 2005, 33 U.S. states had set up risk pools that offer insurance to individuals denied insurance due to an existing medical condition. Despite subsidies from state funds, risk-pool premiums are much more expensive than premiums paid by healthy individuals who have employer-provided insurance.[33] In 2004, state subsidies totaled more than $0.5 billion, and premiums typically cost 125% to 150% of comparable individual market premiums. The number of enrollees in risk pools (about 180,000 in 2004) comprises only a small fraction of the pool of uninsured.[34] Adjusting payments to plans and providers based on characteristics of enrollees, a method Medicare uses to set rates for its HMO capitation program, can provide incentives for private insurers to treat a pool of patients more efficiently rather than to focus on attracting a healthier pool of patients. If insurers were paid less for covering healthy patients and more for covering sicker patients, insurers would have a weaker incentive to attract the healthy and avoid the sick. So far, however, Medicare uses crude rules of thumb to set reimbursement adjustments, which do not appear to have changed incentives facing insurers in significant ways.

Providing people with the opportunity to extend or renew their health insurance coverage can provide some protection against the effects of splintering risk pools. If insurance plans are subject to frequent renewal decisions that may depend on past claims history, then insurance becomes less of a shield against financial calamity and more of an installment plan. Congress and several states have enacted reforms intended to preserve enrollees' ability to renew coverage. The Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA, P.L. 99-272) contains provisions which allow retirees, former employees, and dependents to pay 102% of the full, normal premium to continue coverage. Terminated employees may obtain COBRA coverage for 18 months, and in other circumstances COBRA benefits are

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[31] (...continued)
to Fix America's Tax System: Report of the President's Advisory Panel on Federal Tax Reform, Nov. 2005.

[32] For state-level details, see CRS Report RL31745, *Health Insurance: State High Risk Pools*, by Bernadette Fernandez.

[33] Mark Merlis, "Fundamentals of Underwriting in the Nongroup Health Insurance Market: Access to Coverage and Options for Reform," National Health Policy Forum Background Paper, Apr. 13, 2005, pp. 19-21. A list of state risk pools is available at [http://www.healthinsurance.org/riskpoolinfo.html].

[34] Bruce Abbe, "Overview — State High Risk Health Insurance Pools Today," available at [http://www.selfemployedcountry.org/riskpools/overview.html].

available for 36 months or longer if the employer is willing to continue coverage. Because employers typically contribute a portion of the cost of premiums, obtaining insurance under COBRA usually costs former employees much more than what current employees pay for health insurance, but less than individual health insurance plans.[35] On average, employees pay 16% of premium costs for individual coverage and 27% for family coverage.[36]

The Health Insurance Portability and Accountability Act of 1996 (HIPAA, P.L. 104-191), also known as the Kassebaum-Kennedy bill, restricted preexisting condition exclusions and limited insurers' ability to deny coverage. HIPAA also guaranteed eligible employees' ability to renew coverage and to carry over coverage when changing employers, a provision intended to reduce job lock.[37] HIPAA, however, set no limits on premium increases, so insurers could discourage HIPAA-eligible persons from enrolling by setting premiums at high levels.[38]

Almost all state governments have enacted reforms to to limit experience rating of small group and nongroup health insurance. Some states also require insurers to issue policies, and many more have extended COBRA and HIPAA provisions regarding continuation of health insurance coverage.[39]

Despite various federal and state measures intended to limit experience rating and expand health insurance coverage, many people, especially those with preexisting conditions, have trouble finding affordable health insurance.[40] The health insurance trade association reported in 2002 that 71% of applicants were offered standard premiums and 12% were rejected.[41] A 1996 GAO study found that insurers on average rejected 18% of applications.[42]

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[35] U.S. Dept of Labor, Employee Benefits Security Administration, "FAQs About COBRA Continuation Health Coverage," available at [http://www.dol.gov/ebsa/faqs/faq_consumer_cobra.html].

[36] Kaiser Family Foundation, *Employer Health Benefits 2006 Annual Survey*, Sept. 2006, sec 6.

[37] For an account of the passage of this bill see Brian K. Atchinson and Daniel M. Fox, "The Politics Of The Health Insurance Portability and Accountability Act," *Health Affairs*, vol. 16, no. 3 (May/June 1997).

[38] Merlis, op. cit., pp. 13-14.

[39] Merlis, op. cit., pp. 15-16.

[40] Merlis, op. cit., pp. 10-12.

[41] Thomas Musco and Thomas Wildsmith, "Individual Health Insurance: Access and Affordability," Health Insurance Assoc. of America Brief Analysis, Oct. 2002, available at [http://www.heartland.org/Article.cfm?artId=15320].

[42] U.S. General Accounting Office, *Private Health Insurance: Millions Relying on Individual Market Face Cost and Coverage Tradeoffs*, GAO/HEHS-97-8, Nov. 1996, p.43.

Moral Hazard. Moral hazard occurs when a person's *actions* are unobservable, so that changes in behavior cannot be observed.[43] In particular, moral hazard refers to changes in behavior that affect the risks being insured. For example, after a person obtains health insurance she may take less care to remain healthy or may visit her physician more often than necessary. Moral hazard in health insurance may be limited by non-insurable costs. For instance, going to the physician takes time, having procedures performed is painful, and neglecting one's health can cause problems which medical care cannot easily cure.

Copayments and deductibles are standard methods to limit moral hazard. Efficient insurance policies, according to economic theory, require individuals to pay for relatively small, regularly occurring expenses, such as eyeglasses and routine dental care, but pay a major part of large, unexpected expenses. The value of insurance is higher for rare or unusual expenses which would cause serious financial disruption for a household. The high administrative costs of handling small claims lowers the value of insurance for small, routine costs. Thus economic theory suggests that if consumers are informed and rational then insurance with "doughnut" provisions, which cover small- and high-cost claims, but which fail to cover claims over some intermediate range, are inefficient.[44] The Medicare Part D drug coverage is one example of health insurance with a doughnut provision.

