

## Health Care and Insurance

The breadth and pace of innovation and change in the provision of health care in the United States over the past few decades have been no less than astounding. Technological progress in the form of new medical knowledge, medicines, treatments, and medical devices has allowed Americans and people worldwide to live longer, healthier lives.

As new treatment options become available, it is not surprising that the United States and other major industrialized countries continue to shift more resources to health care. Research suggests that between 50 and 75 percent of the growth rate in health expenditures in the United States is attributable to technological progress in health care goods and services. However, the increase in resources devoted to health care has led to concern about its affordability, both for families worried about tight budgets and for the Nation as a whole. A strong reliance on market mechanisms will ensure that incentives for innovation are maintained while providing high-quality care in the most cost-efficient manner. Americans should have more choices, more information, and more control over their health care decisions.

Health insurance plays a central role in the workings of the U.S. health care market. An understanding of the strengths and weaknesses of health insurance as a payment mechanism for health care is essential to the design of reforms that retain incentives for innovation while reining in unnecessary expenditures.

This chapter discusses the roles of innovation, insurance, and reform in the health care market. The key points in this chapter are:

- U.S. markets provide incentives to develop innovative health care products and services that benefit both Americans and the global community.
- Over reliance on health insurance as a payment mechanism leads to an inefficient use of resources in providing and utilizing health care.
- Reforms should provide consumers and health care providers with more flexibility and information.

# The U.S. Health Care System as an Engine of Innovation

Innovation and new technology have changed the practice of medicine over the past few decades. Diagnostic tools such as magnetic resonance imaging and computed tomography scanning have made it possible for doctors to see otherwise invisible problems. Innovations such as balloon angioplasty treat conditions that previously required extensive surgery. Minimally invasive surgical techniques such as arthroscopy provide treatment options that lead to shorter hospital stays and faster recoveries. Restorative surgeries such as hip and knee replacements are now commonplace and provide patients with improved mobility and thus improved quality of life. New pharmaceuticals treat conditions that were previously intractable or help to avoid more costly surgeries and lengthy hospital stays. The list of advances is long and impressive.

## The Value of Health Care Innovation

Innovation in health care goods and services, including advances in scientific knowledge that have changed many people's day-to-day behavior, has markedly improved the lives of Americans. Life expectancy at birth in the United States increased from 68.2 years in 1950 to 77.2 years in 2001. Medical advances have also increased the quality of life through innovations that improve mobility, sight, and hearing.

Some might argue that these advances are not unique to the United States and that Americans spend too much for health care relative to other countries. The United States expends a higher fraction of GDP on health care than does any other industrialized country. According to an international comparison released in 2003, the United States spent 13.9 percent of GDP on health care in 2001, while the average among industrialized countries was 8.4 percent of GDP. Measures of health outcomes such as longevity and infant mortality, however, are not markedly different in the United States than in other advanced economies that spend substantially less on health care.

The argument that the U.S. health care system is overly costly relative to other countries implicitly assumes that if two countries spend different amounts for health care and get the same health outcomes, then the higher-spending country must be inefficient and wasteful. This argument is not correct in the case of health care for two reasons that are related to the leading role of the United States as a source of research and innovation.

First, in general terms, while all countries can benefit from research and development expenditures made by a single country, only the health expenditures in the innovating country will include the costs of research and development. Health expenditures in non-innovating countries will exclude the research and development costs.

Second, free markets incorporate incentives for innovation that generate products, services, and knowledge that potentially benefit all countries. Markets naturally encourage and reward innovation. Unfettered by government price controls or access restrictions, innovative products, talented health care practitioners, and skilled health care professionals are rewarded in the marketplace. This leads to technological advances by encouraging talented people to participate in the health care industry and by increasing investment in new products and research. The financial rewards for innovation will be reflected in U.S. health expenditures through a combination of higher prices and wages, and higher usage than in other countries. Once a product or service is developed through the combination of talent and capital, however, it becomes available for use outside the United States. Countries in which government regulation has supplanted market forces will still have the opportunity to take advantage of U.S. innovation without having to pay as much for it.

