Health System in the USA

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Abstract

This analysis of the US health system reviews its organization and governance, health financing, health-care provision, health reforms, and health system performance. The US health system has both considerable strengths and notable weaknesses. It has a large and well-trained health workforce, a wide range of high-quality medical specialists as well as secondary and tertiary institutions, and a robust health research program and, for selected services, has among the best medical outcomes in the world. But it also suffers from incomplete coverage of its citizenry, health expenditure levels per person far exceeding all other countries, poor health indicators on many objective and subjective measures of quality and outcomes, an unequal distribution of resources and outcomes across the country and among different population groups, and lagging efforts to introduce health information technology. It is difficult to determine the extent to which deficiencies are health system related, though it seems that at least some of the problems are a result of poor access to care. Because of the adoption of the Affordable Care Act (ACA) in 2010, the USA is facing a period of enormous potential change. The major provisions of the ACA were implemented in 2014, although judicial setbacks, delays, and legislative repeals to its core provisions have reduced its overall impact. Improving coverage was a central aim, envisaged through mandates that certain individuals purchase, and employers offer, private health insurance as well as subsidies for lower-income uninsured citizens to purchase private insurance. However, in late 2017, the individual mandate to purchase insurance was repealed by Congress, with an effective date of January 2019. Eligibility for Medicaid, which provides public coverage for low-income individuals and families, is also expanded, and greater protections for insured persons have been instituted. Furthermore, primary care and public health are receiving increased funding, and improving quality and controlling expenditures are addressed through a range of policies. Early assessments of the ACA suggest coverage rates have expanded, particularly for low-income adults in some states. Whether the ACA will be effective in addressing the US health-care system's historic challenges can only be determined over time.

The material used in this chapter was adapted or taken directly from our book on the US health-care system – Rice T, Rosenau P,

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Introduction

The US is a large, wealthy country, with double the gross domestic product of any other in the world. It is a federal, constitutional democracy, with decision-making authority divided between the federal and state governments. In 2016 nearly one-fifth (17.9%) of its economy was spent on health care ($3.3 trillion), amounting to $10,348 per capita (Hartman et al. 2017). As with many such national averages in this report, there are wide variations across the states, with spending per capita in 2014 ranging from about $5,982 per person in Utah to more than $11,944 in the District of Columbia (Kaiser Family Foundation 2014a. Tax rates are lower than in almost all other high-income countries, consistent with the fact that its public sector provides fewer social services. Tax rates are lower than in almost all other high-income countries, consistent with the fact that its public sector provides fewer social services. Despite being a high-income nation, the US ranks poorly, compared to other high-income countries, on measures of income equality. Because the US birth rate is higher than that of most developed countries, its dependency ratio – those too young or too old to work, divided by the working age population – is expected to grow more slowly than in most other countries.

The racial and ethnic makeup of the US population is quite varied, with approximately 61.3% non-Hispanic White, 17.8% Hispanic or Latino, 13.3% non-Hispanic Black or African American, and the remainder other and/or mixed racial and ethnic groups (US Census Bureau 2017). Hispanics and Latinos are the fastest-growing group, with a 49% population increase between 2000 and 2010, compared to just 5% for others (Ennis et al. 2011). This proportional relationship also continues to change: Asians have replaced Hispanics and Latinos to be the fastest-growing group, with a total population of 21 million as of 2015, representing a 3.4 % increase compared with 2014 (U.S. Census Bureau 2016). Morevover, in California, there are now almost twice as many Hispanics and Latinos age 18 and younger than there are whites (Kidsdata.org 2015).

Historically, the US has resisted central planning or control at both the federal and state levels. The US health-care system reflects this wider context, having developed largely through the private sector and combining high levels of spending with distinctively low levels of government regulation. The US spends far more money on health care per person than any other country.

International comparison shows a varied picture with respect to access to health care, health behaviors, and outcomes. The US is unusual among high-income OECD countries in that most Americans still receive their coverage from private health insurance, and more than 12% of non-elderly adults are uninsured, although this proportion has been reduced significantly through implementation of the Affordable Care Act (Kaiser Family Foundation, 2016a). With regard to health behaviors, the picture is again varied; the USA has been notably effective in reducing smoking rates and has one of the lowest smoking rates internationally. But it has been less effective in grappling with nutritional health and obesity. The US does well on some disease indicators (e.g., certain cancers) but poorly on others (e.g., asthma). Compared to other developed countries, life expectancy is lower and mortality is higher (World Bank 2017).

Organization and Governance

Public and Private Organizations

In the US health-care system, public and private payers purchase health-care services from providers subject to regulations imposed by federal, state, and local governments as well as by private regulatory organizations. Figure 1 illustrates the interplay between four main actors: (1) government, (2) private insurance, (3) providers, and (4) regulators, as well as the types of relationships that connect them.

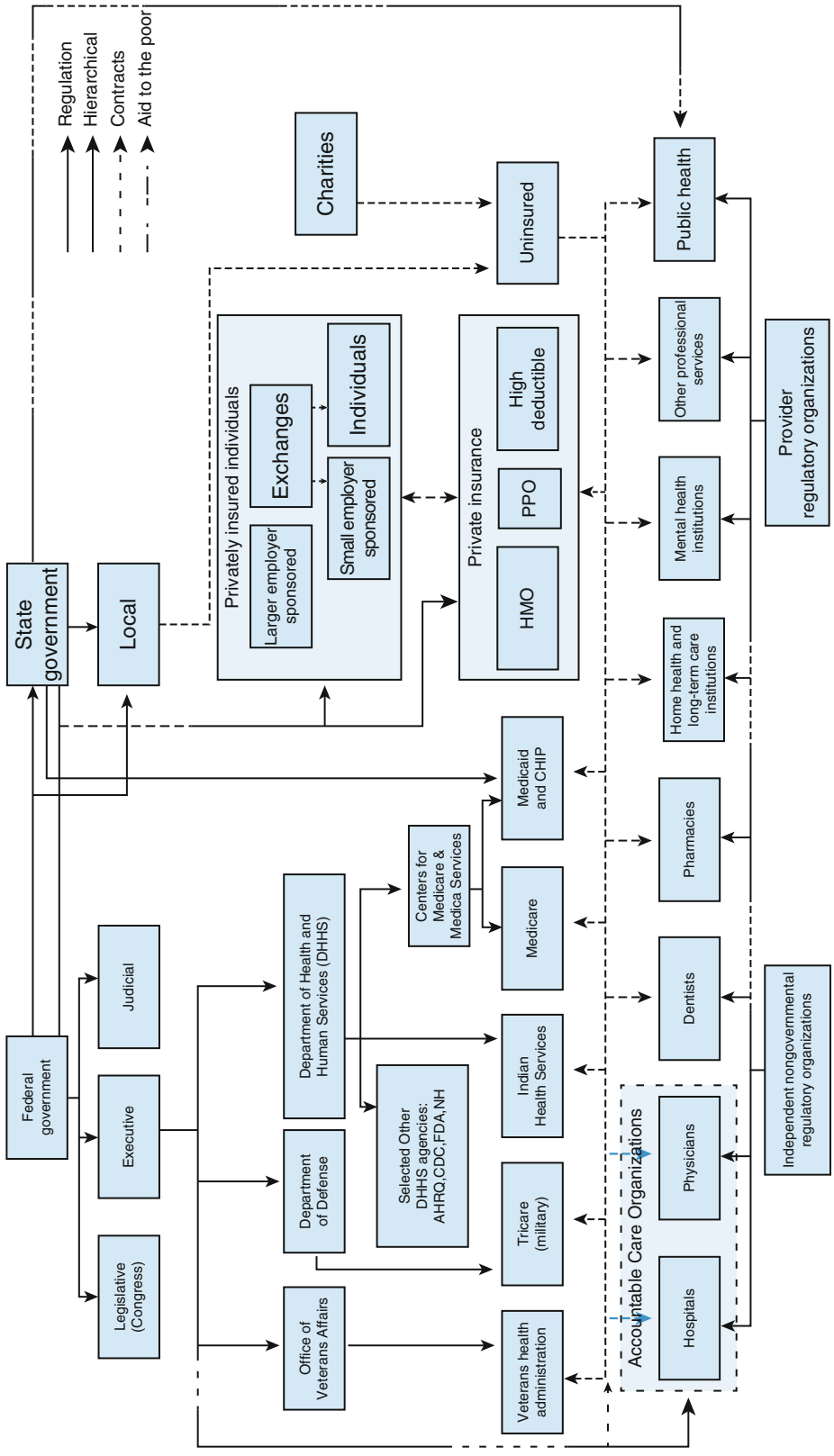


Fig. 1 Organization of the US health system

Government actors include those at the federal, state, and local levels. Both the federal and state governments have executive, legislative, and judicial branches (although the figure only shows this for the federal government). Under the executive branch of the federal government, the Department of Health and Human Services (HHS) plays the largest administrative role in the US health-care system. HHS includes agencies such as the Centers for Medicare and Medicaid Services (CMS) that administer the two major public health insurance programs: (1) Medicare, which provides near-universal coverage for those 65 and older as well as the disabled and those with end-stage renal disease, and (2) Medicaid and the Children's Health Insurance Programs (CHIP), which primarily provide insurance for some low-income families and those with disabilities. Medicaid also covers long-term care services after individuals have used up all their own income and assets and, along with Medicare, low-income seniors (referred to as "dual eligibles"). Other agencies within HHS include research and regulatory agencies such as the Agency for Healthcare Research and Quality (AHRQ), the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration (FDA), and the National Institutes of Health (NIH). The Office of Veterans Affairs, which oversees the Veterans Health Administration to provide care to military veterans, is a federal agency independent of HHS.

Public purchasers include federal and state agencies. Medicare is the largest public purchaser. State governments, along with funds provided by the federal government, purchase health-care services through Medicaid and CHIP, although both programs are state-administered. Both state and local governments are also involved in providing health care in a number of ways making it possible for low-income and other disadvantaged individuals and families to obtain care. These include such things as operating public hospitals as well as providing medical and preventive services through state and local health departments and their associated clinics and community health centers.

In addition to government purchasers, private insurers and individuals also purchase health care in the US. Private insurance plans have historically been categorized into three types: health maintenance organization (HMO) plans that provide or contract to provide managed care, preferred provider organization (PPO) plans that contract with a preferred network of providers to provide care at lower costs, and high-deductible plans (HDHPs) that typically offer lower premiums but higher deductibles than HMOs and PPOs. The vast majority of Americans with private insurance obtain it through an employer. The Patient Protection and Affordable Care Act (ACA), signed into law on March 23, 2010, is resulting in significant changes in the US health-care system. As shown in Fig. 1, these include the establishment of federal and state-based insurance exchanges for individuals without access to public or employer-based insurance to purchase private coverage as mandated by law. The ACA also allows providers that organize into Accountable Care Organizations (ACOs) to share in savings they achieve in the Medicare program.

Planning

There is a range of public and private organizations that undertake health system planning in the US. In spite of this, coordinated health planning by various actors as outlined in Fig. 1 is not highly developed. In part this reflects the pluralist and market-oriented nature of the US health-care system. Planning for emergencies and natural disasters, however, is given serious consideration in both the government and private sector. For example, the CDC plans for national and international response to public health emergencies.

Regulation

All actors in the health-care system are subject to regulation, often from multiple government and nongovernment agencies. Major federal regulatory organizations fall under the umbrella of HHS and include CMS, which regulates public payments to private providers and provider quality; the CDC, which focuses on prevention and control of communicable and noncommunicable diseases; and the FDA, which regulates food and drug safety. State regulatory bodies include public health departments, provider licensing boards,

and insurance commissioners. Local counties and cities also regulate health care through their public health and health service departments including regulating communicable diseases and restaurant safety. Independent nongovernment and provider organizations such as the American Medical Association (for physicians) and the Joint Commission (for hospitals) also play a regulatory role in the US health-care system.

