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4 Comparative Health Systems

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KEY WORDS

health system models
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LEARNING OBJECTIVES

- Understand the difference between NHI and NHS systems
- Highlight key features and issues in the health systems of Britain, France, Canada, and China
- View the U.S. health system from an international perspective

TOPICAL OUTLINE

- Looking abroad to promote self-examination at home
- Health system models
- NHS and NHI systems compared with the United States
- The health systems in England, Canada, France, and China
- Provider payment
- Coordination of care
- Workforce and information technology (IT)
- Health system performance
- Lessons

Overview

Public opinion polls regularly find that medical professionals and the public are dissatisfied with the system and believe major change is necessary.

Windows can sometimes be mirrors. A look at health systems abroad can enable us to develop a better understanding of our health system in the United States. An international perspective suggests that the United States has the most expensive health care

system in the world, but unlike other wealthy countries, we fail to provide universal health insurance coverage and experience large inequities in access to primary and specialty care. Health care costs are often a source of financial strain, even bankruptcy, for people with serious illness (Hacker, 2006), and Americans suffer from high rates of mortality that could have been avoided with timely and appropriate access to a range of effective health care services (Nolte & McKee, 2012). There is also evidence that the U.S. health care system squanders resources and fails to address many of its population's health care needs. Not surprisingly, public opinion polls regularly find that medical professionals and the public are dissatisfied with the system and believe major change is necessary (Blendon, Benson, & Brulé, 2012).

LOOKING ABROAD TO PROMOTE SELF-EXAMINATION AT HOME

International comparisons of health care system performance remind us that there are workable alternatives to our current system. Examining other systems provides "the gift of perspective" and helps us to understand our own system "by reference to what it is like or unlike" (Marmor et al., 2005). As Rudolf Klein (1997, p. 1270) explains:

> Policy learning . . . is as much a process of self-examination—of reflecting on the characteristics of one's own country and health care system—as of looking at the experience of others . . . the experience of other countries is largely valuable insofar as it prompts a process of critical introspection by enlarging our sense of what is possible and adding to our repertoire of possible policy tools. For policy learning is not about the *transfer* of ideas or techniques . . . but about their adaptation to local circumstances. (emphasis in original)

This chapter attempts to provide a better understanding of the U.S. health care system by comparing it to health systems in wealthy countries, which share many characteristics in common, and by contrasting it to China, which is different. Our focus on wealthy nations draws on the experience of those belonging to an organization based in Paris that studies economic trends and policies and collects health data from member nations—the Organisation for Economic Co-operation and Development (OECD). We pay special attention to England,[1] which operates a national health service (NHS), and to Canada and France, which have national health insurance (NHI) systems. Our focus on China is an example of so-called BRIC nations (Brazil, Russia, India, and China) with large populations that have benefited from rapid economic growth over the past two decades and now are demanding access to state-of-the-art medical care.

Although England's NHS is one of the most public systems in the world, it also allows opportunities for private hospitals, private practice, and private insurance for those who prefer such options. Canada is frequently compared with the United States because of its physical proximity and similar political culture; until the mid-1960s, Canada's health care financing and delivery systems were nearly identical to those in the United States (Marmor et al., 2005). France's health system also shares many

[1] We focus on England, the largest constituent country within the United Kingdom because there are important differences among the NHS in Scotland, Wales, and Northern Ireland.

features with the U.S. health system. Like the United States, France relies on a multipayer system for financing care and offers a mix of public and private providers for delivering health care services. French citizens also enjoy freedom of choice among providers—to an even greater extent than Americans. The French experience (Rodwin & Contributors, 2006) suggests that it is possible to achieve universal coverage without adopting a single-payer NHI system, such as Canada's, or an NHS, as in England. China offers a more striking contrast to the United States. Despite its rapidly growing economy, China's national investments in public health and medical care are far smaller than those of OECD nations, and out-of-pocket payments represent roughly half of all health care expenditures. We conclude the chapter with some lessons of comparative experience for U.S. policymakers.

Health System Models

NHS systems, such as those in the United Kingdom, Sweden, Norway, Finland, Denmark, Portugal, Spain, Italy, and Greece, may be traced back to Lord Beveridge, who wrote the blueprint for the English NHS immediately after World War II. Although such systems are characterized by a dominant share of financing derived from general revenue taxes, this does not preclude other forms of financing. For example, the relative size of private financing and provision is much higher in Italy and Spain than in Sweden or Denmark. In England, 76% of NHS funding comes from general taxation, 18% from a payroll tax, and the remainder from private payments (Thomson, Osborn, Squires, & Reed, 2012, p. 33). Historically, NHI systems have had a more open-ended reimbursement system for health care providers, but this distinction is blurring as NHI systems are increasingly under pressure to operate within budget limits.

NHI systems may be traced back to Chancellor Otto von Bismarck, who established the first NHI program for salaried industrial workers in Germany in 1883. With the exception of Canada, whose dominant share of financing is from general tax revenues, these systems are characterized by payroll tax–based financing. In addition to income taxes, about a quarter of Canada's federal spending on health care comes from corporations. The provinces also supplement income and corporate taxes with additional sources of funding, such as sales, tobacco, and alcohol taxes. As with NHS systems, NHI systems are characterized by significant variation in their financing and organizational arrangements. For example, the share of French health care expenditures financed from general tax revenues has increased beyond 40% (Rodwin & Contributors, 2006).

Whether one's image of a health system is private and market-based, as in the United States and Switzerland; public and government-managed, as in the United Kingdom and Scandinavian nations; or at some intermediary point along such a continuum, as in France and Canada; it is possible to make some useful distinctions with respect to the public versus the private provision of health care and methods of financing of health services. Table 4.1 classifies health systems along these dimensions.