Empirical evidence shows that patients who do not pay copayments and deductibles receive more health care. The RAND Health Insurance Experiment, which randomly assigned families to insurance plans, found that free care encouraged health care use. Families that paid nothing for their health care were about 10% more likely to use medical care, and incurred about 25% more medical expenses than families with 25% copay plans. Families with 50% and 95% copay plans were less likely to use medical care and incurred fewer medical expenses.[45] Health status for those receiving free care was little different than health status for those in copay plans, with two exceptions. First, people with poor vision and free care had slightly improved vision compared to others. Second, low-income populations with free care had fewer problems with high blood pressure. Within that high-risk group, better control of high blood pressure appeared to lessen mortality risks.[46] Another study, using data from the Medical Outcomes Study, found that older patients with chronic conditions who had zero or low copayments consumed more medical care than those with high copays.[47]

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[43] Pauly, Mark V. 1974. "Overinsurance and Public Provision of Insurance: The Roles of Moral Hazard and Adverse Selection." *Quarterly Journal of Economics* vol. 88, pp. 44-62.

[44] Arrow (1963), op. cit., Appendix.

[45] W. G. Manning et al, "Health Insurance and the Demand for Medical Care," *American Economic Review*, vol. 77, no. 3 (June 1987).

[46] R.H. Brook et al., "Does Free Health Care Improve Adults Health?" *New England Journal of Medicine*, vol. 309 (1983), pp. 1426-34.

[47] Mitchel D. Wong et al., "Effects of Cost Sharing on Care Seeking and Health Status: Results from the Medical Outcomes Study," *American Journal of Public Health*, vol. 91, no.11 (Nov. 2001), pp. 1889-1894.

Requiring families to pay a portion of their health care costs, according to the usual theory of supply and demand, reduces demand for low-benefit care. To the extent that costs of some types of care exceed their benefits, excluding such items is a more efficient way to design insurance plans. Demand for health care items whose benefits greatly exceed their costs should be affected to a lesser degree, if patient behavior conformed to standard economic assumptions. There is mixed evidence, however, that higher copayments have different effects on low-benefit and high-benefit care. The RAND Health Insurance Experiment and the Medical Outcomes Study found that higher patient copays and deductibles reduced use of low-benefit items, but also reduced consumption of some high-benefit items as well. That suggests demand for health care responds to monetary incentives, but that patients often have difficulty in distinguishing high-benefit and low-benefit care, or that some portion of the patient pool responds to monetary incentives and another portion does not. On the other hand, a 1996 study found that requiring Kaiser-Permanente HMO enrollees to pay $25 to $35 for emergency room visits reduced overall emergency room visits by 15%, while the reduction in emergency room visits for conditions classed as "always an emergency" was small and statistically insignificant.[48]

The extraordinary cost of a major medical intervention presents a difficult dilemma to those who design cost-sharing provisions in health insurance plans. While few patients incur huge charges, that small percentage of cases accounts for a large proportion of total health care costs. On one hand, a health insurance plan has limited value if it does not prevent a health emergency from becoming a financial calamity. Forcing families to pay even a fraction of the costs of an expensive medical episode could strain the finances of most families, even to the point of bankruptcy.[49] On the other hand, if insurance pays all, or nearly all, of the charges associated with a major health episode, then patients, their families, and their physicians have little incentive to control costs, even if the resulting benefits are minimal.[50] One study found no correlation between spending on care for terminal patients and regional mortality rates, suggesting that either higher spending yields little or no benefit in mortality or that data aggregated by region are too crude to identify effects.[51] Many plans have out-of-pocket limits that commit the insurer to pay all charges above a certain level, which provides families with substantial protection against financial calamity at the cost of eliminating monetary incentives to avoid items or procedures with only low or speculative benefits. In some cases, administrative and financial incentives may induce terminal patients to be treated in

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[48] Joe V. Selby et al., "Effect of a Copayment on Use of the Emergency Department in a Health Maintenance Organization." *New England Journal of Medicine*, vol. 334, no. 10 (Mar. 7, 1996), pp. 635-642.

[49] David Himmelstein, Elizabeth Warren, Deborah Thorne, and Steffie Woolhandler, "Illness and Injury As Contributors To Bankruptcy," *Health Affairs*, *vol.* 24 (2005), pp. 63-73.

[50] One solution that preserves the value of insurance while introducing price incentives would be to allow families to receive cash in lieu of aggressive treatment. See Margaret M. Byrne and Peter Thompson, "Death and Dignity: Terminal Illness and the Market for Non-treatment," *Journal of Public Economics*, vol. 76, no. 2 (May 2000), pp. 263-294.

[51] J. Skinner and John E. Wennberg, "How Much is Enough? Efficiency and Medicare Spending in the Last Six Months of Life," National Bureau of Economic Research Working paper 6513, 1998.

high-cost settings, even when patients have expressed a desire to be treated in a low-cost hospice or home setting.[52]

Imposing tighter controls on access to medical care by imposing gatekeeper requirements is another way to limit moral hazard. Most managed care plans require a primary care physician or insurance plan representative to approve hospital visits, procedures, and specialist visits. Managed care plans substantially increased their share of the health insurance market in the late 1980s and early 1990s, a development driven in part by the belief that managed health care and health maintenance plans could control costs. Some research suggested that cost growth moderated in markets where managed care plans had larger market shares.[53] Other evidence suggests that managed care plans do not deliver lower costs.[54] In the late 1990s, consumer dissatisfaction slowed or even reversed the expansion of managed care, although HMO and managed care plans avoided losing market share by loosening controls on access to care and by expanding into the Medicare population.[55]