Patient Rights

The US does not have a national comprehensive Patient Bill of Rights (WHO August 2007). The right to health care is not in the US Constitution, and it remains controversial though some states have enacted a Patient Bill of Rights. Some patient rights in the US have been initiated by the court system. For example, the Supreme Court ruled that individuals with disabilities have the right to receive services in non-institutional settings whenever possible. Since the 1990 passage of the Americans with Disabilities Act (ADA), those in the US with physical and/or mental disabilities have been granted additional civil rights. The Health Insurance Portability and Accountability Act (HIPAA) of 1996 governs the security and confidentiality of patient information. As a result of this legislation, how patient information is collected, stored, and transferred is subject to careful protection.

Financing of Major Insurance Programs

Coverage

Public purchasers – primarily Medicare and Medicaid – cover more than 30% of the population (Kaiser Family Foundation 2016b). The remainder of the US population – including those with employer-sponsored health insurance, individual private insurance, and the uninsured – are considered private purchasers. More than half of Americans obtain health insurance from their employer. Employer-sponsored coverage is funded by a combination of employer and employee premiums and employee out-of-pocket costs. After implementation of the ACA and the expansion of the individual private insurance market through income-based subsidies, nearly 16 million Americans have individually purchased coverage, at least half of whom purchased private insurance through one of the federal or state-based exchanges. In 2016, 2 years after the implementation of the ACA's major coverage expansion efforts, approximately 9% of all Americans were uninsured (28 million) including many young adults, minorities, and low-income households (Kaiser Family Foundation, 2017a; Kaiser Family Foundation, 2018a).

Sources of Revenue

The sources of revenues in the US health-care system have changed considerably over the past 40 years. In 1970, one-third of funding was from out-of-pocket payments. Currently, public sources constitute 37% of spending and private sources 34%, with the remaining 11% out-of-pocket (CMS 2016). While out-of-pocket payments have fallen as a percentage of the total, real out-of-pocket spending per person has actually risen considerably. This is because the size of the health-care system has grown so rapidly.

Financing and Financial Flows

Broadly speaking, financing in the US health-care system originates from employers, employees, and individuals. From them, it flows to private insurers and health plans as well as state and federal governments. Private and public purchasers then transfer dollars to providers through a variety of payment mechanisms. Figure 2 depicts financial flows in the US health-care system.

Beginning with the left-hand side of the figure, employers, employees, individuals, and charities pay into the health-care system through various taxes, premiums and other out-of-pocket expenses, and donations. Employed persons and their families contribute to private employer-sponsored insurance through premiums and cost

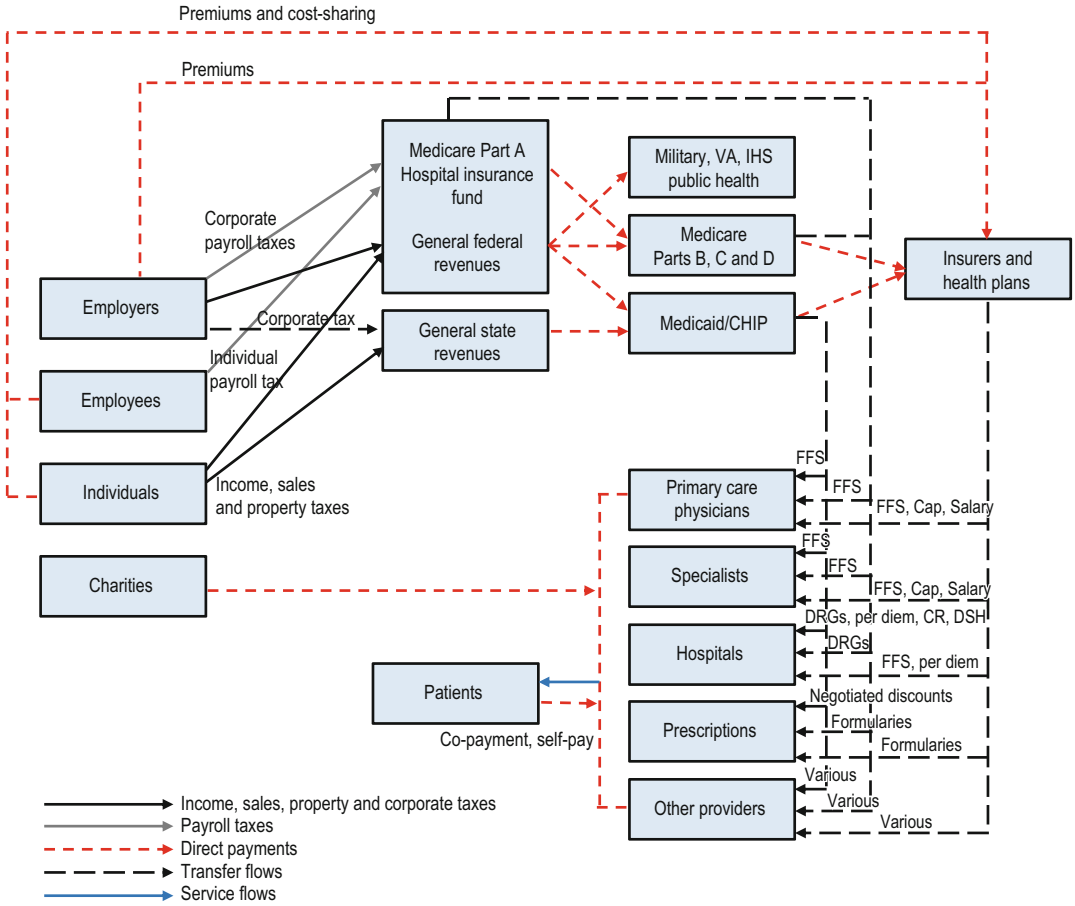


Fig. 2 Sources of revenue, financing, and financial flows

sharing. Individuals may purchase non-group coverage outside of the employment market. In addition to payroll taxes, individuals contribute to general federal and state revenue funds to finance public health-care coverage through income, sales, and property taxes. There is no value-added tax (VAT) in the US.

In the past care for low-income and uninsured individuals has been financed through private charities, a safety net system of public and community clinics, as well as by hospitals and physicians. Additional funding came from general tax revenues, but in many cases the care received was uncompensated and therefore is borne by providers. Prior to the ACA, it was estimated that of the $57 billion in uncompensated care expenditures, hospitals contribute 61% and physicians 14%, with the remainder coming from a variety of community organizations (Kaiser Family Foundation 2013). In 2011, the federal government, through the Medicaid Disproportionate Share Hospital (DSH) program, allotted $11.2 billion to hospitals serving a disproportionate number of uninsured and Medicaid patients (Kaiser Family Foundation 2013). These payments were expected to decrease as the ACA was fully implemented and many of the uninsured and those with preexisting conditions acquired health insurance. However, many states have not expanded Medicaid leaving a number of uninsured continuing to require uncompensated hospital care and subsequent legislation delayed reducing DSH payments to hospitals (Kaiser Family Foundation 2016c).

Table 1 Payment mechanisms for health services

	Payers				
	Medicare	Medicaid/ CHIP	Insurers and health plans	Insured individuals	Uninsured individuals
Services					
Inpatient hospital care	DRG	DRG, per diem, CR	FFS, per diem	Co-payment, coinsurance	Direct
Physicians and other health professionals	FFS	FFS, capitation	FFS, capitation, salary	Co-payment, coinsurance	Direct
Prescription drugs	Subsidies for premiums	DAWP	Formularies	Co-payment, coinsurance	Direct
Long-term care and home health	PPS for limited duration	PPS, CR	Per diem for limited duration	Direct	Direct

Notes: CR cost reimbursement, *DAWP* discounted average wholesale price, *DRG* diagnosis-related group, *FFS* fee-for-service, *PPS* prospective payment system

In the US, how health services are paid for depends on the service provided, the type of health worker providing it, the funder, as well as where the service is provided (e.g., hospital or ambulatory care center, California or New York). Given this complexity, the payment mechanisms for each type of health service is shown according to the payer involved (e.g., Medicare, insurers, and health plans) in Table 1.

Medicare

The Medicare program provides health insurance coverage to nearly all Americans age 65 and older as well as to many disabled Americans and people with end-stage renal disease – a total of about 55 million people. It covers medically necessary care with the exception of extended long-term care and dental care. Medicare is divided into four parts, labeled Parts A, B, C, and D. Part A, hospital coverage, includes not only hospital care but also some post-acute nursing home, home health care, and hospice care. Part B, supplemental medical insurance, is a voluntary program with essentially the same eligibility requirements as Part A. It covers physicians' services (both inpatient and outpatient); outpatient care; medical equipment, tests, and X-rays; home health care; some preventive care; and a variety of other medical services. Despite its voluntary nature, about 95% of those eligible enroll in it because it is heavily subsidized.

Part C, Medicare Advantage, is an alternative to Parts A and B. Enrollment is voluntary. It provides coverage for the same services and, at the discretion of the organization offering coverage, sometimes additional benefits such as vision or hearing. One of the main differences between Part C and the preceding two parts which are sometimes called "traditional Medicare," is that Part C coverage is offered through private organizations (e.g., insurers and HMOs). In 2017, 33% of Medicare beneficiaries were enrolled in Medicare Advantage plans, but aspects of the ACA could lead to reductions in enrollment in the future (Kaiser Family Foundation 2017b).

Part D, prescription drug coverage, began in 2006 and is also voluntary. Like Part C, Part D benefits are provided through private insurers. There are dozens of Part D plans in each state – in addition to dozens of Medicare Advantage plans providing drug coverage in many urban areas. Also like Part C, premiums and benefits vary by plan, with competition occurring based not only on premium differences but also on differences in benefits and, in particular, the drugs that are included on a plan's formulary that are listed as "preferred" drugs and which therefore are subject to lower patient co-payments. Over 70% of Medicare beneficiaries are covered under Part D. Most other beneficiaries have drug coverage from another source, such as coverage from a former employer, but 12% do not have any drug coverage (Kaiser Family Foundation 2017c).

In addition to services not covered, there are substantial patient cost-sharing requirements. As a result, about 90% of all beneficiaries obtain some form of supplemental insurance coverage, mainly through Medicare Advantage plans (which usually cover additional services), Medicaid, or private policies called "Medigap." Coverage for hospital care under Part A contains two significant gaps. First, there is a deductible for each inpatient hospital stay. In 2018, that amount was $1,340 (Medicare.gov 2018a). Second, for those rare stays that exceed 60 days, there are substantial *daily* co-payments. Part A's nursing home coverage is limited because it is only for short-term skilled care following a hospital admission, rather than extended long-term care. For eligible stays, up to 100 days are covered. During the first 20 days, there are no co-payments, but there is a substantial *daily* co-payment for days 21–100 of a stay of $167.50. In contrast, there is no co-payment for home health-care services.

Coverage for physicians' and other medical services under Part B is also subject to patient cost sharing. The patient is responsible for 20% of all covered expenses (with no maximum) after meeting an annual deductible of $183 (all figures are for 2018) (Medicare.gov 2018b). The 20% coinsurance requirement is perhaps the main reason why the vast majority of Medicare beneficiaries seek some form of supplemental insurance coverage. It is difficult to generalize about the depth of coverage under Part C because each plan has its own benefit structure. Federal minimum requirements are that coverage be at least as comprehensive as under Parts A and B. As noted, most Part C plans offer additional services. About 80% offer prescription drug coverage. It is also difficult to generalize about Part D (stand-alone prescription drug coverage) because benefits vary by insurance plan. The main characteristic is a feature called the "donut hole." Insurers provide coverage (with cost sharing) up to a certain amount of drug spending per year, at which point there is a period of no coverage at all. When total drug spending reaches a "catastrophic" level, almost all drug costs are covered. As part of the ACA, the donut hole will shrink and is scheduled to be eliminated by 2020.