PROVISION OF HEALTH SERVICES

The arrangements for providing health care in Table 4.1 distinguish whether health services are delivered by the public, private not-for-profit, or private for-profit sector. Within these categories, many distinctions may be added. For example, some publicly

TABLE 4.1 HEALTH SYSTEM PROVISION AND FINANCING

Provision	Financing			
	Government A	Social Security/NHI B	Private Insurance C	Out-of-Pocket D
Government Owned A	1	2	3	4
Private Nonprofit/ Quasi-Government B	5	6	7	8
Private For-Profit C	9	10	11	12

capitalized organizations (row A) are national (VHA), others are subnational (state mental hospitals), and many are local (municipal hospitals). Likewise, the not-for-profit category may include a variety of quasi-public organizations, such as hospital trusts in Britain (row B). The for-profit form of provision (row C), a distinctive subcategory in the United States, includes private for-profit hospitals and managed care organizations (MCOs) that sell ownership shares to investors through stock markets. Indeed, the growth of large investor-owned MCOs distinguishes the United States from most other OECD nations.

FINANCING

The four methods of raising revenues to pay for health services correspond to columns A through D:

- A: General revenue financing through the fiscal tax system
- B: Compulsory payroll tax financing through the Social Security (payroll tax) system
- C: Voluntary premiums assessed by private health insurance companies
- D: Individual out-of-pocket payments

There are, of course, other methods and sources of financing, particularly for capital expenditures, such as direct employer contributions and philanthropic funds. But these are no longer dominant sources of health care financing.

Although all countries rely on these four sources of revenue to finance health care services, most developed countries have adopted one of two distinct models for financing care. In NHS systems, the government uses its resources to operate most, if not all, of the delivery system. In NHI systems, revenue is most often raised through payroll taxes to fund a social insurance program that reimburses health care providers for services rather than paying for health care directly through the government's budget.

In contrast to England, Canada, and France, China and the United States rely, to varying degrees, on subnational and local governments to finance health care. In Canada, provinces and territories administer universal health insurance programs and the federal government provides block grants that account for approximately 20% of health care expenditures. To qualify for the federal funds, provincial and territorial health insurance systems must meet five criteria specified by the Canada Health Act of 1984. They must be (a) administered on a nonprofit basis by a public authority; (b) comprehensive in the sense that they must cover most health services provided by hospitals, medical practitioners, or dentists; (c) universal in that all legal Canadian residents are covered; (d) portable so that coverage for all residents in each province or territory is transferable to all other parts of Canada; and (e) accessible, although "reasonable access" is not defined in the law.

In 2009, China adopted a reform that seeks to provide health insurance for all of its population. Although China already provides some minimal health insurance to the majority of its population, coverage remains extremely limited and, as we noted earlier, more than half of all spending on health care still comes from out-of-pocket payments (Table 4.1, column D). In terms of public funding for health care, China relies—to an even greater extent than Canada—on subnational government revenues to finance the country's three national health insurance funds.

Below the national government, China has provincial, regional, and local governments. By the mid-1990s, these subnational government authorities financed 80% to 90% of total government spending on social services, including health care (Hipgravel et al., 2012). The adoption of health reform has increased central government contributions to health care, but local government taxes and out-of-pocket payments from individual patients still represent the two largest sources of revenue. As of 2012, provincial and local government revenues financed 78% of health care expenditures (Fabre, 2013). This approach has exacerbated the large economic disparities between the wealthier coastal provinces and the poorer rural provinces in western China. The national government has attempted to address the country's rural–urban disparities, but with limited success (Jian, Chan, Reidpath, & Xu, 2010).

NHS and NHI Systems Compared With the United States

Table 4.1 enables one to highlight key features of NHS and NHI systems and to adopt an international perspective on the U.S. health care system. The most striking difference between the United States and NHS or NHI systems is that the United States—even after passage of the Patient Protection and Affordable Care Act of 2010 (ACA)—includes large elements of financing that are based on actuarial principles whereby private insurance premiums (column C) are set with respect to estimated risk. In contrast, in NHS and NHI systems, most health care financing is based on ability to pay (columns A and B). Ability-to-pay criteria lead to wealthier, younger, and healthier individuals paying disproportionately to finance the care of poorer, older, and sicker individuals. Aside from this important distinction, a look at box 1 through box 12 suggests that most health care systems have elements of many boxes ranging from socialized medicine (box 1) to out-of-pocket payment for private practitioners and hospitals (box 12).

The United States has neither an NHS nor an NHI system. Instead, the U.S. health care system relies on a patchwork of public and private insurance with large gaps in coverage (see Chapter 3). Its enormous pluralism exhibits components of its health system within each of the boxes in Table 4.1. It uses a social insurance system for older people and for those with permanent disabilities (Medicare: columns A and B); a social welfare system for some people with low incomes (Medicaid and CHIP, column B); and a subsidized employer-based private health insurance system for a large, but shrinking percentage of salaried employees in the private and public sectors (column C). Along with its public and private insurance programs, the United States has elements of socialized medicine (publicly funded and provided programs in box 1), such as the military health care system, the Veterans Health Administration (VHA) system, and the Indian Health Service (IHS) for Native American and Alaskan Native people.

The Health Systems in England, Canada, France, and China

After World War II, governments have gradually extended their role in the financing and provision of health services.

Beyond the differences we have noted between NHI and NHS systems, these systems have evolved in similar directions. After World War II, governments have gradually extended their role in the financing and provision of health services. What was once largely the responsibility of the family, philanthropy, religious institutions, employers, and local governments has largely been taken over by national and subnational governments—a trend that has accompanied the rise of the welfare state (de Kervasdoué, Kimberly, & Rodwin, 1984). This evolution has affected all wealthy OECD nations and, increasingly, BRIC and less developed nations. The U.S. reliance on employer-based private health insurance—even after the implementation of the ACA—is an important contrast to NHI and NHS systems. Yet even in the United States recent decades have seen an expansion of public insurance and a decline in employer-based coverage.

The growth of government involvement in health systems has characterized OECD nations during the great boom years of health sector growth (1950s and 1960s), when governments encouraged hospital construction and modernization, workforce training, and biomedical research. It continued in the 1970s, when the goals of OECD countries shifted more in the direction of rationalization and cost containment (Rodwin, 1984). In the early 21st century, public and private health insurance has become the dominant source for funding health care, and public expenditure on health care services, along with education and Social Security, has become one of the largest categories of social expenditure as a share of gross domestic product (GDP).