As an illustration of how U.S. health expenditures reflect the incentives for innovation, consider products such as medical devices and pharmaceuticals. The patent system exists to encourage innovation for these types of products. The innovator's incentive in a patent-based system is the opportunity to hold a monopoly on a product for a limited period of time. Therefore, the innovator can temporarily charge a higher price and earn more profits than he would without patent protection. The higher consumer expenditures that can result from monopoly pricing will be reflected in health care expenditures.

Once the patent system has led to the development of a product, it is available for use throughout the world, not just in the United States. This leads to an opportunity for other countries with centralized health agencies to negotiate a price close to production costs, thereby paying lower prices than they would in a free market that fully respected patent rights. What this implies is that other countries can reap the benefits of U.S. innovations in health care goods and services but pay only a fraction of the costs. It follows that if the United States attempted to reduce health expenditures by adopting cost-control policies found in other countries, innovation would slow and both Americans and citizens of other countries would be affected.

# U.S. Leadership in Health Care Technology

Several pieces of evidence point toward the preeminence of the United States in providing health care technology. First, since 1975, the Nobel Prize in medicine or physiology has been awarded to more Americans than to researchers in all other countries combined. Second, according to data collected through 1993, 15 of the 19 marketed “biotech” drugs used for nondiagnostic purposes were the product of U.S. companies alone. U.S. companies shared credit with companies from other countries for two more of the 19 drugs. As of 2002, eight of the world’s ten top-selling drugs were produced by companies headquartered in the United States.

A third example of U.S. leadership is that many important medical innovations in the past 30 years arguably originated in the United States. This evidence is based on a survey designed to determine the relative importance of a variety of medical innovations developed over approximately the last 30 years. Starting with a review of the medical literature, researchers compiled a list of 30 major medical innovations and then surveyed over 300 leading general internists in the United States concerning the relative importance to their patients of the innovations. Based on the survey, researchers ranked the innovations in order of importance. The first and second columns of Table 10-1 reflect the results for the top ten innovations.

The table also includes countries of origin, a category that was not included in the original research. Assignment of country was based on the

TABLE 10-1.— *Important Medical Innovations and Associated Country of Origin*

Rank	Technology	Description	Country of Origin
1	Magnetic resonance imaging (MRI); Computed tomography (CT)	Noninvasive methods to view internal workings of the body	United States, United Kingdom; United States, United Kingdom
2	Angiotensin converting enzyme (ACE) inhibitors	Drugs to treat hypertension and heart failure	United States
3	Balloon angioplasty	Minimally invasive surgery to treat blocked arteries	Switzerland
4	Statins	Cholesterol-reducing drugs	United States, Japan
5	Mammography	Diagnostic tool to detect breast cancer	Indeterminate
6	Coronary artery bypass graft (CABG) surgery	Surgery for heart failure	United States
7	Proton pump inhibitors (PPIs); H2-receptor antagonists	Antiulcer drugs	Sweden; United States
8	Selective serotonin re-uptake inhibitors (SSRIs)	Antidepressant drugs	United States
9	Cataract extraction and lens implants	Eye surgery	United States
10	Hip replacement; Knee replacement	Joint replacement with mechanical prosthesis	United Kingdom; Japan, United Kingdom, United States

Sources: Victor R. Fuchs and Harold C. Sox Jr., “Physicians’ Views of the Relative Importance of Thirty Medical Innovations,” *Health Affairs*, September/October 2001. Descriptions and countries of origin from various sources.

location where the first clinically viable form of the innovation was developed or produced, or where research important to its creation occurred. The United States dominates this chart as the innovating country for these important medical developments. Of the ten, eight include the United States as a key country. The United Kingdom and Japan, the next closest sources, are associated with just two of the innovations each.