Medicaid

Unlike Medicare, which is available to nearly all individuals age 65 and older, Medicaid is a means-tested program. It is designed to provide health insurance for those with the lowest-income levels and fewest assets, the disabled, and to poor seniors with Medicare coverage, as well as the disabled and seniors who have exhausted their financial resources, often as a result of very high long-term care expenses. Medicaid is a key resource for some of the poorest and sickest Americans.

Medicaid programs are state-based, but they are funded jointly by the states and the federal government. In return for federal dollars, states are required to meet certain federal government standards. Participation by the states is voluntary though historically all of the states have chosen to participate. Services are largely purchased from the private sector. Until 2014, the federal government paid between 50 and 74% of Medicaid costs proportional to each state's income, with the states paying the remainder. Beginning in 2014, federal contributions changed for those states that expanded Medicaid, with the federal government paying 100% of costs for those newly eligible, gradually falling to 90% by 2020.

Medicaid covers several distinct population groups. The breadth of coverage varies across states according to these population groups and by state.

Prior to the ACA, the main groups typically covered by Medicaid were as follows:

Low-income children
Low-income pregnant women
Low-income disabled persons
Low-income senior citizens
Low-income parents of dependent children

For adults, in some states that have not expanded Medicaid coverage, not only are there income restrictions but also asset limitations that can preclude eligibility.

Medicaid covers roughly 17 million more Americans (a total of 74 million) than Medicare. As noted, the breadth of coverage varies considerably by eligibility group and by state. As of

February 2018, 33 states and the District of Columbia had expanded their Medicaid coverage in accordance with the ACA, and 18 had not (Kaiser Family Foundation 2018b). In those states that have chosen to expand, all adults and children below 138% of the federal poverty level (FPL) are now eligible for Medicaid. (In 2017, the federal poverty level was $12,060 for a single individual and $24,600 for a family of four.) (Healthcare.gov, 2018).

In the other states, children and pregnant women have the most liberal eligibility requirements. States are required to cover pregnant women and children up to age six if their incomes are at or below 138% of the federal poverty level (FPL) and children ages 6–18 up to 100% of the FPL. Many states employ even higher, or more generous, income eligibility thresholds. When combined with CHIP coverage, the median state provides coverage to children up to 235% of the FPL and pregnant women up to 185%. To illustrate the critical role that Medicaid plays for pregnant women, the program pays for 45% of all births in the US. Coverage is somewhat narrower for seniors and the disabled, however, with eligibility mandated up to 75% of the FPL.

In the 18 states that have not expanded coverage, low-income parents of dependent children face the most stringent eligibility requirements. Nine states cover them only if their incomes are below 40% of the FPL – with Alabama and Texas providing such coverage only up to 18% of the FPL (i.e., an annual income even as low as $2,200 would disqualify an individual from coverage in that state). In contrast, Connecticut and the District of Columbia cover these adults at in excess of 200% of the FPL or higher, taking advantage of the joint funding by the federal government. Recently, several states have either considered or passed legislation that would also impose work requirements on many Medicaid recipients of working age (Kaiser Family Foundation 2018b). This illustrates the large variation in breadth of coverage that currently exists between states, although this variation has been reduced considerably as a result of the ACA.

Beginning in 2014, states that choose to expand their Medicaid coverage will receive 100% of the costs from the federal government to add all poor people and the near poor up to 138% of the poverty level to Medicaid rolls for 4 years. The federal contribution will gradually decrease to 90%.

Several states have petitioned the federal government for special arrangements in their Medicaid expansion, and they have received approval to proceed. These are called "1115 demonstration waivers" and typically involve exceptions to the usual Medicaid rules that are budget neutral for CMS. Examples include charging a co-pay or premium to recipients for services, imposing a penalty for nonpayment of premiums, including work requirements, offering "wellness incentive" programs, and structuring the program like a health savings account (HSA). As of February 2018, 35 states have received waivers from CMS to tailor their own Medicaid programs (Kaiser Family Foundation 2018c).

The initial evidence on the effectiveness of these innovations to save money, improve the quality of care, and/or improve population health is limited. However, states are required by CMS to report such evidence during the demonstration waiver. Almost all of the waivers add to the complexity of the Medicaid program and could increase the cost of administration. This will be evaluated by CMS going forward. In the tradition of American federalism, successful innovations could spread to other states.

The scope of coverage under Medicaid is generally wide but varies by state. Federal law requires that states provide the following services: inpatient and outpatient hospital, physician, nurse practitioner, laboratory and radiology, nursing home and home health care for those age 21 and older, health screening for those under age 21, family planning, and transportation. Other services are optional for states. This designation means that if a state chooses to cover the service, it will receive matching funds from the federal government. Optional services include some major services such as prescription drugs and dental care but also such things as care provided by professionals besides physicians and nurse practitioners, durable medical equipment, eyeglasses, rehabilitation, various types of

institutional care, home- and community-based services, personal care services, and hospice.

In general, those eligible for Medicaid receive services at little or no cost. However, states sometimes put restrictions on the number of services that are covered per year. Moreover, payments to physicians are usually low. In 2013, about 30% of physicians reported that they would not take new Medicaid patients (Decker 2013). Psychiatrists were the most likely to reject new Medicaid patients (56%), and cardiovascular disease specialists see the most, with only 9% rejecting such patients (Decker 2013).

One development with the potential to provide more mainstream access to physician office care is the movement toward the use of managed care in the Medicaid program. Over 70% of Medicaid beneficiaries are in managed care plans. The exact nature of these arrangements varies from state to state. Some include capitation (rather than fee-for-service) for providers and/or primary care case management. States often prefer managed care both as a means of enhancing quality and controlling costs and are likely to rely on it as the program expands through provisions in the ACA.

Private Insurance

In 2016, 179 million Americans were covered by private insurance; 157 million of these had employer-sponsored coverage (Kaiser Family Foundation 2016d). While having employer-sponsored insurance is almost always advantageous – employers generally subsidize premiums – it is not available to everyone. First, it is necessary to be employed or be a family member of someone employed. Second, the employer has to offer coverage; until 2015 or 2016, it was completely voluntary on the part of the employer. Third, if coverage is offered, the employee has to be eligible for it. And fourth, even if eligible, the employee has to be willing to pay the employee's share of the premiums, which can be considerable. It is the people who are better-off economically who are able to meet the four conditions mentioned above. Individuals and families without an entry into the employer insurance market, and who are not eligible for Medicare and Medicaid, often seek coverage individually. Historically, individual coverage has had several disadvantages over employer group coverage and therefore was normally purchased only if the employer-sponsored coverage was unavailable. Prior to the ACA, plans purchased in the individual private market were usually unsubsidized; administrative costs tended to be high (25–40%); health examinations were often necessary; cost-sharing requirements were, on average, higher; and fewer types of services tended to be covered. However, the individual market is changing substantially with the creation of the health insurance exchanges under the ACA.

Some employers, particularly larger ones, offer a choice of health insurance products to their employees. Among firms offering a choice, only about 20% of employees nationally can choose among three or more plans (California HealthCare Foundation 2009). For federal government employees, there can be dozens of choices. Employees with a choice can generally switch to a different plan irrespective of their health history or status once per year.

Historically the most common arrangement offered by employers was a PPO. Among all covered workers, in 2017 48% were enrolled in PPOs, 14% in HMOs, 10% in point of service plans (POS – a blend of HMO and PPO arrangements that allow members to seek care from non-network providers at a higher cost), 28% in high-deductible plans (note that some of these may be PPOs or HMOs), and less than 1% in conventional insurance (traditional fee-for-service) plans (Kaiser Family Foundation 2017d). The biggest change in recent years has been the relatively rapid rise of high-deductible plans with a savings option, many of which are classified as health savings accounts (HSAs). In HSAs, the policy holder agrees to purchase insurance with a high deductible (currently averaging about $2,200 annually for individual coverage and twice that for family coverage). Premium contributions can be made by the individual and/or employer. These contributions are tax deductible, can accumulate year to year if unspent, and therefore can be used for future medical

expense. They can be withdrawn to pay for eligible medical care.

Market share in health insurance is dominated by larger firms that generally market nationally. (Blue Cross Blue Shield plans, while having a national presence, usually market in individual states.) In 2013, three of the largest insurers covered 80% of people enrolled in individual, small group, and large group private insurance markets in at least 37 states (US Government Accountability Office 2014).

Prior to January 2014, insurers priced their productions in two ways: experience rating and community rating. Under experience rating, the most common technique used, insurers charged employers (or individuals) on the basis of the past cost experiences or, when data is lacking, on predicted expenditures. In contrast, community rating entailed charging the same amount to all groups (or even individuals). In the individual insurance market, premiums were generally experienced-rated. Each individual went through medical underwriting in which their risks are assessed.

Under the ACA, state-based exchanges combined with the individual mandate to purchase insurance are intended to reduce adverse selection problems in the individual and small group market by requiring plans selling in exchanges use community rating (older individuals can be charged more than the younger, but differences within age cohorts will be prohibited), rather than experience rating, and by increasing risk pooling to a far greater extent than has been the case in the past in the US. Exchanges will also reduce or eliminate the need for individuals to purchase insurance through agents or brokers, whose fees can absorb 20% of the total premium during the first year of enrollment (Whitmore et al. 2011). One of the key requirements of the ACA is that individuals purchase coverage or pay a penalty. Similarly, firms with more than 50 employees will also have to provide coverage or pay a penalty. These "sticks," combined with the "carrots" of subsidies for individuals to purchase coverage, will, it is hoped, lead to a system where community rating will be viable.

There are significant user charges associated with private insurance. Beginning with premiums, the average cost of employer-based single coverage was $6,690 in 2017, 18% of which was paid by the employee. For family coverage, it was 31% of the total cost of $18,764. The percentage of family coverage paid by the employee has risen considerably over the past decade – by 6.8% per year compared to 4.8% for the share paid by the employer (Kaiser Family Foundation 2017a). This is one of several examples of how employers have shifted more costs onto employees as healthcare costs have risen.

As is the case in many high-income countries, there are often substantial co-payments for prescription drugs. In most employer-sponsored plans, there are multiple "tiers," each of which has its own cost-sharing requirements. Their purpose is mainly to encourage the use of cheaper drugs, particularly generics, the use of which has grown substantially in recent years. One way in which employer coverage tends to be more generous than Medicare's is that there is usually a limit on annual out-of-pocket expenditures. Over 80% of employer-sponsored health plans establish such a maximum. In 2014 the median out-of-pocket maximum for an employee with individual coverage was approximately $6,000 (Kaiser Family Foundation 2014a).

Administrative costs tend to be higher in private insurance than government-sponsored programs like Medicare and Medicaid. This is a result of several factors in addition to the need for profits. Private insurers engage in "underwriting" activities, which involve examining past claim expenses to determine a competitive, yet still profitable premium to charge. They also need to market and advertise since, unlike government programs, they do not have a captive audience. Finally, to protect themselves against unexpectedly high claims, insurers often need to factor in a risk premium. Estimates vary on the size of administrative costs (including profits and taxes). Most agree, however, that administrative costs are much higher for insurance policies covering individuals and small firms. One study, conducted by a US actuarial firm, estimated that in 2003, private insurers spent 16.7% on administrative costs. Among the latter, administrative costs were estimated to be 30% in the individual

market, 23% in the small employer market, and 12.5% for large employers (Milliman 2006). In contrast, Medicare administrative costs for the overall program were 1.4% (Centers for Medicare and Medicaid Services, 2016).