In contrast to these trends in OECD nations, by the end of the 1970s China moved from a health system dominated by public financing to one that is now dominated by private, out-of-pocket payments. Between 1949 and the early 1980s, the Chinese health system was financed largely by the central government and state-owned enterprises (Valentine, 2005). In 1978, Deng Xiaoping called for market reforms. The central government reduced its share of national health care spending from 32% to 15%

(Blumenthal & Hsiao, 2005). It slashed subsidies to public hospitals and introduced market mechanisms in health care, resulting in rapid growth of out-of-pocket payments and income-based inequities.

By the late 1990s, Chinese officials increased investment in public health to address growing disparities between rural and urban areas. Efforts to improve the public health and primary care systems accelerated after the outbreak of SARS in late 2002. By the end of 2003, more than 5,000 people were infected with SARS and 349 people died (Smith, 2006), thus exposing the weaknesses of the public health system. Since 2009, China has continued to expand the role of government through the creation of new public insurance schemes and the adoption of new public health regulations (Wang, Gusmano, & Cao, 2011).

In addition to the growth of government's role in health care, most OECD nations must confront common challenges and exhibit distinct approaches for many issues. We illustrate how this is so by comparing the health systems of England, Canada, France, and China with respect to (a) provider payment, (b) coordination of care, (c) workforce and IT, and most importantly, (d) health system performance.

PROVIDER PAYMENT

All countries rely on multiple methods for paying physicians and hospitals. NHS systems traditionally have relied more on salaried and capitation forms of payment for physicians and budgets for hospitals. In the English NHS, about two thirds of general practitioners (GPs) and dentists work as independent contractors reimbursed through a blended payment system, 75% from capitation payment and most of the rest (20%) from fee-for-service (FFS) payments based on performance. Since 2012, GPs have been placed in charge of clinical commissioning groups (CCGs), which control about 70% of the NHS budget. CCGs are responsible for purchasing hospital and specialty medical care services for their patients. The NHS first introduced a prospective payment system for reimbursing public and private hospitals in 2003 and, in April 2004, phased in a new national tariff system. Since 2012, the NHS has adopted a Payment by Results (PbR) system based on the average cost of providing the procedure or the treatment across the NHS as a whole.

Historically, Canadian primary care physicians have been paid on an FFS basis. The Ministries of Health for all provinces and territories are responsible for negotiating an annual physician fee schedule based on a relative value scale (RVS) for each reimbursable procedure or code. The RVS may be based on a resource-based fee schedule (RBFS), which tries to capture the inputs required to provide the service, or on historical charges. Studies have found wide variation in fee schedules across Canada (Roth & Adams, 2009). In more recent years, some provinces have experimented with blended capitation schemes in family health networks, family health teams, and family health organizations. Blended capitation relies on age- and gender-adjusted payments, coupled with financial incentives to follow "evidence-based" guidelines and FFS when physicians treat nonenrolled patients (HealthForceOntario, 2014).

In France, physicians in the ambulatory sector and in private hospitals are reimbursed on the basis of a fee schedule negotiated among physician associations, NHI funds, and the government. Approximately 15% of all physicians (and 25% of those in private office–based practice) selected the option to extra-bill beyond the negotiated fees that represent payment in full for all other physicians. These figures vary by

specialty, with the highest rates of extra-billing among specialists in comparison to GPs. Physicians who have opted to extra-bill may do so as long as their charges are set with "tact and measure," a standard that has never been legally defined but which has been found, empirically, to represent a 50% to 100% increase to the negotiated fees. Physicians based in public hospitals are remunerated on a part-time or full-time salaried basis, and those in private for-profit hospitals may bill the NHI based on the negotiated fees.

Before 1984, public hospitals in France were reimbursed on the basis of a retrospective, cost-based, per diem fee; after that, they were placed on global budgets that were later gradually adjusted for patient case mix in the 1990s. Private for-profit hospitals used to be reimbursed on the basis of a negotiated per diem fee; in the 1990s the per diem payments were also gradually adjusted for their case mix. The basis for case-based adjustment in France is an adaptation of the U.S. Diagnosis Related Group (DRG) categories known in France as GHM (groupes homogènes de malades). The most recent modification was introduced in 2004 (Schreyögg et al., 2006), when activity-based payment (ABP) was introduced to create a level playing field for reimbursement of acute-care services among public and private hospitals. As of 2012, the reimbursement system for public and private hospitals has been completely aligned based on the national ABP tariffs, which take into account each hospital's historical costs. This has resulted in expected activity growth, which in turn, results in downward price adjustments because annual hospital costs are constrained by national and regional hospital expenditure targets (Or, 2010).

In China, the expansion of health insurance is changing the nature of provider payment, but by the end of 2013 about half of physician payments to health care providers still came from FFS payments. Subnational governments in China regulate prices in an effort to make health care affordable and, during the past decade, provincial and local governments, with encouragement from the central government, have introduced such incentives as pay-for-performance based on treatment protocols to improve quality (Yip et al., 2010). Although the central government hopes that the expansion of health insurance will limit hospital reliance on kickback payments from medical device and pharmaceutical companies, such payments continue to be an important source of revenue for Chinese health care providers (Wang et al., 2011).

Two of the distinguishing characteristics of the U.S. health care system are that the United States does not operate within a budget and does not negotiate prices with providers as aggressively as other countries.

In comparison to England, Canada, France, and China, the United States pays significantly higher prices for medical care. Although there is a vigorous debate about the factors that drive U.S. health care spending, consensus is emerging that price is the most important factor in explaining why the United States spends so much more than any other health care system in the world (Anderson, Frogner, Johns, & Reinhardt, 2006). Two of the distinguishing characteristics of the U.S. health care system are that the United States does not operate within a budget and does not negotiate prices with providers as aggressively as other countries.