Pressures on the Employer-Provided Health Insurance. Employer-based health benefits, the bulwark of the American health insurance system, is increasingly under strain, threatening the health insurance system's ability to spread the financial risks associated with significant medical problems. The number of people covered by employer-provided health insurance has been dropping since 2000, as insurers have been willing to trade higher margins for lower enrollments. More people are buying individual health plans, but this increase is dwarfed by the decrease in group coverage.[56] Many firms have sought to push a greater share of health cost increases onto employees and retirees, which has become a major source of labor-management conflict.[57] Health benefits remain a standard feature of benefit packages for nearly all businesses with more than 200 employees and for firms that tend to employ high-wage employees.[58] High-wage employees are more likely to fall within higher marginal tax brackets, and therefore gain more from the tax exemption of employer-provided health insurance than low-wage employees. For instance, a high-

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[52] Melinda Beeuwkes Buntin and Haiden Huskamp, "What Is Known About the Economics of End-of-Life Care for Medicare Beneficiaries?" *The Gerontologist*, vol. 42, special issue III (2002), pp. 40-48.

[53] Jack Zwanziger and Glenn A. Melnick, "Can Managed Care Plans Control Health Care Costs?" *Health Affairs*, vol. 15, no. 2 (summer 1996), pp. 185-199.

[54] J. Sung, M. Wessel, S.F. Gallagher, J. Marcet, M.M. Murr. "Failure of Medicare Health Maintenance Organizations to Control the Cost of Colon Resections in Elderly Patients," *Archives of Surgery*, vol. 139, no. 12 (Dec. 2004), pp. 1366-70.

[55] M. Susan Marquis, Jeannette A. Rogowski, and José J. Escarce, "The Managed Care Backlash: Did Consumers Vote with Their Feet?" *Inquiry*, vol. 41, no. 4, pp. 376 — 390.

[56] James C. Robinson, "The Commercial Health Insurance Industry in an Era of Eroding Employer Coverage," *Health Affairs*, vol. 25, no. 6 (Nov.-Dec. 2006), pp. 1475-86.

[57] Margaret Ann Cross, "Rising Costs Strike Unions As Being Cause for Unrest," *Managed Care*, May 2003.

[58] Kaiser Family Foundation/Health Research and Educational Trust 2005 Annual Employer Health Benefits Survey (Kaiser/HRET) available at [http://www.kff.org/insurance/chcm091405nr.cfm].

wage employee whose income puts her in the 35% marginal tax bracket saves 35¢ in taxes for every dollar shifted from post-tax compensation to health insurance paid in pre-tax dollars. A low-wage employee who pays no federal income tax gains zero tax advantage from shifting compensation to health benefits. Without some curtailment of the employer-provided health insurance tax exemption, medium and large businesses and firms that tend to hire high-wage individuals will continue to offer health benefits.

Smaller businesses and firms that employ large numbers of low-wage workers, who gain less from tax exemptions, face a stronger temptation to drop or curtail health insurance benefits as health premiums rise. The percentage of small businesses that offer health benefits dropped from 69% in 2000 to 60% in 2005.[59] Low-wage workers may be more willing to take the risk of going without health insurance in exchange for higher take-home pay, although low-wage individuals are more likely to have poor health status.

For example, in 2005 fewer than half of Wal-Mart employees were in its health insurance plan. While some worked too few hours or had not worked long enough to be eligible, many others passed up coverage because of the high cost of benefits relative to their earnings.[60] A large proportion of workers obtained coverage for themselves or their children through public insurance programs such as Medicaid and State Children's Health Insurance Program (SCHIP).[61] An internal 2005 Wal-Mart memorandum stated that 46% of employees' children were either uninsured or covered by Medicaid. In April 2006, in the face of pressure from unions and several state legislatures, Wal-Mart announced changes in its benefits package intended to increase the attractiveness of its health insurance plan, which shortened waiting periods and expanded availability of health benefits.[62]

Public and private health insurance systems do not smoothly conjoin to offer low-income individuals and their families stable and predictable financial protection against medical costs. In addition, the interaction of public and private insurance programs can distort incentives for low-wage individuals and the firms that employ them. Although enrollments in Medicaid and SCHIP increased in the 1990s, in recent years some states have tightened eligibility standards while other states have

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[59] Ibid.

[60] Steven Greenhouse and Michael Barbaro, "Wal-Mart Memo Suggests Ways to Cut Employee Benefit Costs," *New York Times*, Oct. 26, 2005. See "Wal-Mart Announces Additional Health Benefits Improvements and Timeline," available at [http://www.walmartfacts.com/articles/1650.aspx]. Under Wal-Mart's benefit plan introduced in Apr. 2006, full-time associates become eligible for health benefits in six months, and part-time associates becomes eligible in one year.

[61] Wal-Mart claims that about 80% of their employees have health insurance coverage, either through family members or public insurance programs such as Medicaid or Veterans' Health Administration. See [http://www.walmartfacts.com/FactSheets/832006_Health_Care.pdf].

[62] Wal-Mart Fact Sheet, "What's the Story about Wal-Mart Health Care Benefits?" available at [http://www.walmartfacts.com/FactSheets/832006_Health_Care.pdf].

expanded coverage.[63] Low-income families lose their eligibility for Medicaid when their incomes rise above state-specific earnings thresholds, which imposes a high implicit marginal tax rate on earnings of those families, serving as a deterrent to work.[64] Some firms that tend to hire low-wage workers have trouble offering insurance plans as attractive to low-income families as public insurance programs supported by tax dollars. Firms that offer low-wage workers health benefits find that through the tax system they pay health insurance costs of their competitors' employees as well as their own. In addition, waiting periods for benefits and other eligibility hurdles impose barriers to insurance benefits and health care access for low-wage workers, who change jobs more frequently and are more subject to economic and social disruptions than workers with greater financial resources.