Physical and Human Resources

A health-care system requires adequate physical and human resources for the delivery of health care. Physical resources encompass capital stock, infrastructure, medical equipment, and information technology. Human resources are practitioners who diagnose and treat patients, technologists, technicians, and support occupations (Bureau of Labor Statistics (BLS) 2011a, b).

Physical Resources

Capital Stock

Table 2 presents trends in the number of several types of health-care facilities in the US for selected years through 2012. The total number of ambulatory care facilities increased by 24% from 1997 to 2012. All types of ambulatory facilities, such as physician and dentist offices, ambulatory surgical centers, and rural health clinics, experienced this growth. Ambulatory surgical centers and rural health clinics grew tenfold or more between 1980 and 2012.

In contrast to the growth in ambulatory care, the number of hospitals decreased significantly from 1975 to 2009. The consolidations and closings of hospitals that contributed to this decline are related to changes in hospital payment from retrospective to prospective and the rise of managed care practices promoting reduced lengths of stay and competition between hospitals (Harrison 2007).

The total number of nursing homes also decreased, but the number of skilled nursing homes increased threefold. The number of Medicare-certified home health and hospice agencies increased fivefold or more, most likely in response to changes in Medicare reimbursement and shifts from inpatient to outpatient care.

Institutional Infrastructure

A number of changes have occurred in the infrastructure of health-care institutions in the past decades. Figure 3 shows that between 1970 and 1990, the number of community hospital beds per 1,000 population declined by 14%. From 1990 to 2012, the decline was even greater, at 30%. The number of beds in psychiatric institutions fell 58% from 1970 to 1990 and another 36% from 1990 to 2000, leveling off in 2000. The number of skilled nursing home beds fell nearly 15% from 1990 to 2012.

Medical Equipment

The use of medical equipment has skyrocketed over the past decades. Reductions in hospital length of stay and the provision of more acute care on an outpatient basis require a greater use of medical equipment (Danzon and Pauly 2001). Medicare, Medicaid, and private insurance companies indirectly cover the costs of medical equipment in medical facilities as part of the overall reimbursement for care and directly cover the costs of medical equipment to individuals (Tunis and Kang 2001).

Information Technology

Health information technology (HIT) has become an important part of health care (Hersh 2009). On the provider side, medical record-keeping, decision-making, imaging, and prescribing can now be aided by computer and Internet data storage, organization, and retrieval. On the consumer side, the Internet has become a source of information (and misinformation) on health care, and patients may be able to communicate with physicians through email. HIT is slowly integrating the provider and consumer sides so that patients can view and add to their medical record online (Hogan and Kissam 2010).

The adoption of health information systems has been slow in the US. In 2013, 78% of office-based physicians used some kind of electronic health record (EHR) in their practice, while 59% of hospitals had a basic EHR system (Adler-Milstein et al. 2014; Hsiao and Hing 2014).

The US government has put significant funding into the expansion of HIT. In 2009 the

Table 2 Number of selected types of health-care facilities in the US, 1975–2012

	Number of facilities									
Type of facility	1975	1980	1985	1990	1995	2000	2005	2010	2012	% chng
Ambulatory care (all facilities)[a]	–	–	–	–	455,381[a]	489,038[a]	547,709 [a]	–	582,733	24.53
Physicians' offices[a]	–	–	–	–	195,449[a]	203,118[a]	209,730[a]	–	221,470	12.48
Dentists' offices[a]	–	–	–	–	114,178[a]	118,305[a]	127,033[a]	–	133,194	15.37
Ambulatory surgical centers (Medicare certified)	–	–	336	1,165	2,112	2,894	4,445	5,316	5,335	176.3
Rural health clinics (Medicare certified)	–	391	428	517	2,775	3,453	3,661	3,845	3,940	163.89
Hospitals (all)	7,156	6,965	–	6,649	6,291	5,810	5,756	5,794	5,723	−22.25
Nursing homes (all)	–	–	–	–	16,389	16,886	–	15,700	15,673	−4.46
Skilled nursing homes (Medicare certified)	–	5,052	6,451	8,937	–	14,841	15,006	15,084	15,132	99.88
Home health agencies (Medicare certified)	2,242	2,924	5,679	5,661	8,437	7,857	8,090	10,914	11,930	136.72
Hospices (Medicare certified)	–	–	164	772	1,927	2,326	2,872	3,405	3,509	182.14
End-stage renal disease facilities (Medicare certified)	–	999	1,393	1,987	2,876	3,787	4,755	5,631	5,766	140.93

Sources: For ambulatory care facilities (all, physicians' offices, dentists' offices), Census Bureau 2010 (NAICS data). Obtained from http://factfinder.census.gov/. For hospitals: *Health, United States, 2013*, Table 107; *Health, United States, 2014*, Table 98. For nursing homes (all): *Health, United States, 2014*, Table 101. For the Medicare-certified facilities of all types: *Health, United States, 2013*, Table 111. Column for 2012 in table uses 2011 data

Notes: – Data not available

Information is not available about the methods for counting the number of facilities. We assume that each stand-alone facility is counted whether it is part of a larger organization or not. In that case if a merger results in the closing of one facility, the number of facilities will decrease, but if a merger does not result in the closing of a facility, the number will be unchanged

[a]Years for these numbers are 1997, 2002, and 2007, respectively. The numbers for 2007 are estimations

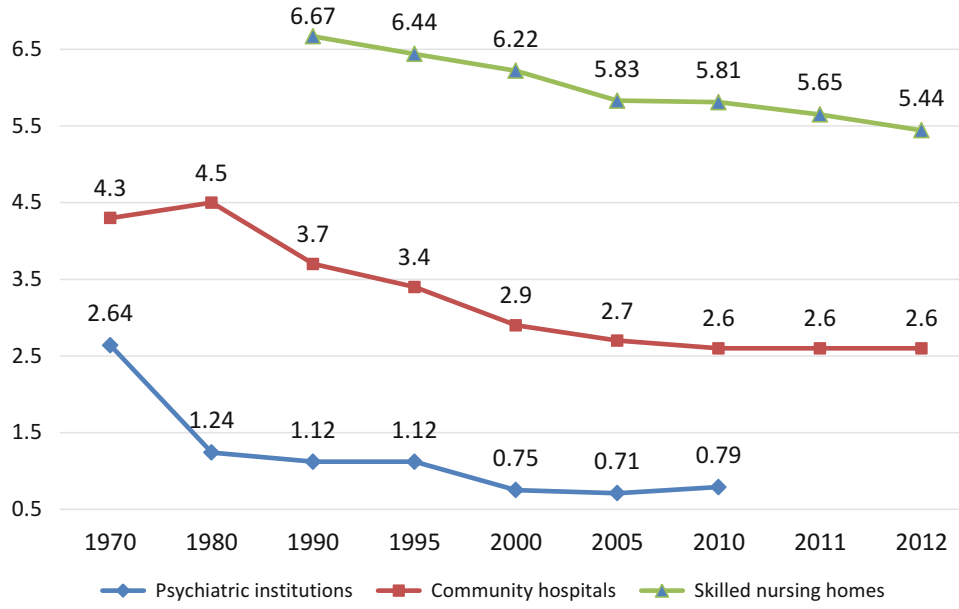


Fig. 3 Number of beds in US community hospitals, psychiatric institutions, and nursing homes per 1,000 population, 1970–2012 (*Notes*: Community hospitals are defined as nonfederal, short-term general, and other specialized hospitals. The types of facilities included in the category of community hospitals have changed over time. Psychiatric institutions are defined as all 24-h psychiatric hospitals and residential treatment organizations. Skilled nursing homes are those that are certified with the Centers for Medicare and Medicaid Services. *Sources*: (1) For community hospitals*: Health United States, 2006, 2007, 2008, 2009, 2011*. (2) For psychiatric hospitals: Foley et al. (2004), DHHS pub. no. (SMA)-06-4195, chap. 19; *Health, United States, 2009*, Table 119; *Health, United States, 2011*, Table 117. (3) For skilled nursing homes*: Health, United States, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2011*)

Health Information Technology for Economic and Clinical Health (HITECH) Act was passed. It provides $30 billion to hospitals to adopt EHRs. Hospitals must build systems that have "meaningful use" in stages of increasingly advanced requirements (Adler-Milstein et al. 2014). In addition, the ACA has incentivized physicians and hospitals to adopt EHRs by encouraging innovations such as ACOs, which are difficult to run without an EHR (Adler-Milstein et al. 2014).

Human Resources

Health-Care Workforce

Table 3 presents the numbers of workers employed in several health-care occupations between 1990 and 2014. Increases in employment occurred with most health-care diagnosing and treating practitioners, such as physicians, chiropractors, registered nurses (RNs), and therapist occupations. Employment also increased with most of the technologist and technician occupations and all of the support occupations. Employment fell for dentists, physician assistants, and clinical laboratory personnel.

International Mobility

The numbers of US health-care professionals include immigrants to the US and exclude emigrants from the US. In 2014, 26% of physicians and 24% of residents in specialty programs in the US were international medical graduates (Ranasinghe 2015). Over 8% of the US nursing workforce in 2004 consisted of international nursing graduates (US DHHS 2010).

Although immigrants add to the health-care workforce supply, there is no evidence that they improve distributional issues. Furthermore, a reliance on immigration reduces the incentive to

Table 3 Employed US health-care personnel per 1,000 population, 1990–2014 (selected occupations)

	1990	1995	2000	2005	2010	2011	2012	2013	2014	% chng
Health-care diagnosing and treating practitioners										
Chiropractors	–	–	0.15	0.28	0.18	0.18	0.19	0.18	0.21	0.56
Dentists	0.64	0.59	0.61	0.55	0.57	0.58	0.53	0.58	0.60	−0.01
Optometrists	0.09	0.13	0.12	0.14	0.12	0.09	0.11	0.13	0.15	0.27
Pharmacists	0.69	0.65	0.80	0.84	0.83	0.88	0.91	0.88	0.92	0.15
Physicians and surgeons	2.32	2.64	2.62	2.81	2.82	2.64	2.91	2.95	3.18	0.20
Physician assistants	–	–	0.15	0.25	0.32	0.26	0.35	0.41	0.26	−0.84
Podiatrists	0.06	0.04	0.02	0.04	0.04	0.02	0.03	0.04	0.03	0.01
Registered nurses	6.70	7.52	7.79	8.17	9.21	8.68	9.19	9.15	9.06	0.16
Occupational therapists	0.15	0.20	0.20	0.29	0.35	0.36	0.38	0.35	0.35	0.59
Physical therapists	0.37	0.49	0.51	0.60	0.61	0.71	0.67	0.71	0.77	0.45
Respiratory therapists	0.25	0.36	0.27	0.32	0.42	0.43	0.35	0.35	0.35	0.27
Speech-language therapists (pathologists)	0.25	0.35	0.31	0.33	0.43	0.40	0.47	0.43	0.43	0.35
Health-care technologists and technicians										
Clinical laboratory technologists and technicians	1.20	1.42	1.02	1.13	1.11	1.03	1.02	1.08	0.92	−0.10
Dental hygienists	0.35	0.36	0.39	0.45	0.46	0.47	0.52	0.58	0.55	0.35
Licensed practical and licensed vocational nurses	1.77	1.52	1.81	1.72	1.86	1.80	1.70	1.77	2.01	0.11
Medical records and health information technicians	0.28	0.08	0.31	0.41	0.38	0.37	0.29	0.28	0.43	0.36
Health-care support occupations										
Nursing, psychiatric, and home health aides	5.87	6.69	5.24	6.42	6.24	6.36	6.77	6.75	6.21	0.16
Dental assistants	0.76	0.80	0.76	0.88	0.97	0.98	0.88	0.88	0.86	0.12

Sources: Current Population Survey (CPS), Bureau of Labor Statistics, HRSA, DHHS; US Census Bureau, Census 1990, 2000, 2010, and population estimates 2011–2014

Notes: *Dashes* indicate data are not available. % change is from 1990 to 2014 or from the earliest year. A new occupational classification system for occupational employment (SOC) was introduced by the CPS in 2003. The 1990 and 1995 data are based on the old classification system and may not be fully comparable to later data. The table reports numbers employed rather than full-time equivalents (FTEs), so the actual amount of human resources employed may be less than that reflected in the table due to part-time employment. On the other hand, since these are employment numbers, the total number of individuals in each occupation would be larger if unemployed individuals were counted

Calculations: Employment and population were rounded to three decimal places

expand educational capacity, raise wages, and improve working conditions (Flynn and Aiken 2002). Finally, migration from low-income countries is a "brain drain" for those countries (Aiken 2007).