Table 10-1 should not be misinterpreted. Scientific advances by their nature are evolutionary, with recent advances building upon prior discoveries. The process of identifying a single person or team for progress that relies upon previous work is necessarily subjective. Nevertheless, such judgments are regularly made in selecting awards such as the Nobel Prize. But even taking into account the unavoidable limitations of such a list, it does suggest a dominant role for the United States in the development of new and useful medical technologies.

### **Box 10-1: Price Regulation and the Introduction of New Drugs**

A recent study suggests that pharmaceutical firms tend to avoid or delay introducing new drugs in countries with price controls. In the study, which includes data from 25 countries on 85 new chemical entities introduced in the United States or the United Kingdom between 1994 and 1998, the three countries that did not require price approval before launch (the United States, Germany, and the United Kingdom) introduced the most new drugs. Analysis controlling for per capita income and other country and firm characteristics shows that countries with lower expected prices or smaller expected market size have fewer launches and longer launch delays. In the European Union, where drugs can be approved through a centralized procedure for use in the entire region, countries with price controls still experience significant launch delays.

According to the study, the connection between price controls and delayed access to drugs lies in the tendency for price controls to “spill over” from one country to another. Firms have an incentive to avoid or delay launching drugs in markets with price controls if they fear that the low prices will “spill over” to other markets. There are two main mechanisms by which price controls in one country can affect pharmaceutical profits in another: parallel trade and external referencing. With *parallel trade*, one country can take advantage of regulated low prices in another country through trade. With *external referencing*, countries can incorporate external price controls into domestic prices through price-setting formulas that depend on prices in other countries. Overall, the study suggests that there is a tradeoff between low prices and rapid access to new drugs.

# Insurance Reform as a Means of Providing Health Care More Efficiently

While the U.S. health care market provides excellent incentives for innovation, there are legitimate concerns about cost. Rising health expenditures for families and firms can lead to difficult decisions over how best to allocate limited budgets. Pressure on government budgets continues to increase due to major health care programs such as Medicare (health insurance primarily for the elderly) and Medicaid (health insurance primarily for the poor). Physicians and hospitals struggle with government regulations, rising liability costs, and growing administrative burdens. To craft adequate responses to such challenges, it is important to understand the economic forces at work.

Technological progress in health care has been very beneficial, but it has led to growth in health care expenditures as the new technology has been applied to increase the length and to improve the quality of life. Research suggests that between 50 and 75 percent of the growth rate in health expenditures in the United States is attributable to technological progress in health care goods and services. Potential sources of the remaining 25 to 50 percent of the growth rate include: higher demand for health care due to increasing incomes and the aging of the U.S. population; the increased practice of “defensive medicine” (that is, medical procedures with limited therapeutic value that are performed by physicians to avoid lawsuits); and increased use of health insurance plans as a payment mechanism for health care.

There are various ways to reduce health care costs. Reducing the incentive to practice defensive medicine has the potential to lower the level of health care costs and is therefore an important objective. Modifying the health insurance system offers an especially attractive target for cost-saving reform because it would affect both the level and the growth rate of health expenditures. Reforms could be targeted to reduce administrative costs and the incentive to overuse health insurance as a payment mechanism. Understanding the strengths and the weaknesses of the health insurance system is central to developing policies that will lead to more cost-effective health care and to greater access to health care for those underserved by the current market.

## The Appropriate Use of Insurance

Insurance is an indispensable tool in modern economies. Individuals insure automobiles against the possibility of an accident and homes against the possibility of a fire. Life insurance provides financial security to loved ones in case of an untimely demise. In each of these examples, the basic principle is the same: for a fee—the insurance premium—the insurer promises that some financial benefit will be forthcoming if a well-defined event takes place such as a car accident, a house fire, or a death.

Insurance is a valuable economic commodity. By giving up some income in the form of a premium, a consumer can avoid the large decline in wealth associated with an unfortunate event. Even if the event does not occur, a consumer benefits from the reduced uncertainty provided by insurance.