Changing Incentives for Technological Innovation. Most health economists and practicing physicians, according to one survey, believe that "the primary reason for the increase in the health sector's share of GDP over the past 30 years is technological change in medicine."[65] In other sectors of the economy, most notably those involving computers and information technology, technological advances brought better and cheaper products. Asking why technology causes higher costs in health care but lower costs elsewhere is natural. Part of the answer lies in how incentives facing developers of new medical technologies interact with the structure of health care finance.

Inventors and developers, if motivated by profits, must consider who will pay for new technologies and innovative products. Because of the dominant role of insurers and governments in health care finance, converting breakthroughs in medical technology into financial success generally depends on what private and public insurers are willing to include in their coverage plans. Unlike other lines of insurance, the limits of health insurance are set by fundamentally ill-defined contracts. Property insurance contracts promise protection against specifically defined threats to specific objects. Health insurance contracts cannot specify what ill-health is or what comprises "routine health care." Because medical knowledge and technology are constantly advancing, what is considered experimental medicine today may become standard tomorrow.[66]

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[63] Donna C. Ross and Laura Cox, "In a Time of Growing Need: State Choices Influence Health Coverage Access for Children and Families," Kaiser Commission on Medicaid and the Uninsured Report, Oct. 2005, available at [http://www.kff.org/medicaid/upload/In-a-Time-of-Growing-Need-State-Choices-Influence-Health-Coverage-Access-for-Children-and-Families-Report.pdf].

[64] Statement of Linda T. Bilheimer, Deputy Assistant Director for Health, CBO, in U.S. Congress, House Committee on Ways and Means, Subcommittee on Health, 106th Cong., 1st sess., Apr. 8, 1997.

[65] Victor R. Fuchs, "Economics, Values and Health Care Reform," *American Economic Review*, vol. 86, no.1 (Mar. 1996), p. 8. A minority of economic theorists, however, believed technological change was to blame for increasing medical costs.

[66] Burton A. Weisbrod, "The Health Care Quadrilemma: An Essay on Technological Change, Insurance, Quality of Care, and Cost Containment," *Journal of Economic Literature*, vol. 29, no. 2, (June 1991), pp. 523-552.

The amorphousness of health insurance affects incentives to engineers and researchers. Because health insurance makes patients and physicians less sensitive to price, developers have stronger incentives to invent new treatments or technologies which do something new or better, rather than invent cheaper ways of doing existing things. Innovation in computer hardware technology is mainly focused on making cheaper computers that run faster. If firms and individuals had "computer insurance," computers might perform more esoteric tasks, but at a much higher price.

One solution is to design health insurance plans that will pay an amount equivalent to the cost of an existing technology. If a patient wanted a newer and better technology, then the patient would have to pay out of her pocket. If the new technology's benefits warranted its higher costs, then presumably the patient would be willing to pay the extra amount. For example, an insurer could set reimbursement for pharmaceuticals aimed at a specific condition equal to the cost of an existing drug with known efficacy. If a drug company developed a more effective drug for that condition that was more expensive, then the patient would pay the difference. If the gain in efficacy was large compared to the increase in price the consumer would presumably be more willing to choose that drug. This reimbursement policy would provide developers of new medical technologies with a powerful incentive to make newer products better and cheaper.

While fixing reimbursement levels for new pharmaceuticals at the level of existing approved drugs would give drug developers strong incentives to consider the costs and prices during the R&D process, it could also create pricing anomalies in the short run. For instance, a study based on data from the Clinical Antipsychotic Trials in Intervention Effectiveness (CATIE) found no significant differences in quality-of-life measures for second-generation drugs and a first-generation drug (perphenazine), even though newer drugs cost $300 to $600 more per month.[67] Thus, for some patients, switching to an older antipsychotic could yield large cost savings. However, different patients with the same condition often respond differently to the same drug, and patients with schizophrenia often must try several different drugs to find one that is clinically effective and does not create serious side effects. Some patients will do better with a second-generation drug, while other patients with the same condition will do better with a first-generation drug. If reimbursement levels of second-generation drugs were set at the level of first-generation drugs, either some patients would pay substantially more (or someone would pay more on their behalf) for their treatment using a second-generation drug, or they would have to use a first-generation drug which, for them, works less well.

Market Power. Health care providers often have substantial market power. Shopping around for the most attractive health provider when sick or injured is difficult or impossible. Switching physicians or health plans is costly and inconvenient for patients, and changing health insurers is costly and time-consuming for businesses. Prices for individual health services are difficult to find. Drug and

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[67] Robert A. Rosenheck, Douglas L. Leslie, Jody Sindelar, et al., "Cost-Effectiveness of Second-Generation Antipsychotics and Perphenazine in a Randomized Trial of Treatment for Chronic Schizophrenia," *American Journal of Psychiatry*, vol. 163 (Dec. 2006), pp. 2080-2089.

device manufacturers have legal monopoly powers due to patent protection. While major buyers, such as governments, have bargaining power which can allow them to buy at lower prices, individuals have little or no bargaining power.