Distribution

The US has a high proportion of specialists to primary care physicians (around 1.5 times as many in 2012) (Hing and Hsiao 2014). Further, the primary care physician to population ratio in rural areas is only 4/5 that of urban areas (Hing and Hsiao, 2014). In nursing, the biggest distributional issue is the low number of RN faculty (AACN 2017). This creates bottlenecks in the educational process and contributes to nursing shortages (AACN 2017). The ACA includes policies aimed at improving supply and distribution issues related to primary care including scholarships and loan repayment programs for primary care physicians, short-term increases in primary care payment rates for Medicaid, and additional

support for Federally Qualified Health Centers to provide essential health services to more uninsured and low-income patients.

Adequacy

Projections of the adequacy of physicians using several forecasting models indicate a future shortage of physicians of 5–20% by 2020 (COGME 2005; BHPr 2008). Other projections indicate that a smaller increase in supply would be needed if distributional issues were improved or if there was an increased use of nonphysician providers and osteopaths (Weiner 2007). In nursing, forecasters unanimously predict a large future shortage (BHPr 2010).

Provision of Health-Care Services

The US has several major health-care sectors, including public health, primary, specialty, acute inpatient, dental, mental health, pharmaceutical, post-acute, long-term, and palliative care. Access to these services and navigation through the US health-care system differs depending upon the care that is needed and whether an individual is insured or uninsured. Insured individuals tend to enter the health-care system through a primary care or specialty provider. Uninsured individuals often do not have a regular primary care provider but instead may visit community health centers and emergency departments. Due to out-of-pocket costs, they may be reluctant or unable to seek care unless they are experiencing an emergency.

Public Health

Public health focuses on promoting health at the population level through investigating and intervening in the environmental, social, and behavioral factors in health and disease. It emphasizes prevention and health promotion (Shi and Singh 2012). Public health is promoted mostly through public agencies. At the federal level, public health services are headed by the US Public Health Service (USPHS), a division of HHS. There are several subdivisions within the USPHS, such as the CDC. Federal laws allow state health agencies to determine the scope and amount of services and to establish the vehicles for providing those services. As a result, the services vary significantly across the states. Local public health agencies at the county or city levels ("health departments") carry out many public health functions (Salinsky 2010).

Public health services include communicable disease control, environmental hazard prevention, emergency terrorism preparedness and response, occupational health, health promotion and screening, and licensing, regulation, and planning of health-care facilities and providers.

Outpatient Services

Primary Care

In 2010 55% of the visits to physicians in the US were to a primary care physician (US Department of Health and Human Services 2014). Primary care practitioners are physicians, nurse practitioners, physician assistants, and nurse midwives who are generalists or who specialize in family medicine, internal medicine, pediatrics, obstetrics, and gynecology (Bodenheimer and Pham 2010).

Access to primary care requires that patients have the ability to pay for care, adequate transportation to care, and the health literacy to demand and use the care; it also requires that the supply, distribution, and time of providers are adequate (Shi and Singh 2012). For these reasons, the uninsured and those with insurance but unable to afford high out-of-pocket costs due to inadequate coverage have difficulty accessing primary care. Additionally, those covered by Medicaid may experience problems accessing primary care due to their inability to find a private physician that accepts Medicaid patients (Shi and Singh 2012).

Specialty Care

Forty-five percent of visits to physicians in the US in 2010 were to specialists (US Department of Health and Human Services 2014, Tables 91, 92). Many of the issues with access to primary

care are even more of a concern with specialty care. Care coordination among primary care and specialist providers is a growing issue in the US, where the typical Medicare beneficiary sees two primary care physicians and five specialists a year, and patients with multiple conditions may see up to sixteen physicians (Bodenheimer 2008). This can lead to over-, under-, and conflicting treatment and polypharmacy. Two initiatives to improve care coordination in the US are patient-centered medical homes (PCMHs) and ACOs (Phillips and Bazemore 2010; CMS 2012). In PCMHs each patient has an ongoing relationship with a primary care provider, who directs the medical team, and the patient's care is coordinated across all health-care settings, with patients actively participating in decision-making (Rittenhouse et al. 2011). In ACOs payment from Medicare is tied to the performance of the provider organization, thus conferring financial risks and rewards for care management and patient outcomes to providers.

Emergency Care

Emergency departments (EDs) are a major part of the US health-care safety net (Shen and Hsia 2010). EDs in hospitals that receive payment from Medicare are required by the Emergency Medical Treatment and Active Labor Act (EMTALA) to provide care to anyone needing emergency treatment. Hospitals must care for the individuals until they are stable. This allows under- and uninsured persons access to the ED for emergency conditions.

EDs tend to be overused for nonurgent problems and for serious problems that could have been prevented with better primary and specialty care. ED overcrowding, long wait times, hospital diversions, the lack of ED space and staff, and patient boarding have been problems for many years (GAO 2009).

Urgent Care

Urgent care is walk-in care provided outside the ED setting in centers that are open in the evening on weekdays and at least 1 day over the weekend (Weinick et al. 2009). Services focus on acute episodic care for minor illnesses and emergencies such as upper respiratory infections, lacerations, and fractures. Medical care is typically performed by family physicians, nurse practitioners, and physician assistants (Weinick et al. 2009).

In 2011 there were more than 9,000 urgent care centers (UCCs) in the US (Yee et al. 2013). Urgent care services have expanded in response to difficulties in seeing primary care practitioners on an urgent basis and after-hours, high ED costs, and long ED wait times (Yee et al. 2013). Some individuals use UCCs because they do not have a regular source of primary care. An individual must have insurance or pay out-of-pocket for care.

Retail Clinics

Located in pharmacies, grocery stores, and department stores, retail clinics are emerging as places to go for treatment of minor medical conditions (RAND 2010). They tend to be staffed by non-physician practitioners, such as nurse practitioners or physician assistants, and they treat a limited number of conditions and needs, such as skin conditions, sore throats, pregnancy testing, infections, diabetes screening, and immunizations (Mehrotra et al. 2008).

Acute Inpatient Care

Individuals who are acutely ill and need to have round-the-clock care require inpatient care provided in hospitals. The availability of hospital services depends upon the insurance status of the individual seeking care, the type of hospital, and the geographic area. For those who have private or public insurance, care is accessed through a physician referral to a hospital that the physician recommends and that is in the insurance provider network. For those without insurance, access to care depends upon how sick they are.

When an uninsured patient's condition is not an emergency (such as planned surgery), access to hospital care becomes dependent upon hospital ownership. Government-owned hospitals must provide charity care to those who do not have insurance or cannot pay for out-of-pocket portions of their care (Weissman et al. 2003). These hospitals provide the majority of charity care in the US (Weiner et al. 2008). Charity care is also provided

by nonprofit private hospitals. It is financed through federal payments for treating Medicaid patients for DSH hospitals, tax exemptions, and cross-subsidies from other payers (Weissman et al. 2003). For-profit hospitals also provide charity care, but they do not receive tax exemptions for this, and it is unclear whether they provide as much charity care as nonprofit hospitals (Cram et al. 2010; Schlesinger et al. 2003). The expansion of health insurance, as being undertaken through the ACA, is expected to improve access to inpatient care in the US and reduce hospitals' uncompensated care costs, cost shifting, and other irrationalities of the system.

Mental Health Care

The mental health-care landscape has changed significantly over the past decades. Long-term institutionalization, which was a major treatment strategy for many mental health problems, is no longer the preferred way to treat those problems. Instead, treatment occurs through outpatient care, accompanied by the increased use of pharmaceuticals which can be managed on an outpatient basis, and short-term inpatient stays (US Department of Health and Human Services 2014, Table 106; Ling et al. 2008).

Only about one-third of Americans with mental health problems actually receive treatment for their problem (Cunningham 2009). Insured patients generally receive mental health care in the outpatient settings of offices of private psychiatrists, psychologists, and licensed social workers and inpatient settings of private psychiatric and general hospitals (Shi and Singh 2012). Patients without insurance who cannot pay out-of-pocket expenses are treated in state and county mental health hospitals, community health centers, EDs, and hospitals (Shi and Singh 2012). Other access issues include shortages of mental health providers and the stigma that is attached to mental illness (Cunningham 2009).

A goal of the ACA is to improve access to mental health care by promoting mental health parity and expanding insurance coverage for mental health. Insurance regulation will prohibit discrimination against those with preexisting mental health conditions, increasing rates, or canceling insurance for those who develop mental health conditions.

Pharmaceutical Care

Spending on prescription drugs has been the fastest-growing component of US health costs until just recently. Since 1970 spending increased rapidly until 2001 (CMS 2014). From the 1990s to 2015 US spending on retail prescription drugs increased from 7% to 12% of total health expenditures (GAO, 2017). Pharmaceutical production and marketing in the US are completely privatized but are regulated by the Food and Drug Administration (FDA). Prices are not regulated, although the government negotiates payment discounts in some of its programs such as Medicaid (but not Medicare where a provision in the Part D legislation prohibits Medicare from negotiating bulk discounts on drugs).

Many pharmaceuticals are overused, inappropriately used, and underused in the US. Overuse and inappropriate use occur with certain medications such as antibiotics and antidepressants and with the practice of polypharmacy among the elderly (Conti et al. 2011; Misurski et al. 2011; van der Hooft et al. 2005). Underuse is associated with financial barriers. In 2011, 23% of individuals in the National Health Interview Survey reported cost-related medication underuse (Berkowitz et al. 2014).

Overuse of medications has been cited as result of aggressive marketing by pharmaceutical companies to both physicians and consumers (Brody and Light 2011; Budetti 2008; Williams et al. 2011). Pharmaceutical companies sometimes market their drugs by taking advantage of new diseases, literally promoting the existence of the disease in their advertisements (also known as "disease mongering") (Brody and Light 2011). A health problem is reframed and promoted in the media and popular culture as having a pharmaceutical solution (Williams et al. 2011). These strategies have been termed "pharmaceuticalization." Whether a condition is a true health

problem and is best treated with pharmaceuticals or other products, or has been pharmaceuticalized, is controversial (Metzl and Herzig 2007).

Long-Term Care

Long-term care consists of a number of different health-care services for individuals with conditions that are not expected to significantly improve and that need ongoing care.