Insurance is generally not needed when there is little uncertainty or when financial risks are small. For example, insurance policies usually do not pay for items such as groceries, clothing, or gasoline, although it would certainly be possible to create such policies. Suppose, for example, that an individual could purchase a clothing insurance policy with a “coinsurance” rate of 20 percent, meaning that after paying the insurance premium, the holder of the insurance policy would have to pay only 20 cents on the dollar for all clothing purchases. An individual with such a policy would be expected to spend substantially more on clothes—due to larger quantity and higher quality purchases—with the 80 percent discount than he would at the full price. However, the insurance company would need to charge a high premium to cover expenses. The premium would need to cover the 80 percent discount on the clothing that the individual would have bought had he or she been paying full price. Additionally, the premium would need to cover the insurer’s expense for clothes purchased because the individual buys clothes as if they cost only 20 cents on the dollar. Few individuals would find such an expensive policy cost-effective.

## Moral Hazard

The clothing insurance example suggests an inherent inefficiency in the use of insurance to pay for things that have little intrinsic risk or uncertainty. It also illustrates the broader problem in insurance markets known as moral hazard. *Moral hazard* refers to the idea that policy holders will make different choices when they are covered by an insurance policy than when they are not, but the insurer cannot fully monitor or restrict their actions. In the clothing example, moral hazard results in insured individuals spending more on clothing than they would without insurance.

Optimal insurance contracts must balance the value that consumers place on reducing their exposure to risk against the inefficiency arising from moral hazard. In the absence of uncertainty, insurance is wasteful because moral hazard will lead to excessive use and there is no benefit to the consumer from risk-reduction. Inefficient use of insurance will be reflected in an unnecessarily high cost for insurance. Standard features of insurance contracts such as coinsurance rates, copayments, and deductibles are attempts to mitigate the moral hazard problem. Even so, inefficiencies of this sort are pervasive in the U.S. health care system.

## Adverse Selection

Another issue that arises in discussions of insurance markets is adverse selection. *Adverse selection* occurs when an insurance policy attracts certain types of people, and the insurer cannot identify these people before they enroll. If the premium is based on the average individual, but the policy disproportionately attracts those who spend more than the average person (in the clothing example, individuals with particularly expensive tastes in clothes), the policy will lose money for the insurer. The policy will then either increase in price or not last in the marketplace.

Adverse selection illustrates a problem that exists when the consumer knows more about his or her characteristics than the insurer. As a result there is a market inefficiency where, in the extreme, some consumers do not purchase insurance because the only policy available to them is priced for the most expensive consumers. If insurers could distinguish among different types of consumers, policies could be tailored to specific types and priced accordingly. With better information, an efficiently functioning insurance market would be able to provide insurance in a way that would maximize individual consumer welfare.

## Health Insurance in the United States

Health insurance in the United States has several unique features. First, the employer portion of premiums for employer-provided health insurance is generally exempt from income and payroll taxes. The employee portion of premiums is similarly tax-exempt for the roughly one-half of workers covered by tax-advantaged health plans. This leads to the second, and unsurprising, feature, which is that most health insurance is provided through employers. Over 60 percent of all individuals in the United States have employer-provided health insurance. The central role of employer provision makes health insurance very different from other types of insurance, such as fire and car insurance.

Third, health insurance policies in the United States also tend to cover many events that have little uncertainty, such as routine dental care, annual medical exams, and vaccinations. For these types of predictable expenses, health insurance is more like prepaid preventative care than true insurance. If automobile insurance were structured like the typical health policy, it would cover annual maintenance, tire replacement, and possibly even car washes.

Fourth, health insurance tends to cover relatively low-expense items, such as an office visit to the doctor for a sore throat. Although often unforeseeable, this expense would not have a major financial impact on most people. To continue the analogy, it would be similar to car insurance covering relatively small expenses such as replacing worn brakes.



## **Box 10-2: Who are the Uninsured?**

The U.S. Census Bureau estimates that in 2002, 242.4 million people in the United States had health insurance for the entire year, while the remaining 43.6 million people were uninsured. Uninsurance persists in the face of public programs such as Medicare, Medicaid, and the State Children's Health Insurance Program. In general, these programs provide health insurance to the elderly, the very poor, and the children of the moderately poor, respectively.