In other markets consumers can, in effect, hire a firm or organization to bargain on their behalf. A Wal-Mart shopper enjoys the benefits of the company's bargaining power with manufacturers. A union member enjoys the benefits of collective bargaining, such as better working conditions and higher pay. Similarly, a patient benefits from the bargaining power of his employer with his insurer, as well as from the insurer's bargaining power with health care providers.[68] Likewise, a retiree can benefit from the government's bargaining power. Lower prices for health care in other OECD countries are, to a large extent, due to the willingness of governments to use their bargaining power with providers.[69] If consumers have a wide choice of organizations or firms that can negotiate on their behalf, then competition will ensure that consumers will reap most of the benefits. If consumers cannot easily choose or switch among such organizations, however, then the middlemen will capture a larger portion of those bargaining benefits for themselves. Moreover, while the bargaining power of employers, insurers, and governments benefits consumers, as compared to a situation in which consumers face providers directly, bargaining interactions among employers, insurers, and providers create economic distortions which can reduce efficiency.[70]

Efficiency and Redistribution in Health Care

Economists tend to separate questions of efficiency from questions of redistribution. If market failure occurs, market outcomes are not efficient in the sense that other outcomes exist that would make some people better off without making anyone else worse off. Even if markets are efficient, society may decide to redistribute resources, despite efficiency losses. Designing policy, according to mainstream view of public economics, is a matter of achieving a given set of distributional goals with a minimal loss of efficiency.[71]

The introduction of Medicare and Medicaid in 1965 was in large part motivated by distributional concerns. Before Medicare, a disproportionate share of the elderly lived in poverty. A generation later, poverty is less common among the elderly than

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[68] Henry J. Aaron, "A Funny Thing Happened on the Way to Managed Competition," *Journal of Health Politics, Policy and Law*, vol. 27, no. 1, February 2002.

[69] Gerard F. Anderson, Uwe E. Reinhardt, Peter S. Hussey, and Varduhi Petrosyan, "It's The Prices, Stupid: Why The United States Is So Different From Other Countries," *Health Affairs*, vol. 22, no. 3 (May/June 2003), pp. 89-105.

[70] Mark V. Pauly, "Managed Care, Market Power, and Monopsony — Examining the Role of Regulation in an Evolving Healthcare Marketplace," *Health Services Research*, vol. 33, no. 5 pt. 2 (Dec. 1998), pp. 1439-1460.

[71] In some cases, treating individuals more equally may enhance economic efficiency. If incomes depend in some part on luck or other random causes, then a social insurance policy that reduces income inequalities can enhance economic efficiency. For details see Gareth D. Myles, *Public Economics*, (New York: Cambridge, pp. 6-7, 470-484).

among other age classes. The origins of Medicaid stem from various poor-relief programs, which were extended and embedded in a multi-billion-dollar federal-state program.[72]

One interpretation of redistributional programs aimed at the poor is that they act as an insurance program that all members of society join before birth. Some part of regular taxes constitutes the premium for this social insurance, and individuals collect benefits if they suffer bad luck of some sort that makes them poor. Social insurance provides protection against some consequences of becoming poor, at the cost of higher taxes for others. Medicaid, because it is aimed at low-income groups and those impoverished as a result of poor health, provides substantial social insurance benefits.

The Federal Budget and Market-Oriented Health Care Reform

The rapid rise in health care costs is straining public budgets at all levels of government, and projected increases in health care costs promise to intensify pressures on public budgets.[73] If health care costs continue to grow at past rates, cutbacks in other types of consumption will be inevitable. Even if health care costs moderate, a substantial portion of the gains from economic growth will be directed towards the health care system. Rising costs have stemmed in part from the introduction of medical advances, which have increased longevity and reduced morbidity.[74] Other causes of rising medical costs include demographic changes, which have increased the proportion of the population which is elderly, and the weakening of incentives to minimize costs due to third-party reimbursement of health costs.[75]

Rising health care costs have cut into the *growth* of other types of consumption for most households. In the decades following World War II, productivity and incomes grew fast enough relative to health care costs to allow steady increases in health and non-health spending. In more recent decades, real incomes for most households grew more slowly while health costs continued to rise rapidly and cut into the growth of non-health expenditures. Since 1972, real incomes for the lower 99% of household grew on average only 1.2% per year to 2002. Over the same period real

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[72] See Paul Starr, *The Social Transformation of American Medicine*, (New York: Basic Books, 1983) for a description of the enactment of Medicare and Medicaid.

[73] See point 10 of the *United States of America — 2006 Article IV Consultation, Concluding Statement of the IMF Mission*, May 31, 2006, available at [http://www.imf.org/external/np/ms/2006/053106.htm] and the GAO report, *21st Century: Addressing Long-Term Fiscal Challenges Must Include a Re-examination of Mandatory Spending*, GAO-06-456T, Feb. 15, 2006.

[74] David M. Cutler, *Your Money or Your Life*, (New York: Oxford Univ. Press, 2004).

[75] Amy Finkelstein, "The Aggregate Effects of Health Insurance: Evidence from the Introduction of Medicare" *Quarterly Journal of Economics*, vol. 122, no. 1 (2007).

national health expenditures rose 4.9% a year.[76] Had health care spending in the U.S. been held to 10% of GDP, a proportion similar that in Canada, France, Germany, and Switzerland, non-health consumption would have grown about 25% faster.[77]

To the extent that choices of rational consumers, or of rational voters and politicians, drive this expansion of the health care system, rising health costs are not necessarily a cause for concern. In all advanced industrial countries the fraction of the economy devoted to health care has been rising. If consumers prefer to buy more technologically advanced medical care rather than more advanced cars or refrigerators, then higher medical costs are a natural consequence of rising standards of living. An analysis of medical technology for heart attacks, low-birthweight babies, depression, and cataracts indicates that increased benefits of better treatment options far outweigh costs. For breast cancer, increased costs and benefits of new technologies are roughly of the same magnitude.[78]

Rising medical costs threaten to price a growing number of Americans out of the insurance market. In the past few decades, the number of uninsured has hovered around 40-46 million. Depending on the definitions used, tens of millions more are underinsured against the risk of having a health emergency become a financial catastrophe. As health care becomes more expensive, the logic of supply and demand suggests the pool of uninsured persons will grow. Two health economists projected that the number of uninsured persons will grow from 45 million in 2003 to 56 million by 2013, largely due to the continually rising costs of health care.[79]

Absent the political will to increase taxes significantly, rising medical costs will force major cuts in benefits or fundamental changes in the health delivery system. Economic theory suggests that addressing the root causes of market failure provides