COORDINATION OF CARE

All countries suffer from problems of coordination among hospitals and community-based services. They differ, nonetheless, with regard to the size and nature of their delivery systems. France, for example, has more practicing doctors per 1,000 population (3.3) than the United Kingdom (2.8), the United States (2.5), Canada (2.4), or China (1.5) (OECD, 2013). France also has more hospital beds per 1,000 population (6.2) than the United States (3.1), the United Kingdom (3.0), Canada (2.8), or China (2.7) (OECD, 2013).

Since its creation in 1948, the NHS has been one of the largest public service organizations in Europe. With more than one million employees, more than 2,500 hospitals, and a host of intermediary health care organizations, the NHS poses an awesome managerial challenge (Klein, 2013). Perhaps because Britain has fewer health care resources than most OECD nations, the British have been more aggressive in weeding out inefficiency than other, wealthier countries. Because the NHS faces the same demands as other systems to make technology available and to care for an increasingly aged population, British policymakers recognize they must pursue innovations that improve efficiency. But numerous obstacles have arisen: opposition by professional bodies, difficulties in firing and redeploying health care personnel, and not least, the tripartite structure of the NHS, which, since its inception, has created an institutional separation among hospitals, general practitioners, and community health programs. This separation is reinforced further by the fact that local authorities are responsible for a great deal of prevention and health promotion, as well as social care, making it difficult to integrate hospital and community-based care.

In Canada less separation exists between physicians and hospitals because specialists are paid FFS and work both in community-based practice and hospitals. Hospitals are largely private nonprofit institutions with their own governing boards, but they are almost entirely publicly financed and subject to tight budget constraints. Most community-based physicians must refer their patients requiring diagnostic procedures and testing, as well as more specialized care, to local hospitals, which can lead to extended waiting times for elective procedures and problems in ensuring optimal coordination between hospital specialists and community-based providers.

France also faces problems with the coordination of care between hospitals and community-based providers. There is inadequate communication between full-time, salaried physicians in public hospitals and solo physicians working in private practice. Although GPs have informal referral networks to specialists and public hospitals, no formal institutional relationships exist to ensure continuity of medical care, disease prevention and health promotion services, posthospital follow-up care, or systematic linkages and referral patterns among primary-, secondary-, and tertiary-level services. Schoen et al. (2012) document that the French health care system is characterized by poor hospital discharge planning and a lack of coordination among medical providers.

In China, before 1978 the health care delivery system in rural areas was organized by communes, which provided housing, education, and social services, as well as basic medical care. An important feature of the communes' Cooperative Medical System was the staff of paraprofessionals known as "barefoot doctors'" (Rosenthal & Greiner, 1982). Most of the barefoot doctors were young peasants who received a few months of training and offered basic primary and preventive care, including health education.

If the needs of patients were more complex, the barefoot doctors would refer them to physicians at the commune health centers or, if necessary, to the closest hospital. In urban areas, the health care delivery system relied heavily on so-called first-level hospitals, community clinics with a modest inpatient capacity, to provide ambulatory care.

With the introduction of market mechanisms in the health sector after 1978, the government ended its barefoot doctor program in rural areas, leaving the population in rural China without adequate access to health care services. It also reduced its subsidies to state-owned first-level hospitals; forced to become more self-reliant, these hospitals withdrew public health and primary health care services. Some first-level hospitals went bankrupt, and those that survived turned to profitable medical services rather than emphasize primary care and prevention.

WORKFORCE AND INFORMATION TECHNOLOGY

Primary care vs. specialty care balance. In most OECD health care systems, at least half of physicians are in primary care. The United States stands out, in contrast, because about 70% of physicians are specialists, and only about 30% are in primary care. The situation in China is far more dramatic. Only 57% of cities in China had a community-based primary care organization, and more than 40% of the population reports that it does not have convenient access to a primary care center (Wang et al., 2011). In addition, most general practitioners lack additional training after receiving their undergraduate medical education.

Primary care is important because systems with a higher concentration of primary care practitioners improve coordination and continuity of care. Access to an effective system of primary care appears to result in higher life expectancy projection at birth, lower infant mortality, lower mortality from all causes, lower disease-specific mortality, and higher self-reported health status (Starfield, Shi, & Macinko, 2005).

Workforce shortages/surpluses. Concerns about the adequacy of primary care in the United States are reinforced by discussions about the adequacy of the health and social care workforce in the face of rapid population aging (Carrier, Yee, & Stark, 2011). Increases in Alzheimer's disease and other forms of dementia in particular have raised concerns about the extent to which the health and long-term care systems will have a sufficient number of physicians, nurses, and other medical professionals to address the needs of an aging society (Warshaw & Bragg, 2014).

Although a shortage of clinicians, particularly in primary care, is the major concern in the United States, France, and China, some countries in Europe, particularly England, now wonder whether they may have too many doctors and nurses. Before the global economic crisis began in 2008, many OECD countries adopted policies designed to increase their supply of medical professionals. After the economic slowdown, many countries expressed concern about an "oversupply" of some health care workers (Ono, Lafortune, & Schoenstein, 2013).

Starting in 2000, for example, the English National Health Service adopted a workforce redesign initiative to increase the number of doctors and nurses in the system, expand the roles of existing professionals, and redistribute responsibilities to rely more on teams of health care professionals. As a result, there is now concern that the country may have too many hospital specialists, but there are persistent concerns that it still does not have a large enough supply of well-trained social care workers,

particularly for providing home care to older patients (Bohmer & Imison, 2013). Similarly, a recent assessment of health care needs in Ontario, Canada, concluded that there will be an aggregate surplus of GPs and specialists in 20 years, even though some specialties and areas may experience shortages (Singh et al., 2010).