Through a complex financial web, essentially all Americans have access to nursing homes. The financial options are as follows: If an elderly person is admitted to a nursing home post hospitalization, Medicare will cover a limited amount of skilled nursing days, contingent upon rehabilitation progress. If the individual needs to stay beyond Medicare-covered days, or was never hospitalized, she must pay out-of-pocket or through Medicaid, if an individual has used up ("spent down") her own assets first (not including a family home and other exclusions). A private room in a nursing home averaged $90,000 a year in 2016 (Longtermcare.gov, 2018), so those paying out-of-pocket soon run out of money. Long-term care insurance covers nursing home care, but few Americans have this insurance (Kovner and Knickman 2011) because it is expensive and only rarely subsidized.

Palliative Care

Palliative care is the care of persons with a terminal illness. It entails the relief of pain and other symptoms to make the person comfortable and psychosocial and spiritual support (Field and Cassel 1997). Hospice services are an integral part of palliative care and were delivered to 1.6 million persons in 2009, mostly older persons and those with cancer (Shi and Singh 2012; NHPCO 2010). In 2010, 32% of Medicare decedents older than 65 years received care from a Medicare-certified hospice (Aldridge et al. 2015).

Medicare, Medicaid in most states, and most private insurance plans cover hospice. Due to the fact that most hospice care is for the elderly, and the elderly are fully covered by Medicare, the number of uninsured individuals needing hospice care is quite small (Lorenz et al. 2003). For the small number of individuals without insurance coverage, hospices may provide care regardless of ability to pay (Pietroburgo 2006).

Reforms

The Patient Protection and Affordable Care Act (ACA) constitutes one of the most important reforms to the US health system to date. The ACA was signed into law in 2010 and was implemented over several years. Its scope is very broad, and while its principle goal was to increase access to health services through the expansion of both private and public insurance, it also included measures to improve quality and to control costs. In the version of the ACA signed into law, almost everyone was required to have insurance; this is called the "individual mandate." There were penalties for failure to have insurance, but exemptions apply (e.g., religious objection, inability to pay). However, in 2017, the individual mandate to purchase insurance was repealed by Congress- individuals will no longer be required to purchase coverage beginning in 2019. Sliding scale subsidies help individuals and families purchase required private health insurance coverage through health-care exchanges. For example, a family of four (all nonsmokers) with a very-low-income level of $23,550 in 2014 received a tax credit to cover 95–100% of its insurance premiums if purchased on a government-sponsored health insurance exchange officially called the Marketplace. The same with an income of $40,000 per year received a tax credit worth 77% of the total cost of their health insurance. They had to pay $161 per month or about 5% of their annual income for health insurance. If this family's income reached 400% of the FPL or around $95,000 per year, they had to purchase insurance without any subsidy. They paid about 9% of their annual income for health insurance. For a given amount of coverage offered by a particular private insurer, premiums can vary by rating area (i.e., geographical location), age,

family size, and tobacco use. A calculator available on the health insurance exchange website allows those seeking insurance to determine the approximate of subsidy they will receive (Kaiser Family Foundation 2018d).

Health insurance exchanges have been set up by states or the federal government to make it easier for consumers to compare and choose health insurance policies by providing information in a standardized form. Policies are regulated as to what they must cover. Insurers selling through the exchanges cannot reject an applicant due to health status nor can they charge more to those with a history of preexisting medical conditions. Premiums can, however, vary based on age, smoking status, and geographic location. No annual or lifetime limits can be placed on the value of insurance coverage. There are also limits on the percent of premiums insurers must use for the health benefits of those who purchase policies.

The ACA also sets Medicaid eligibility standards which were more generous than those in effect in many states. The law made the federal government responsible for most of the cost of this expansion of Medicaid (90–100%) in states that were below the new national standard. However, as a result of the Supreme Court ruling in 2011, states were given the option of not expanding Medicaid. As of early-2018, 32 states and D.C. have expanded Medicaid with the others working on waivers or not taking action at this time (Kaiser Family Foundation 2018c, 2018d). They may, however, choose to participate in subsequent years. In June of 2015, the Supreme Court ruled on the King V. Burwell case. King challenged the constitutionality of federal subsidies awarded to those purchasing health insurance on federal insurance exchanges. When the ACA was drafted and adopted into law, wording indicated that subsidies would be available to those who enrolled in an exchange "established by the state," and King argued that the federal exchanges were not established by a state and therefore they could not offer subsidies. The case was critical to the survival of the ACA because initially most states (34) failed to establish their own exchange. The federal government had stepped in to set one up in each of these states. In some cases the federal government was invited to do this by the state itself, but in other cases the state refused to set up their own exchange as a means to protest against the ACA. The Supreme Court sided with the Obama administration (Burwell) and ruled that the intent of Congress had been to provide subsidies on all exchanges across the USA.

Medicare benefits were enhanced by the ACA. Preventive services are covered without a co-payment from the patient. Over time, the coverage gap ("doughnut hole") for prescription drug coverage is being removed. Medicare Advantage plans (private out-sourced forms of managed care Medicare) are experiencing reductions in how much they are paid by the federal government to take care of Medicare patients because of evidence that they have been paid much more than their costs in the past. Those achieving higher-quality scores for care receive bonuses and those with lower scores, financial penalties.

Employers with 50 or more employees must offer health insurance, or face a penalty. This mandate became effective in 2015. Employers with fewer employees do not have to provide coverage. Some small employers receive tax credits to offer coverage.

Providers who choose to organize into ACOs have the opportunity to share in any savings they accrue, initially from Medicare but eventually other payers may participate as well. The ACA includes experiments with innovative payment systems that avoid the problems inherent in fee-for-service reimbursement. Bundled service payments are an example. Scholarships and loans included in the ACA are intended to encourage more primary care physicians to work in underserved rural and urban areas. Cost control policies in the ACA included the formation of an Independent Payment Advisory Board to keep Medicare spending in-line with economic growth. Additionally, while the ACA forbids the use of cost-effectiveness research in determining service coverage and reimbursement under Medicare, the law established the Patient-Centered Outcomes Research Institute to spur comparative effectiveness research in the health-care sector.

The ACA was designed to be budget neutral. To help pay for the ACA, high-income individuals

and families pay higher taxes on unearned and investment income, and they pay higher payroll taxes to finance Medicare. A tax was added to some medical devices and to services offered by tanning salons. There is also a tax on "Cadillac" or high-benefit health insurance plans offered by employers, although numerous postponements in Congress have delayed levying the tax until at least 2020. In the end the ACA is redistributive from the healthier to the sicker and from the wealthier to the poorer.

The ACA was adopted by a small margin in the Congress and opposition to this reform remains strong. But today it is the law and it is unlikely that it will be completely reversed. Voters and stakeholders become accustomed to the benefits they receive and removing them is increasingly difficult as time passes. Revisions to the ACA will be ongoing; health system reform is never final. New legislation may be necessary to resolve dilemmas that were overlooked or impossible to resolve at the time the ACA was adopted by Congress. While the current Republican President Donald J. Trump made repealing and replacing the ACA a central focus of his 2016 presidential campaign, widespread opposition to repealing the benefits of the ACA undermined efforts to remove some of its protections. Nonetheless, Congress repealed the individual mandate to purchase health insurance (effective in 2019) in addition to other legislative strategies to reduce ACA protections, including a 2017 Executive Order by President Trump for agencies to explore options that would expand short-term health insurance and other less-comprehensive forms of health coverage, relax rules about associations offering less comprehensive coverage to members, shorten the sign-up period for individual coverage, reduce outreach for enrollment for individual coverage, and attempt to cut spending on federal subsidies offered to help individuals purchase health insurance through the federal exchange. Despite these efforts, and the uncertainty and increased costs they created in many state exchanges, enrollment in the exchanges fell only 5% in 2018 compared to the previous year (Kaiser Family Foundation 2018a).This suggests that the popularity of the expanded coverage afforded by the ACA endures, creating challenges as legislators from both parties try to shape the U.S. health care system moving forward.

Assessment

Overview

The US health system has both considerable strengths and notable weaknesses. These are discussed in the following sections in the context of access, quality and outcomes, and expenditures from the USA and international perspectives.

Access

In 2013, just prior to the main provisions of the ACA being implemented, it was estimated that 44.6 million Americans under the age of 65 (16.7%) were uninsured (US Department of Health and Human Services 2014, Table 114). This rate had been relatively steady since 2000 except for an uptick during the Great Recession. The distribution of uninsured was skewed toward those who were economically most vulnerable. In 2013, nearly 30% of the non-elderly with incomes below twice the federally designated poverty level were uninsured, compared to just 5% of those whose income exceeded 400% of the poverty level. Coverage varied considerably by race/ethnicity as well. Among those under age 65, about 16% of non-Hispanic whites, 19% of African Americans, and 14% of Asians were uninsured. This compares to 31% of Hispanics/Latinos (US Department of Health and Human Services 2014, Table 114). Poor and near-poor children were the one group that has had increasing insurance coverage over the years. Their uninsurance rate in 2013 was about 7%, less than half that of poor and near-poor parents as well as adults without children. The lower uninsurance rates for poor and near-poor children reflected the success of CHIP.

After nearly 4 years, the 2014 public and private insurance expansions brought about by the ACA have reduced the number of uninsured

considerably. Private health insurance coverage is rising as a result of the employer and individual insurance mandates, coupled with subsidies provided to purchase health insurance. In addition, Medicaid coverage is expanding as program eligibility rules have been loosened in states that accept federal subsidies for expansion. As noted, in those 32 states and D.C., all poor and near-poor persons with incomes up to 138% of the federal poverty level are covered. By the middle of 2016, the uninsurance rate was estimated to have fallen to 9% (28 million) (Kaiser Family Foundation, 2018a).

The ACA also is intended to create more equity between people in like circumstances. This is accomplished in three primary ways. First, where previously about half of poor and near-poor adults (defined here as 138% of the federal poverty level) were ineligible for Medicaid, all such persons are eligible for coverage in the states that have elected to accept federal funding for Medicaid expansion. Second, the great majority of those whose incomes are too high for Medicaid will be insured through subsidized private coverage. Third, individuals with preexisting medical conditions or a history of illness will be eligible to purchase insurance and be able to do so at the same price as others.

In the US, there is a direct relationship between insurance status and having one's usual source of medical care in a physician's office. Generally, those with private health insurance and Medicare have access to physicians' private practices. This is not the case, however, for most of the uninsured and, as mentioned earlier, many persons on Medicaid. Having a usual source of care provides a critical entry into the health-care system through access to primary care, preventive services, and referrals to specialists. In 2013, 76% of women with a usual source of care received mammograms within a 2-year period, and 84% received cervical exams in the past 3 years. For those without a usual source of care, the figures were 30% and 62%, respectively (US Centers for Disease Control and Prevention 2015).

Selected measures of access are discussed next, first for the US and then across countries.

US Data

Figure 4 shows the relationship between insurance status and the use of particular services in 2016. The most striking figures relate to having a usual source of care, where 49% of the uninsured report having no usual source of care, versus just about 12% for those with employer coverage or Medicaid (Kaiser Family Foundation 2017b). Among the uninsured, 23% report that they did not obtain needed care due to costs, and 18% say that they could not afford a prescription drug. By comparison, people with Medicaid are roughly half as likely to report these problems, with rates even lower for those with private insurance. These figures demonstrate the critical role that Medicaid plays in facilitating access to care among those with low incomes.

Another impact of being uninsured is the stage at which a person is diagnosed for particular cancers. For melanoma and colorectal, lung, and breast cancers, the uninsured are between two and three times as likely as the insured to be diagnosed at stage III or IV compared to stage I (Kaiser Family Foundation 2012).