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[76] Income data from Table A1 in the Apr. 2006 update of tables for Emmanuel Saez and Thomas Piketty, "Income Inequality in the United States, 1913-1998," *Quarterly Journal of Economics*, vol. 118, no. 1 (2003), pp. 1-39, available at [http://elsa.berkeley.edu/~saez/TabFig2004prel.xls]. According to the Saez and Piketty data, real gross income (i.e., income before individual income taxes and individual payroll taxes but after employers' payroll taxes and corporate income taxes and excluding transfers) per tax unit was roughly the same in 1972 and in 2002. However, the number of tax units per household rose, the Consumer Price Index (CPI) used to adjust for inflation overstates price changes, and transfers to households rose. Combining these effects gives a 40% increase in real consumption per household over this period. National health expenditures from the Centers for Medicare & Medicaid Services, Office of the Actuary. Prices adjusted using the Bureau of Economic Analysis's implicit GDP price deflator, which is less subject to the biases of the CPI.

[77] Calculations based on the following data: real income growth for households outside of the top 1% was 40% between 1972 and 2002, according to Piketty and Saez, and the proportion of national health care was 7.5% in 1972 and 15.3% in 2002, according to the Centers for Medicare and Medicaid Services.

[78] David M. Cutler and Mark McClellan, "Is Technological Change in Medicine Worth It?" *Health Affairs*, vol. 20, no. 5 (Sept./Oct. 2001), pp. 11-29.

[79] Todd Gilmer and Richard Kronick, "It's The Premiums, Stupid: Projections of the Uninsured Through 2013," *Health Affairs*, Web Exclusive, Apr. 5, 2005.

the best chance for enhancing system performance. The following discussion examines the potential of market-based solutions, which address sources of market failure noted above, to help transform the health care system in ways that would lead to better performance and lower costs.

Improve Health Consumer Information

Consumers shopping for cars have many sources of information on quality and price of various models. To the contrary, consumers shopping for health care have trouble finding basic information about quality and price. Certainly the complexity and its made-to-order nature ensure that comparing health care will be harder than comparing mass-produced goods. However, providing health care consumers with better information can stimulate competition, which in turn can deliver better performance and prices.

Information on Pricing. More transparent pricing of health care could help consumers make better decisions. However, transparent pricing is likely to be effective only when combined with other measures. Often, price information is of little value without accompanying information on quality.[80] Consumers will be sensitive to prices only if they share a non-trivial portion of their health care costs. However, the bulk of medical costs stem from a small proportion of high-cost episodes, often occurring in the last few days of life.[81] Insured patients in those episodes are well above out-of-pocket limits, above which the insurance plan pays until some very high limit of coverage is reached. For this reason, insurance plans — not consumers — will be in the best position to put pressure on providers to lower prices and improve quality for the most expensive types of health care. That is, better price information for consumers can spur competition among providers of eyeglasses, teeth cleaning, and routine check-ups, but better price information is unlikely to sharpen competition among heart surgeons.

Hospitals and other health care providers, in general, have been reluctant to provide a transparent set of prices for their services. In part, this is a consequence of their cost structure. Hospitals, for their part, must pay large fixed costs for items such as buildings, maintenance, equipment, and computer systems. On the other hand, hospitals provide a perishable service: an empty hospital bed cannot be saved for tomorrow. Economic theory suggests that industries that have high fixed costs, and which sell perishable goods or services, face strong pressures to charge different customers different prices and compete in markets subject to unstable prices.[82] In

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[80] Testimony of Sara R. Collins and Karen Davis entitled "Transparency in Health Care: the Time Has Come," in U.S. Congress, House Committee on Energy and Commerce, Subcommittee on Health, "What's The Cost? Proposals to Provide Consumers with Better Information About Healthcare Service Costs," hearings, 109th Congress, 2nd sess., March 15, 2006.

[81] Of course, at the beginning of an episode of care, whether a patient will survive is usually unknown. Therefore, distinguishing between life-saving care that saves a patient and futile care for a patient in his last days is difficult.

[82] Lester G. Telser, "Competition and the Core." *Journal of Political Economy*, 1996, vol.

(continued...)

addition, many hospitals provide services, such as indigent care and graduate medical education, for which they are not wholly compensated. Such hospitals must find other ways to finance these services, which often involves cross-subsidies. In these conditions, a simple flat-rate price system may not be a viable strategy for hospitals. Therefore, imposing greater transparency of health care prices may require closer attention to cross-subsidies and uncompensated training and care.

Information on Quality. Health care consumers have access to little useful information about quality. In part this is due to the inherent complexity of medical care and the difficulty of defining and measuring quality. However, the development of large electronic databases has opened the possibility of creating quality indices based on sophisticated statistical methods. Large corporations, insurance companies, and government agencies have developed extensive databases which contain information reflecting the quality of health care. These data, however, are unavailable to consumers. Medicare pays $400 million per year to run 53 Quality Improvement Organizations (QIOs), which work with hospitals to improve quality of care. Research by academics and the Institute of Medicine has cast doubt on the efficacy of QIOs.[83] Hospital professional organizations in 2002 created the Hospital Quality Alliance, which provides comparative data. For each hospital, 20 indicators measuring the proportion of patients who receive specific treatments recognized to constitute "best practice" in the areas of heart attacks, heart failure, pneumonia, and prevention of surgical infections are reported.[84] For example, one item reports what percentage of heart attack victims received aspirin upon arrival at the hospital. Critics say this type of reporting focuses on what a hospital *did*, rather than what happened to patients. They note that if food critics operated according to similar principles, perhaps their reviews would report which restaurants remembered to include important ingredients of meals or how sophisticated the restaurant stoves were, while failing to report how meals tasted.