The push for electronic medical records and other forms of health care IT. Throughout the world, policymakers are searching for ways to reduce health care spending while improving the quality of care. The use of electronic health records and other forms of health information technology (HIT) are often touted as solutions to these problems. Harvey Fineberg (2012), the president of the Institute of Medicine, argues that over the long term HIT will improve the quality and efficiency of the health care system. Marmor and Oberlander (2012, p. 1217) dismiss the focus on HIT as a "fad" and suggest that the desire to find a "big fix" to the problems of cost and quality has led policy makers to embrace technical and managerial solutions, including the adoption of HIT, along with various forms of managed care, health planning, and payment reforms designed to align the incentives of providers and patients with public health goals.

This argument supports James Morone's (1993) thesis that the United States tends to search for a "painless prescription" to the major challenges in health care. Indeed, comparative analysis suggests that such technical solutions to the problems of cost and quality as HIT have had little effect on cost or quality in health care and that the United States should focus on more important structural features of other health care systems, such as global budgets, fee schedules, systemwide payment rules, and concentrated purchasing power.

Advocates of HIT argue that newer developments in the use of so-called big data are more likely to transform medical practice because of their capacity to link information among many institutions within a health care system. They also argue that the United States has never adopted HIT on a widespread basis, so the failure of previous efforts to improve quality or lower costs is not sufficient evidence that HIT cannot contribute to these goals in the future.

It seems plausible to suggest that HIT may be a valuable tool for addressing costs and quality in health care, but its value surely depends on the policy context in which it is used. For England, Canada, and France, HIT may further enhance the efficiency of resource allocation by providing administrators, providers, and patients with access to better information. In the United States, however, the effect of HIT within the context of a fragmented, open-ended financing system may be far more limited. Viewed from this perspective, it is easier to understand the arguments of those who remain skeptical of HIT's importance.

HEALTH SYSTEM PERFORMANCE

Policymakers and researchers often want to compare the performance of different systems and identify lessons for health policy. Although these efforts have generated important information, they have often succumbed to the temptation of devising a composite indicator to rank health care systems against one another (Oliver, 2012). This practice encourages lavish attention from the media on the search for the best health care system, the new holy grail of performance assessments. Unfortunately, such an approach lacks any effort to understand, assess, and compare health care systems in relation to the cultural context, values, and institutions within which performance indicators are embedded.

The study of health system performance by the World Health Organization (WHO) is the most prominent example of the composite indicator approach to the comparative analysis of health systems (WHO, 2000). WHO ranked the health systems of 191 member states based on weighted measures of five objectives: (a) maximizing population health (as calculated by disability-adjusted life expectancy, or DALE); (b) reducing inequalities in population health; (c) maximizing health system responsiveness; (d) reducing inequalities in responsiveness; and (e) financing health care equitably.

Although controversial because of its many methodological flaws and missing data, the WHO report generated tremendous discussion about health system performance and the criteria that should be used to assess it (Musgrove, 2003). Some of the controversy generated by the report can be attributed to complaints from countries unhappy with their ranking, but prominent academics also criticized the study for relying on incomplete and inadequate data, as well as on questionable methods (Williams, 2001).

WHO's use of DALE as a measure of health status illustrates the problem of using population health status to assess the performance of health care systems. DALE includes causes of mortality that are amenable to health care as well as a host of social determinants of health. As a result, this measure is not "related directly to the health care system" (Nolte & McKee, 2003, p. 1129). Using DALE, life expectancy at birth and infant mortality are inadequate measures of health system performance because the role of health care in improving population health is small compared with interventions aimed at social and environmental determinants.

As Bradley and Taylor (2013) argue, one reason the United States performs so poorly on such indicators is because it has failed to invest sufficiently in education, housing, employment, and other social programs that help to produce and sustain good health. Between those who emphasize the decisive effect of social determinants of health and those who focus on access to health care, there is a middle ground: attention not only to the consequences of poor social conditions, but also to barriers in access to what we have called effective health care services.

There is a vast literature that measures inequities in access to health care (see Chapter 2). Such studies rely either on comparisons of inputs (e.g., physicians, hospital beds) or on administrative or self-reported survey data to measure service utilization. An alternative approach attempts to capture the consequences of poor access to disease prevention, primary care, and specialty services—in other words, mortality amenable to health care (amenable mortality). Of course, few causes of death are entirely amenable, or not amenable to health care, and as medical therapies improve even more deaths may be classified as potentially avoidable. Nevertheless, based on an OECD study, this summary provides convincing evidence that the United States is not performing well in comparison to other wealthy nations (Gay, Paris, Devaux, & de Looper, 2011).

Crossnational analysis of trends in avoidable mortality indicate that avoidable deaths have declined much faster over the last three decades than other causes of mortality (Nolte & McKee, 2012). This result lends further credence to the validity of avoidable mortality as an indicator for the effectiveness of public health interventions and medical care. We have used this measure to compare the health systems in megacities located within four of the countries we highlight in this chapter: London, New York, Paris, and Shanghai (Gusmano, Weisz, & Rodwin, 2009).

Through accountable care organizations (ACOs) in the United States (see Chapter 11) and various forms of disease management and integrated service delivery proposals in other countries, health care professionals are being encouraged to think about population, as well as individual, health. The effort to shift health systems in this direction is a positive development, but if we hope to understand the performance of health care systems and the relationship between health care inputs and health outputs, it is important to select such indicators as amenable mortality, which are more closely related to the performance of these systems than are broad measures of health such as life expectancy and DALEs.

The extensive criticism of WHO's effort to evaluate health system performance has not discouraged other groups from taking similar approaches. The Commonwealth Fund has a project designed to identify high-performing health systems within the United States and other wealthy nations. It also draws on more dependable data than WHO's for its assessments, in part because its scope is more limited and focuses on nations for which population, health, and health system data are more readily available. For example, the Commonwealth Fund supplements many of the same data sources used by WHO with original surveys of patients and primary care providers fielded by Harris Interactive.

The Commonwealth Fund (2014) uses these survey results, along with a host of other data sources, to compare U.S. national averages on health outcomes, quality, access, efficiency, and equity to "benchmarks," which represent the performance on these measures "achieved by top-performing groups" (Schoen, Davis, How, & Schoenbaum, 2006). In some cases, the "top-performing groups" are other countries. In other cases, they are regions, states, or health plans within the United States. Despite the more reliable empirical analysis and its contribution to stimulating attention to health care systems abroad, this study's use of a single national scorecard to evaluate the performance of the U.S. health system shares many of the same problems highlighted by WHO's effort to rank health systems on the basis of criteria about which policymakers rarely agree.