The uninsured are a diverse and perpetually changing group. The Congressional Budget Office claims that due to sampling techniques, the U.S. Census Bureau estimate of 43.6 million (15.2 percent of the population) more closely represents the number of people who are uninsured at a point in time than the number of people who are uninsured for an entire year. Just under half of all new spells of uninsurance end within four months. The number of people who were uninsured for all of 1998 (the most recent year for which comparative survey data are available) is estimated to have been 21 million to 31 million (7.6 to 11.2 percent of the population).

Some individuals included in survey-based counts of the uninsured may in fact have access to public coverage. For instance, the number of people who report having Medicaid is smaller than the number determined to be enrolled based on the program's administrative data. The reasons for this discrepancy are not well understood. People might fail to report this coverage because of a possible stigma associated with being on Medicaid or because the survey questions are confusing. In addition, some individuals who are uninsured are eligible for Medicaid but have not enrolled. These people are counted as uninsured in surveys, but they are effectively insured because they can enroll in Medicaid should they require medical treatment.

Others who lack insurance coverage possess economic or demographic characteristics that suggest many of them may remain uninsured as a matter of choice. For example, some have levels of household income that are above the median for the population. Over 32 percent of uninsured individuals report a household income of \$50,000 or more. Others have access to employer-provided coverage but do not opt to participate. Researchers believe that as many as one-quarter of those without health insurance had coverage available through an employer but declined the coverage. Still others may remain uninsured because they are young and healthy and do not see the need for insurance. In fact, more than two-fifths of uninsured individuals are between the ages of 18 and 34.

## **Box 10-2 — *continued***

Finally, many of the people included in domestic estimates of uninsurance are citizens of other countries. Over 8.9 million of the 43.6 million people included in the U.S. Census Bureau estimate of the uninsured are not U.S. citizens. This includes both legal immigrants and foreign-born individuals with non-immigrant status, such as students, diplomats, and undocumented individuals.

## **A Brief History of Health Insurance in the United States**

The historical background of health insurance coverage in the United States helps explain why health insurance is different from other types of insurance. In the early twentieth century, health insurance tended to cover wage loss rather than payment for medical services. This insurance is comparable to present-day disability insurance or workers' compensation. Limited health care coverage reflected the small number of options available to the medical profession for improving health—there were few costly treatments to insure against.

The first modern health insurance policy appears to have been started in 1929 when a group of teachers contracted with Baylor University Hospital. For an annual premium of \$6, the policy guaranteed up to three weeks of hospital coverage. Providing insurance through employers, rather than to individuals, lowered administrative costs for insurers. It also mitigated the problems from adverse selection because the insured group was formed without regard to health status.

Employer-based coverage was encouraged by legal provisions during World War II that allowed employers to compete for employees by offering health benefits during a period of wage and price controls. Separately, a 1943 administrative tax court ruled that some employers' payments for group medical coverage on behalf of employees were not taxable as employee income.

A consequence of exempting premiums paid on employer-provided insurance is that tax receipts to the Federal government are lower than they otherwise would be. It has been estimated that Federal tax receipts in 2001 were about \$120 billion lower as a result of the tax exemption. Research suggests that the tax preference for insurance induces people to buy more expansive health insurance—for example, people buy policies that cover a broad array of health services—and policies that have low deductibles and low coinsurance rates, which lead to the associated inefficiencies from moral hazard.

To summarize, health insurance markets can be improved in at least three ways. The first is to encourage contracts that focus on large expenditures that are truly the result of unforeseen circumstances. The second is to strengthen health insurance markets outside the traditional employer-based group markets. The third is to provide a more standardized tax treatment of all health care expenditures.