International Comparisons

Comparative international data used in this section are obtained from the Commonwealth Fund, a US-based foundation. Eleven countries were included in the surveys, with samples in each country ranging from approximately 1,000–3,000 (for methodology, see High et al., 2017).

Compared to ten other developed nations included in the survey, access problems due to the cost of medical care are greater in the USA. Table 4 examines sicker adults (those in poor health, having received surgery or hospitalization in the past 2 years, or received care for a chronic illness, injury, or disability in the past year). The table shows five access problems that result from costs, where in each case, Americans had greater problems than those in other countries. To illustrate, the table shows that 33% of Americans had problems accessing medical care due to costs in the past year. The next highest figures were 22% (Switzerland) and 17% (France). In sharp

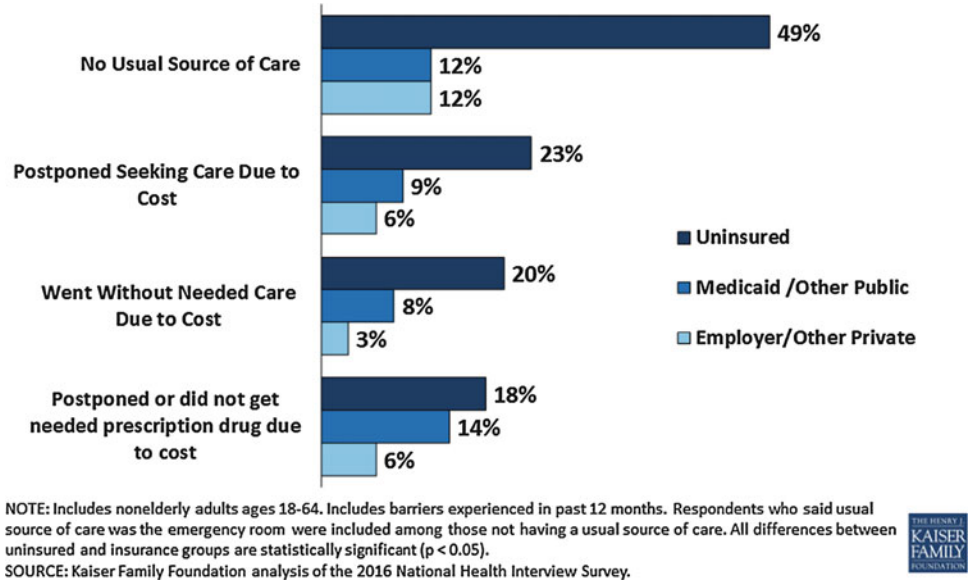


Fig. 4 Barriers to health care among non-elderly adults by insurance status, 2016 (Kaiser Family Foundation 2017b)

contrast, the figure was just 7% in the UK and in the Germany (High et al. 2017).

A final set of metrics regarding access regards in how timely of a manner care is received. Table 5 shows several indicators of waiting times in 11 high-income countries. The US performed well internationally with regard to seeing a specialist and getting elective surgery, with Germany and France performing best and Norway and Canada worst. The picture is different for primary care. The US ranked 8 out of the 11 countries for seeing a doctor or nurse on the same or next day. This is not surprising. Access to specialty care and surgery is relatively high because there are ample resources and few restrictions on what and how much medical equipment hospitals, other health facilities, and physicians can purchase and own. In contrast, primary care efforts in the US fall behind many other high-income countries (Starfield and Shi 2002).

Outcomes and Quality

The US performs well on some measures of quality and outcomes from an international perspective, while it does not perform so well on others. Performance on some of these measures is discussed next.

Mortality

US life expectancy at birth was 81.2 years in 2015 (Worldbank 2015). It tied for 26th out of the 32 high-income OECD countries, at about 2 years below the median. With respect to infant mortality, US rates have declined substantially over the past two decades but not as fast as other countries. As a result, it ranks the highest among the 31 high-income OECD countries in infant mortality (OECD 2015).

Amenable mortality is defined as "premature deaths from causes that should not occur in the presence of timely and effective health care" (Nolte and McKee 2011). Figure 5, adapted from a 2017 Commonwealth Fund report, illustrates that in the 2014 period, the USA had the highest amenable mortality rate among all countries, nearly double that of Switzerland, the country with the lowest figure (Schneider et al. 2017). Typical explanations for the poor US performance compared to other countries with respect to mortality rates

Table 4 Cost-related access problems in 11 high-income countries

	Raw scores (%)											
	Source	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
Overall benchmark ranking	2016	2	9	10	8	3	4	4	6	6	1	11
Had any cost-related access problem to medical care in the past year	2016	14	16	17	7	8	18	10	10	22	7	33
Skipped dental care or check up because of cost in the past year	2016	21	28	23	14	11	22	20	20	21	11	32
Insurance denied payment for medical care or did not pay as much as expected	2016	9	14	24	8	8	2	2	2	12	1	27
Patient had serious problems paying or was unable to pay medical bills	2016	5	6	23	4	7	5	8	5	11	1	20
Doctors report their patients often have difficulty paying for medications or out-of-pocket costs	2015	25	30	17	13	52	30	3	6	9	12	60
Out-of-pocket expenses for medical bills more than $1,000 in the past year, US$ equivalent	2016	16	15	7	5	7	7	13	4	46	4	36

Source: (High et al. 2017)

include "a high rate of uninsured and a fragmented delivery system with relatively weak primary care and poor coordination of care between providers and sites" (Schoenbaum et al. 2011).

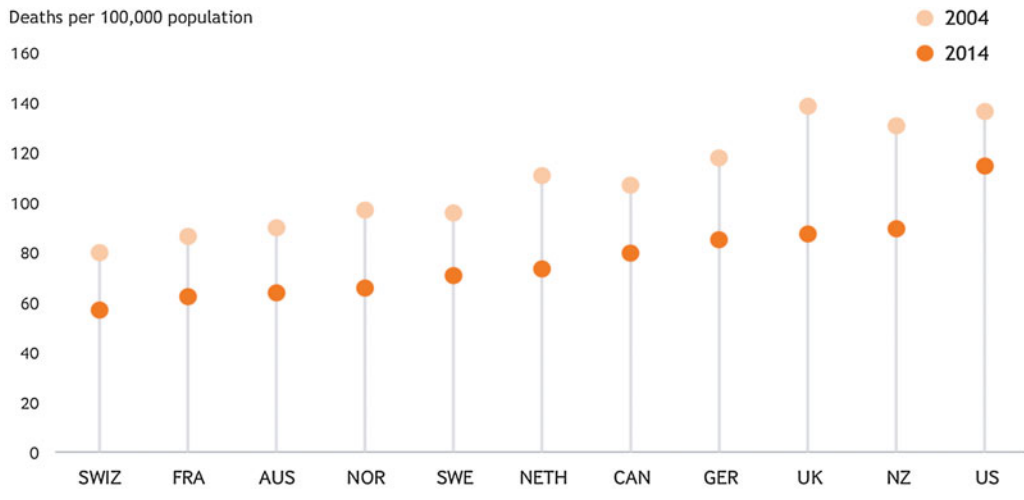
Objective Measures of Quality

There exist voluminous data on outcomes and quality of care in the US. The discussion is divided into three sections: prevention and screening, cancer survival rates, and asthma admissions.

Table 5 Timeliness of care in 11 high-income countries

	Raw scores (%)											
	Source	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
Last time needed medical attention was able to see doctor or nurse the same or next day	2016	67	43	56	53	77	76	43	49	57	57	51
Very or somewhat difficult to get medical care in the evening, weekend, or on a holiday without going to the emergency room (base, sought after-hour care)	2016	44	63	64	64	25	44	40	64	58	49	51
Waiting time for emergency care was 2 h or more (base, used emergency room in past 2 years)	2016	523	50	9	18	20	30	34	39	26	32	25
Waiting time to see a specialist was 2 months or more (base, saw or needed to see a specialist in past 2 years)	2016	13	30	4	3	7	20	28	19	9	19	6
Waiting time of 4 months or more for elective/nonemergency surgery (base, those needing elective surgery in the past year)	2016	8	18	2	0	4	15	15	12	7	12	4

Source: (High et al. 2017)



Source: European Observatory on Health Systems and Policies (2017). Trends in amenable mortality for selected countries, 2004 and 2014. Data for 2014 in all countries except Canada (2011), France (2013), the Netherlands (2013), New Zealand (2012), Switzerland (2013), and the U.K. (2013). Amenable mortality causes based on Nolte and McKee (2004). Mortality and population data derived from WHO mortality files (Sept. 2016); population data for Canada and the U.S. derived from the Human Mortality Database. Age-specific rates standardized to the European Standard Population (2013).

Fig. 5 Mortality amenable to health care (*Source*: Adapted from Schneider et al. 2017). Data from: European Observatory on Health Systems and Policies (2017). Trends in amenable mortality for selected countries, 2004 and 2014. Data for 2014 in all countries except Canada (2011), France (2013), the Netherlands (2013), New Zealand (2012), Switzerland (2013), and the U.K. (2013). Amenable mortality causes based on Nolte and McKee (2004). Mortality and population data derived from WHO mortality files (Sept. 2016); population data for Canada and the U.S. derived from the Human Mortality Database. Age-specific rates standardized to the European Standard Population (2013).

Unless otherwise noted, all data are from OECD (2015).

Prevention and Screening: The US immunization rates in 2015 were diphtheria, tetanus, and pertussis, 84.6%; measles, 91.9%; hepatitis B, 92.6%, and influenza, 67%. The US is among the lower half of countries for DTP, measles, and hepatitis B. It is, however, among the countries with the highest rates for influenza vaccination. With regard to screening rates for breast cancer (mammography) and cervical cancer (Pap smears), of the 14 countries OECD compared, the US has the second highest mammography (cancer screening) rate for women age 50–69, at 81% (after the Netherlands) among 12 countries, and (among 11 countries) the highest cervical cancer screening rate for women age 20–69, at 85%.

Cancer Survival: Cancer survival is often considered a good measure of the quality of a medical care system because high survival rates are related both to preventive (screening) care and to treatment success. The US has been very successful with regard to breast cancer treatment, in part due to the high mammography screening rates. The 5-year survival rate, 89%, is highest of 18 OECD countries. The US survival rate for cervical cancer of 62%, in contrast, is the third lowest of the 18 countries. In contrast, for colorectal cancer, with a 5-year survival rate of 64%, the US ranks in the top third of the countries.

Asthma Admissions: The hospital admission rate for asthma in the US is among the highest among the 32 high-income OECD countries, at 89.7 per 100,000 population, with only the Slovak Republic and Korea higher. This is likely the result of a high uninsurance rate and poor preventive care.

Subjective Measures of Quality

The leading source of these data for international comparisons is the Commonwealth Fund, using annual surveys of patients or physicians that have been conducted in up to 11 countries since 2007. The 2011 survey focused on adults with a history of illness, while the 2013 survey examined

nationally representative samples of all adults. The data below are from the 2014 report (Davis et al. 2014).

With regard to care coordination, compared to the other countries, sicker adults in the US had among the highest rates of problems with test results or records not being available when they saw their doctor as well as having duplicate tests ordered. One area in which the US did well was patients receiving a written plan for care after hospital discharge or surgery – at 92%, well higher than the other ten countries.

Five metrics of patient safety are shown in Table 6: that the patient believes there was a medical mistake made in treatment, received the wrong medication or dose, that there were incorrect test results, there were delays in obtaining abnormal test results, and those hospitalized reported an infection from the hospital stay. For the first four measures, the US ranked near the bottom in patient safety among the 11 countries. However, for the last measure (hospital infections), the US figure was the best (Davis et al. 2014).