Access to services across income groups. An important dimension of health system performance is the extent to which a system provides access to health care services by income group. In contrast to the United States, countries with universal or near-universal coverage enjoy a relatively equitable distribution of primary care visits (Van Doorslaer, Masseria, & the OECD Health Equity Research Group Members, 2004). Lower-income residents of Australia, Canada, New Zealand, and the United Kingdom, for example, are less likely to report barriers to health care than people with below-median incomes in the United States (Blendon et al., 2002). Comparative studies that examine hospitalizations for ambulatory care sensitive conditions (ACSC), a measure of access to timely and effective primary care, find that rates are much lower in Canada, England, France, and Germany than in the United States and inequalities in rates of ACSC are smaller in these countries (Billings, Anderson, & Newman, 1996; Gusmano, Rodwin, & Weisz, 2014; Roos, Walld, Uhanova, & Bond, 2005).

A concern often voiced by conservative analysts in the United States is that so-called government-run health care systems, by which they mean both NHS and NHI systems, "ration" care (Goodman, Musgrave, & Herrick, 2004). Because such systems operate within a budget, these analysts claim, they must limit access to specialty and surgical health care services in ways that are unacceptable. This claim is supported by studies that compare access to certain expensive health care services in England and the United States (Aaron, Schwartz, & Cox, 2005). Although there is

evidence that some expensive technologies, including revascularization and kidney dialysis, are used less frequently in England than in the United States (Gusmano & Allin, 2011), this is not the case with respect to France or Germany. For example, after controlling for need, the use of revascularization (coronary artery bypass and angioplasty) is comparable in France, Germany, and the United States (Gusmano et al., 2014).

Even among countries that provide universal coverage there are differences in access to specialty services by socioeconomic status. Residents of higher-income neighborhoods in Winnipeg, Canada, a country that strives to eliminate financial barriers to care, receive "substantially more" specialty and surgical care than lower-income residents of the city (Roos & Mustard, 1997). In France, Germany, and England, access to some specialty health care services is significantly worse among residents of lower-income neighborhoods (Gusmano, Weisz, & Rodwin, 2009). Inequalities in access to health care are even greater in BRIC countries and developing nations. Despite remarkable economic growth in recent decades, for example, there are flagrant disparities in access to health care within China.

Cost. As was evident during the debates over the ACA, there is a widely shared belief among American policymakers that a national program providing for universal entitlement to health care in the United States would result in runaway costs. In response to this presumption, nations that entitle all of their residents to a high level of medical care, while spending less on administration and on health care than the United States, are often held up as models. The Canadian health system is the most celebrated example. French NHI is another case in point. England's NHS, although typically considered a "painful prescription" for the United States (Aaron, Schwartz, & Cox, 2005), nevertheless ensures first-dollar coverage for basic health services to its entire population and, as we have seen, spends less than half as much on health care, as a percent of GDP, and approximately one half as much per capita as in the United States (Table 4.2). Huang (2011) expects that China's total health care expenditures will increase rapidly over the coming decade, but its current spending, as a percent of GDP, is far below the OECD average.

Stories in the media often suggest that pressures from population aging will render existing welfare state commitments, including the Medicare and Medicaid programs in the United States, unsustainable. Despite these concerns, most studies

TABLE 4.2 HEALTH CARE EXPENDITURE AS A SHARE OF GDP: SELECTED COUNTRIES, 2011

	Health Expenditure as a Share of GDP, 2011
United States	17.7%
France	11.6%
Canada	11.2%
United Kingdom	9.4%
OECD Average	9.3%
China	5.2%

Source: Organization for Economic Co-operation and Development (2013).

conclude there is no correlation between the percentage of the older population (65 years and over) and health care expenditures as a percent of GDP. The United States, which spends more on health care than any country in the world, is among the OECD countries with the youngest age cohorts. In contrast, Britain, Italy, Sweden, Germany, and France, with older populations than the United States, spend a far lower percentage of GDP on health care. Even if one excludes the United States and examines only the European Union, there is no correlation between population aging and health care spending.

Crossnational analysis of health care expenditure data indicates that, after controlling for income, age has little effect on national health care expenditures. Proximity to death, not age, leads to an increase in health spending (Moon, 1996). An analysis of health spending on older people in Switzerland found that expenditures are concentrated in the last few months of life (Zweifel, Felder, & Meiers, 1999). Although the OECD projects that "age-related spending for the average country will rise by around 6 to 7 percentage points of GDP between 2000 and 2050," they acknowledge that "part of this pressure is a result of cost pressures from advances in medical technologies, rather than ageing per se" (Australian Department of the Treasury, 2007).

Price, volume, and technology diffusion are the most important factors that drive health care costs; as noted earlier, however, high U.S. prices explain why the U.S. health care system is so expensive relative to other nations (Anderson et al., 2006). Although Americans spend more than any other nation, health service use in the United States is actually below the median for the OECD on most measures. A study for the McKinsey Global Institute (Angrisano, Farrell, Kocher, Laboissiere, & Parker, 2007), based on four diseases, provides further support for the role of prices in driving up U.S. health care costs. The study found that in 1990, Americans spent about 66% more per capita on health care than Germans but received 15% fewer real health care resources.

In addition to understanding the factors that drive health care spending, it is important to confront the question: How much spending on health care is too much? Most health economists argue that there is no right amount of money to spend on health care. Cutler (2007) argues that we should focus less on the level of health care expenditure and pay greater attention to whether the expenditures generate more benefits than costs. However, efforts to adopt explicit economic evaluation of health technology provoked controversy in the United States. The ACA forbids federal government agencies from using cost as a criterion for making coverage decisions. Among the countries compared in this chapter, France, Canada, and England, to varying degrees, all use economic evaluations of health technology to make coverage decisions. In France, economic evaluations of new drugs are recommended but not required (Sorenson, 2009). In Canada, these efforts are more decentralized than in England, and "only a handful" of technologies are subject to cost-effectiveness analysis (Menon & Stafinski, 2009). In England, NICE focuses on new technologies only and is reputed to be the leading health technology assessment agency worldwide.