## Proposals for Modernizing the Health Care Market

Health insurance reforms have the potential to increase the cost-effectiveness of health care markets without sacrificing the incentives that are essential to continued innovation. Reforms that lead to more direct interaction between consumers and health care providers, relying less on third-party payers such as insurance companies, have the potential to increase the efficiency and therefore the cost-effectiveness of health care markets. Coupled with changes that provide consumers with more flexibility and more information, such reforms would continue to provide the market signals important for developing new and useful health care innovations. The President has proposed several reforms that promise to move the Nation in the direction of achieving these goals. Taken together, these reforms will help preserve the innovative strengths that have proven so valuable to Americans and will improve the efficiency of the U.S. health care system.

### Medicare Prescription Drug, Improvement, and Modernization Act of 2003

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003, enacted in December, adds a prescription drug benefit to the Medicare program. The new drug benefit will give more Medicare beneficiaries access to prescription drug coverage and will provide benefits for individuals with limited means and low incomes. A prescription drug discount card will be available for beneficiaries until the full drug benefit is available nationwide.

The Act also establishes another key element of the President's health care agenda, Health Savings Accounts (HSAs). With an HSA, individuals and their employers may contribute pretax dollars to fund an account that can then be used to pay for medical expenses. Once established, this money belongs to the individual and can accumulate over time. The account remains with the individual if he or she changes employers. With such accounts, there is an increased incentive to purchase insurance that only

covers events that are truly random and large, and to pay for other expenses using an HSA. Indeed, the law requires that such accounts be coupled with a high-deductible insurance plan.

With less reliance on insurance for routine health expenses, consumers would place a greater value on information about health care options and providers. More prudent use of insurance would also reduce “middle-man” costs of involving an insurance company in what could otherwise be a simple transaction between the patient and the caregiver.

## Next Steps in Improving Health Care Markets

The passage of the Medicare bill was a major accomplishment, but much remains to be done. A number of proposals on the President’s agenda for health care reform would lead to improvements in the health care market.

### *Association Health Plans (AHPs)*

The AHP proposal enables small businesses and associations to purchase health insurance for employees and their families. These plans offer small businesses and self-employed individuals the potential for lower health insurance premiums resulting from decreased administrative costs and increased bargaining power with insurers and medical providers.

### *New Tax Deduction for Health Insurance Premiums*

The President has proposed a new tax deduction for health insurance premiums. Individuals who purchase a high-deductible insurance policy coupled with an HSA would be able to deduct the value of the insurance premium from their income taxes even if they do not itemize their deductions. This would encourage the use of high-deductible insurance by providing a tax benefit similar to that given to employer-provided insurance.

### *Refundable Health Credit*

Many workers do not have the option to obtain insurance through their employment. The President has proposed a refundable health credit that could be used to purchase insurance. This credit will help expand health care access for low- and middle-income workers who do not have good employer-based coverage options.

### *Reducing the Cost of Medical Care Through Liability Reform*

Malpractice premiums are a significant cost for physicians and hospitals. The President has proposed the national adoption of standards to make the medical liability system more fair, predictable, and timely. Adoption of these proposals would lower the cost of providing health care (see the discussion of this subject in Chapter 11, *The Tort System*). Similarly, fear of litigation keeps health care providers from sharing vital information on quality problems and medical errors. The President has called for legislation to allay these fears and make it possible for health professionals to share information to reduce errors and complications.

### *Improving Efficiency Through the Use of Health Information Technology*

The use of information technology in health care holds the promise of reducing medical errors, facilitating communication between care providers and patients, and reducing administrative costs. Computerized physician order entry, a type of technology that allows physicians to write medication orders electronically, has been shown to reduce significantly the rate of serious medication errors. Intensive care telemedicine, a type of technology that allows remote specialists to monitor patients continuously with videoconferencing and computer-based data transmission tools, has been found to decrease intensive care costs substantially in certain settings. The President is proposing to double the funding (for a total of \$100 million) for the Department of Health and Human Services to increase the use of these new technologies through demonstration projects.

## Conclusion

The U.S. health care system has provided tremendous benefits for both American citizens and the global community. New knowledge, innovative products, and life-saving medical procedures are the results of the U.S. market for health care. The proposed policies will help preserve the strengths of the U.S. market and will improve the efficiency and affordability of health care.