Traditional approaches to quality monitoring in health care focused on "zero/one" indicators that provide no information on gradations of ability or competence. Physicians were licensed, and hospitals were accredited, and those who were not could not legally engage in medical care. Providers were certified for Medicare reimbursement. Such measures, however, only served to set lower bounds. The board certification of physicians is a partial exception, which provides consumers an opportunity to select physicians who have passed a more rigorous set of standards.

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[82] (...continued)
104, no. 1, pp. 85-107.

[83] Claire Snyder and Gerard Anderson, "Do Quality Improvement Organizations Improve the Quality of Hospital Care for Medicare Beneficiaries?" *Journal of the American Medical Association*, vol. 293, no. 23 (June 15, 2005), pp. 2900-2907; and the Institute of Medicine of the National Academies, *Medicare's Quality Improvement Organization Program: Maximizing Potential*, Mar. 2006.

[84] These data are available at [http://www.hospitalcompare.hhs.gov/].

Providing consumers with more useful data on outcomes can improve health care quality.[85] Of course, outcome data must include risk adjustments, so that statistics reflect the fact that healthier patients will on average have better outcomes. For example, the United Network for Organ Sharing, established by Congress in 1984, collects data on all transplant operations in the United States. Risk-adjusted outcome data for each transplant center are available at [http://www.unos.org]. Public availability of risk-adjusted outcome data puts pressure on surgeons and transplant centers to improve performance. New York State has published risk-adjusted average mortality rates for cardiac surgery since 1991. After starting this program, the mortality rate among cardiac patients treated in top-performing hospitals or by top-performing surgeons was about half the mortality rate for patients treated by a hospital or surgeon rated in the bottom 25% of the rankings.[86] A 2003 study, however, contended that publication of performance data gave providers incentives to avoid difficult cases, leading to worse health outcomes for sicker patients and higher resource usage.[87]

In the absence of effective quality-control programs, malpractice and the tort system act as a rough substitute for quality control.[88] Expanding consumer access to useful medical outcome data would take pressure off the tort system. For instance, once New York State started publishing cardiac outcome data, surgeons with high reported risk-adjusted average mortality rates were more likely to retire or stop performing operations. Giving patients information that allows them to avoid surgeons with high mortality rates is preferable to having their estates sue.

Make Extras Cost Extra

One strategy for slowing the growth of health care is to make patients pay more when they choose health care which is more expensive to provide. For example, many employers tie their contribution to an employee's health insurance plan to the cost of the cheapest plan. Employees then face a choice of paying for the incremental cost of a more generous insurance plan out of their own pocket or spending that money on other things. The income tax exemption for employer-provided health care, however, tilts employees towards buying more health insurance.[89] To the extent that

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[85] For a more extensive analysis of the potential of providing consumers with useful outcome data see Michael E. Porter and Elizabeth O. Teisberg, *Redefining Health Care: Creating Value-Based Competition on Results*, (Allston, Mass: Harvard Business School Publishing, May 2006).

[86] Ashish K. Jha and Arnold M. Epstein, "The Predictive Accuracy of the New York State Coronary Artery Bypass Surgery Report-Card System," *Health Affairs*, vol. 25, no. 3 (2006), pp. 844-855.

[87] David Dranove, Daniel Kessler, Mark McClellan, and Mark Satterthwaite, "Is More Information Better? The Effects of 'Report Cards,'" *Journal of Political Economy*, vol. 111 (2003), pp. 555-588.

[88] Michelle Mello and Troyen Brennan, "Deterrence of Medical Errors: Theory and Evidence for Malpractice Reform," *Texas Law Review*, vol. 80 (2002), pp. 1595-1637.

[89] Mark V. Pauly, "Taxation, Health Insurance, and Market Failure in the Medical (continued...)

consumers make rational decisions between health and non-health expenditures, the tax exemption creates an economic distortion that lowers allocational efficiency. Limiting this exemption would make employees more sensitive to the cost of health insurance, which would put downward pressure on health care costs.

The Weisbrod proposal, described above, which would tie reimbursement for new drugs to the level of an existing drug of recognized efficacy, is another application of the "make extras cost extra" principle.[90] Providing drug developers with a strong incentive to find new drugs that would be cheaper but just as effective as currently available drugs could help constrain the growth of health care costs.

The same "pay more for extras" approach has been proposed as a basis for health care reform. A group of leading health economists proposed a plan giving each household a tax credit at the level of cost of Medicaid coverage.[91] Those wishing for more generous coverage could apply that tax credit to a privately provided plan. Such an approach would give more people access to health care, while giving consumers incentives to buy more health insurance if its benefits exceeded its costs.

Expand Use of Information Technology

Many health analysts contend that more extensive use of information technology (IT) could improve quality and increase efficiency of medical care. The Veterans' Health Administration (VHA), which treats about 5 million patients per year, began an organizational transformation in 1995 that featured a centralized health information system. This system not only simplified record keeping, giving physicians instant access to records on all previous visits made by a patient, but also provided researchers and managers access to treatment and outcome data that provided hard evidence on clinical effectiveness.[92] The VHA is now considered a leader in the application of IT to health care administration.[93] Several studies have concluded that quality of care in the VHA exceeds that in comparable private health care providers.[94]

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[89] (...continued)
Economy," *Journal of Economic Literature*, vol. 24, no. 2 (June 1986), pp. 629-75.

[90] Burton A. Weisbrod, "The Health Care Quadrilemma: An Essay on Technological Change, Insurance, Quality of Care, and Cost Containment," *Journal of Economic Literature*, vol. 29, no. 2 (June 1991), pp. 523-552.

[91] Mark V. Pauly, Patricia M. Danzon, Paul J. Feldstein and John Hoff, *Responsible National Health Insurance*, (Washington: AEI Press, 1992).