NICE, established in 1999 in response to growing concerns about variations in the use of new technology, is supposed to meet three primary objectives: (a) to reduce unwarranted variation in prescribing patterns across England and Wales, principally through setting practice guidelines; (b) to encourage the diffusion and uptake

of effective health technologies; and (c) to ensure value for money for NHS investment by assessing the cost effectiveness of selected interventions. Record increases in NHS expenditures throughout the decade following 2000 were linked to meeting these objectives, particularly in terms of directing spending to facilitate widespread and uniform access to the most cost-effective treatments.

NICE prides itself on its transparency, methodological rigor, stakeholder inclusiveness, consistency, independence from government, and timeliness, all of which appear necessary to secure the legitimacy and effectiveness of its recommendations. Since 2003, it has been mandatory for local NHS purchasers and providers to act on all positive recommendations on technology appraisals (i.e., recommendations that specific health care interventions be made available in the NHS) within 3 months of their publication.

NICE arrives at conclusions about whether interventions are therapeutically beneficial and cost-effective compared with other relevant alternatives by reviewing a range of available evidence, assembled and synthesized by a publicly funded network of academic institutions. The role of social values in the appraisal process is increasingly apparent as NICE reviews complex cases, for instance, on whether select end-of-life cancer drugs be made available to NHS patients despite their offering insufficient value for money with respect to conventionally accepted thresholds of cost-effectiveness.

There is some evidence that widespread adoption of NICE recommendations for specific technologies, particularly cancer drugs and the use of varenicline for smoking cessation, has reduced geographic variations in access to the technologies (Chalkidou, 2009). Also, there is evidence that NICE guidance has increased costs to the NHS, which is not surprising because most cost-effective interventions are more expensive than the alternatives. This does not bode well for those in the United States who hope that economic evaluation of health technology will contain the growth of health care costs, particularly if assessment efforts are disproportionately focused on new, expensive technologies. Chalkidou (2009) estimates that since its creation, NICE's decisions have cost more than £1.5 billion a year. In this context, it should be noted that cost containment was never one of NICE's explicit objectives.

Quality. The focus on quality is a relatively recent phenomenon. For many years, the primary concern of most policymakers, particularly in developed countries, was on overcoming financial barriers to the health care system. In 2002, the OECD created the Health Care Quality Indicators (HCQI) project to develop and implement a set of international indicators. The project includes representatives from 23 of the 30 OECD nations, as well as a number of international partners, including the Commonwealth Fund, the Nordic Council of Ministers Quality Project, and the International Society for Quality in Health Care (ISQua). The project team identified five priority areas for monitoring quality: (a) cardiac care, (b) diabetes mellitus, (c) mental health, (d) patient safety, and (e) primary care and prevention/health promotion. The OECD secretariat asked participating countries to identify expert panelists to review potential indicators (Mattke, Epstein, & Leatherman, 2006). The panels were charged with reviewing existing indicators rather than developing entirely new measures. They used a consensus process and selected 86 indicators on the basis of relevance—including the extent to which the health system can influence the indicator—scientific soundness, and feasibility. Not surprisingly, the project has identified significant variation in quality as measured by these indicators (OECD, 2010).

Even in countries with relatively well-developed health data systems, it is often difficult to link data with unique patient identifiers in ways that allow researchers and policymakers to understand quality of care across different episodes of care and different providers.

Some quality indicators, such as leaving a foreign body inside patients during surgery, follow directly from the literature on medical errors that can be influenced by a health system. The relationships between health system quality and other indicators, however, are controversial. For example, higher rates of 5-year survival among patients diagnosed with breast or cervical cancer may reflect better access to high-quality cancer care. It is possible, however, that these outcomes may reflect more aggressive efforts to diagnose patients with cancer and have little to do with the quality of care patients receive. Beyond these conceptual issues, countries continue to struggle with a lack of relevant data for quality monitoring. Even in countries with relatively well-developed health data systems, it is often difficult to link data with unique patient identifiers in ways that allow researchers and policymakers to understand quality of care across different episodes of care and different providers (OECD, 2010).

In 2010, the United Kingdom's coalition government published a white paper entitled *Equity and Excellence: Liberating the NHS,* which called for the measurement of health outcomes based on a number of specific indicators. To achieve this goal, England has developed the NHS Outcomes Framework (Secretary of State for Health, 2014) with indicators that will be used to evaluate local health care arrangements across five different domains: (a) preventing people from dying prematurely; (b) enhancing the quality of life for people with long-term conditions; (c) helping people to recover from episodes of ill health or after injury; (d) ensuring that people have a positive experience of care; and (e) treating and caring for people in a safe environment and protecting them from avoidable harm.

In France the Haute Autorité de Santé (HAS), or National Authority for Health, was established in 2004 as an independent public organization to promote quality of health services through accreditation, certification, and development of practice guidelines. Today, HAS leads the European Network for Patient Safety (EUNetPaS), which has developed a common agenda to promote patient safety. After a contaminated blood scandal in the early 1990s, the French government established new institutions to conduct disease surveillance and protect the population from unsafe foods, unsafe drugs, and unsafe blood. In addition, France's Ministry of Health recently initiated a small number of aggressive safety campaigns with strong patient involvement, such as one supported by TV spots to improve the use of antibiotics in preventing the appearance of resistant bacteria. Based on a risk-scoring system for surgical wound infections, national prevalence rates of methicillin-resistant *Staphylococcus aureus* (MRSA) in France declined from 2001 (33%) to 2006 (27%). These results are impressive in comparison with other European countries and the United States, where MRSA infections have increased (Degos & Rodwin, 2011).