Equity of Outcomes

The US suffers from major inequities or disparities in access to health care as well as in health outcomes. A few of the more noteworthy disparities are discussed here (unless noted, all figures are from the US Department of Health and Human Services (2016)). Beginning with infant mortality, the overall rate in 2015 was 5.9 deaths per 1000 live births. The rates for both whites (4.9) and Hispanics/Latinos (5.01) are considerably higher than they are for Asian/Pacific Islanders (3.7). The rate for African Americans, however, is more than double that of whites, at 10.9. The infant mortality rate for American Indians and Alaskan Natives is also considerably high at 7.7, higher than the rate for whites, Hispanics and Asians. Infant mortality also varies considerably by state, with the rate in Massachusetts (4.3) about half that in several states in the South. Given the racial differences just noted, it is not surprising that the states with the highest rates tend to have higher proportions of African American residents. Life expectancy at birth shows similar patterns: In 2015, whites had, on average, a 3.8-year longer life expectancy than African Americans. This gap had narrowed considerably in the recent years, as in 2006, it was 5.1 years.

This disparity between African Americans and other races also holds for certain diseases. Diabetes rates, for example, are 80% higher among African Americans than whites. For end-stage renal disease, African American incidence and prevalence rates are about three times those of whites. There are disparities by income as well. In the case of diabetes, rates for those below 200% of the FPL are twice those of people above 400% of the FPL. While diet and genetic factors play a strong role in diabetes, disparities in treatment relate to both the medical care system itself and access to it. Similarly, there are different cancer survival rates according to race. Overall 5-year survival rates in the 1999–2006 period were 69% for whites compared to 59% for African Americans. Among ten of the most common types of cancer, whites had higher survival rates for nine of them (all but stomach cancer).

One of the stated objectives of the ACA is to improve quality and outcomes. First, preventive care is encouraged because such services will not be subject to patient co-payments under Medicare and Medicaid. Medicare will also cover one comprehensive risk assessment. Second, ACOs, some believe, can increase quality by encouraging coordination of currently disparate providers and discouraging the provision of unnecessary services. Third, additional comparative effectiveness research will be funded, and fourth, a number of financial incentives based on quality and outcomes are initiated under the legislation. These include reimbursement incentives for hospital performance and value-based payments to providers.

Expenditures

The US spends far more on health care per person than any other country. There is little agreement on why the US is an outlier in this regard. Those on the left often point to what they see as several contributing factors: lack of consolidated

Table 6 Measures of patient safety in 11 high-income countries

	Raw scores (%)											
	Source	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
Overall benchmark ranking												
Patient believed mistake was made in treatment or care in past 2 years	2011	10	11	6	8	11	13	17	11	4	4	11
Patient given wrong medication or wrong dose at a pharmacy or hospital in past 2 years	2011	4	5	6	8	6	7	8	5	2	2	8
Patient given incorrect results for a diagnostic or lab test in past 2 years (base, had a lab test ordered)	2011	4	5	3	2	6	5	4	3	3	2	5
Patient experienced delays in being notified about abnormal test results in past 2 years (base, had a lab test ordered)	2011	7	11	3	5	5	8	10	9	5	4	10
Hospitalized patients reporting infection in hospital or shortly after	2013	9	11	8	10	12	12	10	8	10	12	5

Source: Davis et al. (2014)

purchasing power among buyers of care, the lack of universal insurance coverage, high marketing and administrative costs among private insurers, too many specialists and not enough primary care doctors, and direct-to-consumer advertising of prescription drugs. Those on the right point to a bloated government bureaucracy and a myriad of regulations that stifle competition, along with medical liability laws that encourage over-provision and overutilization of services. Other factors that observers on both sides point out are high unit prices paid to providers, particularly in the fee-for-service system, proliferation of medical technologies, and unhealthy behaviors.

Per capita spending is more than double the median level for OECD countries, nearly 40% more than the second most expensive country, Switzerland, and health-care expenses constitute

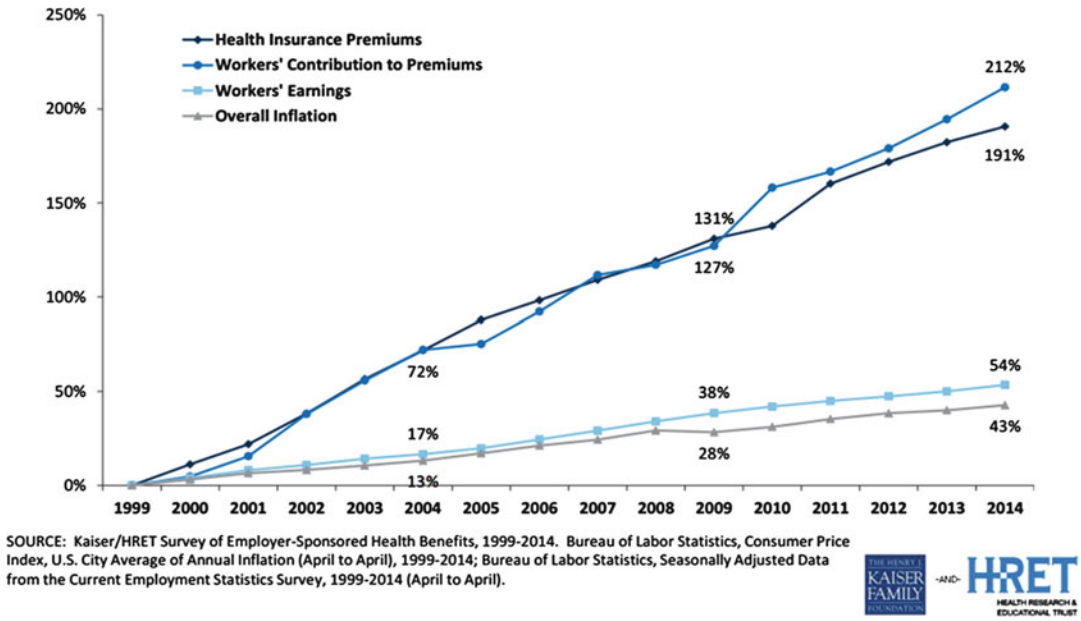


Fig. 6 Cumulative increases in health insurance premiums, workers' contributions to premiums, inflation, and workers' earnings, 1999–2014

over one-sixth of the US economy (Hartman et al. 2014). The rate of growth in health-care spending exceeded the GDP growth rate every year since at least the 1960s until 2010, which has increasingly squeezed the finances of all levels of government, employers, and individuals.

Employers and employees also have seen large increases in their contributions to the health-care costs of employer-sponsored health insurance. Between 1999 and 2014, total premiums rose by 191% and the workers' share by 212%. In contrast, wages rose by only 54% over this period (Fig. 6).

Looking now at changes over time, Fig. 7 illustrates growth in national health expenditure per capita expressed in US purchasing power parities for six countries: Canada, Germany, Japan, the Netherlands, the UK, and the US from 2000 to 2016. Growth rates in the Netherlands and Japan exceed those of the other countries. However, in 2016, US spending was more than double that in the UK because the UK started at such a low level of spending. Thus, when one combines both level of spending *and* rate of growth, the US is an international outlier.

There are two overall ways in which the ACA may help contain expenditures. First, it includes a number of initiatives that have the potential to change the financing and delivery system. These include encouraging the development and/or growth of ACOs; bundled payment systems, which provide payment for a set of related services usually related to an episode of illness (as opposed to fee-for-service); medical homes (a physician-directed organization that oversees the provision of access to comprehensive care across health-care facilities and over a patient's life); electronic medical records; and the linking of reimbursement to performance outcomes (initially, for Medicare hospital stays).

In addition, the ACA includes a number of direct mechanisms that could control expenditures, including large cuts in previously expected payment levels to Medicare Advantage (usually, managed care) plans, which in 2012 were estimated to have been paid 7% more than it would have cost for the same individuals to have been enrolled in the traditional fee-for-service Medicare program (Medicare Payment Advisory

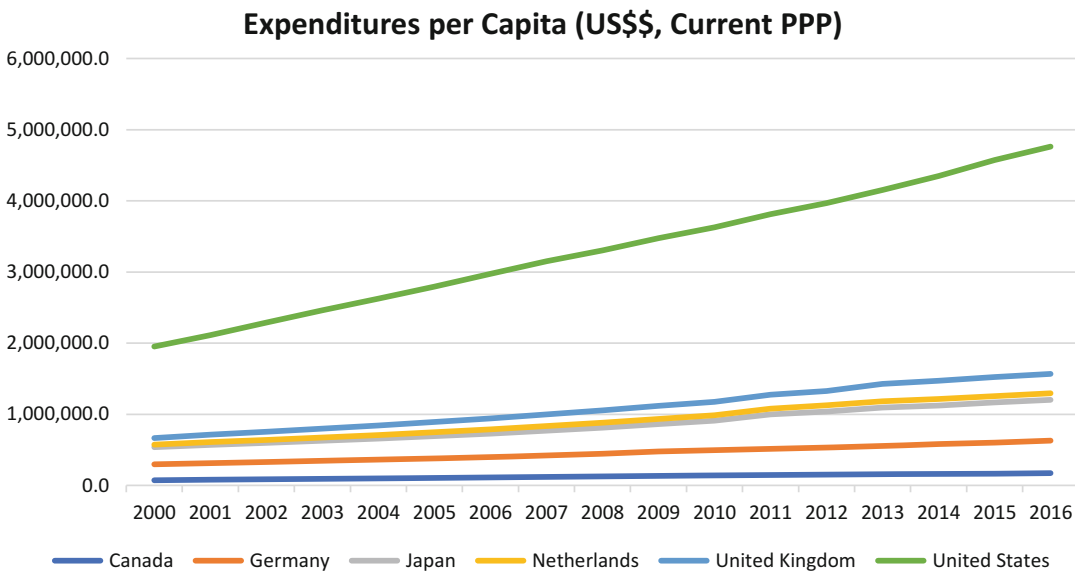


Fig. 7 National health expenditures, per capita in six countries, 2000–2016 (Source: OECD 2017)

Commission 2012), the tax on "Cadillac" or high-benefit health insurance plans, and the Independent Payment Advisory Board, which is to recommend ways to reduce Medicare costs if they exceed a certain threshold.

The ACA does not include a number of cost-containment methods that have been employed in some other countries. These include global budgets, coordinating provider payment among public and private insurers (i.e., an "all-payers" system), controlling the supply of resources (e.g., through expenditure targets or technology controls), and using cost-effectiveness research to determine which services should be reimbursed and, if so, how much.

Conclusions

In summary, the US health-care system is among the best in the world in some respects while suffering from significant shortcomings in others. The US is distinguished from its counterparts by its historic distaste for health planning, lack of control over the dissemination of medical technologies, reluctance to take advantage of the potential bargaining power afforded through large government insurers, the lack of a centralized prices and prospective budgeting, and, most importantly, the absence of guaranteed insurance coverage.

With the adoption of the Affordable Care Act in 2010, and subsequent legal and policy challenges to its core provisions, the US health care sustem continues to change. Nonetheless, despite many legal and political challenges, the core provisions of the ACA have endured. The ACA addresses major challenging issues such as geographic variation in the use of services and a bias toward subspecialty rather than primary care services but mainly through small programs and pilot studies. The types of changes needed in health-care delivery are unlikely to result from legislation. Rather, they need to be innovated and supported by both the public and private sectors as each grapples with the cost, quality, and access issues they face. They also hinge on changing individual and provider behaviors. Solving the most vexing health-care financing, delivery, and policy issues depends as much on finding a common ground among US policymakers and, more broadly, the American public, as it does on medical, social, behavioral, and organizational sciences.

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