[92] Kenneth W. Kizer, John G. Demakis, John R. Feussner, Reinventing VA Health Care: Systematizing Quality Improvement and Quality Innovation: VA's Quality Enhancement Research Initiative," *Medical Care* 38(6), Supplement I:I-7-I-16, June 2000.

[93] M.W. Morgan, "The VA Advantage: The Gold Standard in Clinical Informatics," *Healthcare Papers*, vol.5, no. 4 (2005), pp. 26-9.

[94] Steven M. Asch, et al., "Comparison of Quality of Care for Patients in the Veterans Health Administration and Patients in a National Sample," *Annals of Internal Medicine*, vol. 141, (continued...)

Centralized clinical IT systems can also allow payers to link physician reimbursement with measures of quality of care. The British National Health Service (NHS) initiated pay-for-performance contracts with family practitioners in 2004, which tied physician payments to 146 indicators of the quality of clinical care for 10 chronic diseases.[95] In the first year of this program, almost 97% of U.K. physicians met quality targets. While analysis of these initial data cannot determine whether initial clinical quality targets were set too low or whether clinical quality improved, the information collected on quality indicators provides the NHS with a powerful tool to monitor the quality of patient care and to push for further improvements.

The federal government has taken preliminary steps in the same direction. The federal government has funded demonstration projects for pay-for-performance contracts with physicians and hospitals.[96] The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (P.L. 108-173) cuts payments by 0.4% to hospitals which do not report on 10 quality indicators for acute myocardial infarction, congestive heart failure, and pneumonia. The Deficit Reduction Act of 2005 (P.L. 109-171) increased that penalty to 2% of payments and authorized the Department of Health and Human Services to modify the set of quality indicators. The Tax Relief and Health Care Act of 2006 (P.L. 109-432) ties increases in physician reimbursement under Medicare Part B to reporting of quality measures selected by the Centers for Medicare and Medicaid Services' Physician Voluntary Reporting Program. At present, this program collects data on 16 quality measures. In future years, the Secretary of Health and Human Services may select other quality measures. While the data supplied by U.S. hospitals and physicians is much less detailed than information supplied by U.K. physicians participating in pay-for-performance programs, U.S. efforts to collect a basic set of quality indicators in a systematic way could underpin future efforts to link payments to quality of care.

Concluding Thoughts

Market competition has brought rapid technological change, higher quality, and lower prices to many parts of the economy, leading many to ask why broader application of market principles to the health care system could not reduce costs and improve performance. As many have noted, health care is not a standard commodity. Unless institutions and reforms are designed to reflect the unique characteristics of the health care market, failures will continue to be the norm. Certainly past experience indicates that patients, insurers, and providers all react to financial incentives. Unfortunately, designing incentives that align behavior of consumers and health care payers and providers is difficult because of the nature of medical care.

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[94] (...continued)
no. 12 (Dec. 2004), pp. 938-945.

[95] T. Doran, C. Fullwood, H. Gravelle, et al., "Pay-for-Performance Programs in Family Practices in the United Kingdom," *New England Journal of Medicine*, vol. 355 (July 27, 2006), pp. 375-384.

[96] Arnold M. Epstein, "Paying for Performance in the United States and Abroad," *New England Journal of Medicine*, vol. 355, no. 4(July 27, 2006), pp. 406-408.

Broadening financial protection against unexpected health care costs, enhancing access to routine and preventative care, constraining costs, and setting up economic incentives that induce efficient behavior among individuals and firms are all worthwhile goals. Designing policies with a reasonable expectation of reaching each of those goals is difficult.

Information asymmetries between patients and physicians as well as between providers and payers stem from the unavoidable need for highly specialized roles. The specialized expertise of medical personnel gives patients access to sophisticated therapeutic measures, many of which could hardly have been imagined a generation ago. This specialization of expertise also necessitates an informational asymmetry that requires patients to depend on their physicians to guide them through the system. Thus, the principal-agent relationship lies at the heart of the health care experience. Similarly, because physicians see *patient*s while payers only see *paper claims*, physicians possess an important informational advantage over third-party payers. Expanded use of performance measurements and information technology has the potential to reduce these problems.

The health insurance system's ability to spread risks across a broad pool of beneficiaries will continue to face challenges as insurers seek to avoid losses through medical underwriting and related practices. Extending coverage to individuals in poor health, from the point of view of an insurer, is more akin to providing a subsidy than insuring a risk. Insuring such individuals may require either subsidies or pricing schemes that induce private insurers to compete on grounds of efficiency of service rather than ability to avoid those with greater needs for health care. Alternatively, health insurance for those in poorer health could be guaranteed by policies that would create larger and broader pools, such as the Canadian single-payer system. Other alternatives include the plan recently introduced in Massachusetts, which will require individuals to obtain health insurance or join a state-sponsored high-risk pool. This approach parallels the typical automobile insurance system, which requires citizens to have insurance, but allows them to choose among many approved and regulated insurance providers. Yet another alternative is the United Kingdom's two-tier system, in which all residents are enrolled in the National Health Service, but those who wish access to more convenient services may buy supplemental policies, such as provided by the British United Provident Association (BUPA). This system gives all U.K. residents access to a reasonable standard of care, although this may involve some level of inconvenience and waiting in some cases, and lack of access to some care regarded by health planning authorities as of low benefit. Those wishing to bypass such inconveniences are free to pay for access to more extensive and comfortable care.

Even if the design of health care policy requires balancing of goals that present conflicting requirements, policy innovations can deliver better results. Policies that harness market incentives and recognize the nature of health care can enhance efficiency and improve performance. Because asymmetric information is a cause of market failure, policies which provide better information to patients and payers may improve performance. Because market power often serves as a cause of market failure, policies which either reduce or counterbalance market power can help improve performance. Policies which either fail to reflect the nature of the health

care or which fail to address causes of market failure are unlikely to lead to lasting improvements.