In 1994, the Canadian government established the Canadian Institute for Health Information (CIHI) to improve its capacity to assess the health care system and to identify standards for health system performance. CIHI maintains 27 databases and clinical

registries. The agency receives funding from the federal (80%) and provincial (20%) governments (Marchildon, 2013). In 2004, the federal government adopted a 10-year plan to strengthen health care. The plan increased federal health transfers to the provinces by 6%, and the provinces were supposed to place greater emphasis on reducing wait times and improving quality (Allin, 2012). Some of these funds have been used to track and reduce wait times. The federal government has also encouraged the use of health technology assessment, clinical guidelines, and best practices to enhance patient safety. Critics argue that despite the increase in attention to quality in individual provinces, Canada lacks a "guiding framework that supports" quality improvement in primary care (Sibbald, McPherson, & Kothari, 2013, p. 2).

In China, the issue of quality is also central to recent policy debates, but their starting point is radically different. When the Chinese government reduced its subsidies for health care in the late 1970s, health care organizations and providers often turned to pharmaceutical companies to make up for these lost revenues. Rather than focus on providing primary and preventive care, for example, many first-level hospitals focused on selling drugs to patients (Wang et al., 2011). As a result, these institutions developed a reputation for poor quality, and patients now crowd into larger hospitals and academic medical centers, creating overcrowding problems. Part of the motivation for expanding health insurance in China is to improve the quality of care across the entire health care system (Wang et al., 2011).

Criteria used to evaluate the performance of health care systems—such as access to, cost of, and quality of health care—are often called the "three-legged stool" of health policy. Until recently, however, quality did not receive a great deal of attention. Since the 1970s, researchers, policymakers, and patients have been demanding better information about quality. In the late 1990s, the U.S. Institute of Medicine led the world in calling attention to the importance of this issue, based on a report that uncovered disturbing evidence of problems with safety and quality in the United States (IOM, 1999). In contrast, the SARS epidemic embarrassed the Chinese government and sparked efforts to improve access to and the quality of care. Finding solutions to such problems has been a challenge because stakeholders cling to existing practices and technologies, data limitations make it difficult to measure the quality of care, and fundamental disagreements remain about the meaning of quality and how to measure value for money in health care.

Lessons

Based on the experience of NHI and NHS systems in the countries we have examined, we would highlight four lessons for policymakers in the United States:

- Achieving the goal of universal health coverage requires legislation to make such coverage compulsory.
- Financing broader insurance coverage in the United States—beyond Medicare and Medicaid—requires increasing government subsidies based on ability-to-pay criteria.
- Health care systems with universal coverage rely increasingly on economic evaluation of health technology as a criterion for making coverage decisions.
- Containing health care costs has not been achieved without greater reliance than in the United States on price regulation and systemwide budget targets.

The ACA represents the most significant health care reforms since Medicare and Medicaid in 1965, because it is likely to increase significantly the share of the population with health insurance coverage and redistribute the burden of health care financing from those who are wealthier, younger, and healthier toward those who are poorer, older, and sicker (see Chapter 3). We would argue that this legislation draws heavily on the first two lessons of comparative experience (the mandate and the move toward ability-to-pay criteria for financing health care), less so on the third (economic evaluation of health technology), and ignores the fourth (greater price regulation and budget targets). This will bring the United States closer to other wealthy nations in terms of population coverage. Yet the U.S. health care system continues to present some striking contrasts to most other wealthy nations. It remains a patchwork system characterized by a complex combination of institutions that include an enclave of socialized medicine such as the VHA, a social insurance program (Medicare), and social welfare programs (Medicaid and CHIP); tax-subsidized employer-based private insurance for about one half of the population; and heavy reliance on out-of-pocket payment for the population that remains uninsured, similar to the situation in China, India, and most developing nations.

The United States has the highest per capita expenditures; the highest salaries for physicians and other professionals making up the health care workforce; and the highest aggregate prices for hospitals, physicians' services, and pharmaceuticals. Despite our drive to innovate and invest in the latest medical technologies, access to high-technology services, as well as to basic primary care services, is highly inequitable compared with other OECD nations—but not with China, which faces not only the usual inequities among populations of different income and educational levels, but also massive inequities among its urban and rural residents, and, within cities, among its registered and migrant populations.

Another way in which the U.S. health care system differs from that of wealthy OECD nations concerns the vast range of health insurance products we offer to our population, including the option (following the ACA) of not purchasing health insurance, albeit with a financial penalty. Despite the emphasis on choice of insurer many people find themselves confined to obtaining health care within restricted provider networks outside of which payment for services often becomes unaffordable. There is no parallel to this problem in wealthy OECD nations such as England, Canada, and France. In China, choice of too many insurance products is not the problem. The situation there is far worse than in the United States because a large part of the urban migrant population is typically excluded from health insurance coverage. The problem of internal migrants in China is substantial, but not surprising, for a system that spends only 3.2% of its GDP on health care and has only recently set itself the goal of providing universal coverage.

Discussion Questions

1. What are some reasons for studying health care systems abroad?
2. How do NHI and NHS systems compare with the health care system in the United States?
3. How do most countries with similar levels of per capita income differ from and resemble the United States with respect to cost, quality, and access to health care?

4. What can the United States learn from other OECD countries about how to extend health coverage while containing health care expenditures?
5. How can health system performance be measured? Compare the approaches adopted by WHO and the Commonwealth Fund.
6. How are the problems and opportunities different for China than for the United States and other OECD countries?

CASE STUDY

You are an employee of a think tank in Washington, DC. The director has been asked to testify before a congressional committee on the following question: In reforming the ACA, what lessons should the United States learn from relevant experience abroad? Your job is to write a memorandum that will help the director answer this question. In writing this memo, you should address the following questions:

1. **How can learning from abroad help policymakers engage in a process of self-examination of health policy at home?**
2. **What is the difference between NHS and NHI systems?**
3. **What should members of Congress know about China's problems and aspirations in health policy?**
4. **What lessons from abroad would be most relevant in reforming the ACA?**

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