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Bismarck and the Long Road to Universal Health Coverage

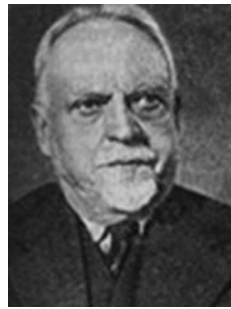
ABSTRACT

The 2015 Sustainable Development Goals (SDGs) state that All United Nations Member States have agreed to try to achieve Universal Health Coverage by 2030. This includes financial risk protection, access to quality essential health care services and access to safe, effective, quality and affordable essential medicines and vaccines for all. Universal health coverage (UHC) means inclusion and empowerment for all people to access medical care, including treatment and prevention services. UHC exists in all the industrial nations except the US, which has a mixed public-private system and struggles with closing the gap between the insured and the uninsured population. Middle- and low-income countries face many challenges for UHC achievement, including low levels of funding, lack of personnel, weak health management, and issues of availability of services favoring middle- and upper-class communities. Community health services for preventive and curative health services for needs in populations at risk for poor health in low-income countries must be addressed with proactive health promotion initiatives for the double burden of infectious and non-communicable diseases. Each nation will develop its own unique approach to national health systems, but there are models used by a number of countries based on principles of national responsibility for health, social solidarity for providing funding, and for effective ways of providing care with comprehensiveness, efficiency, quality, and cost containment. Universal access does not eliminate social inequalities in health by itself, including a wide context of reducing social inequities. Understanding national health systems requires examining representative models of different systems.

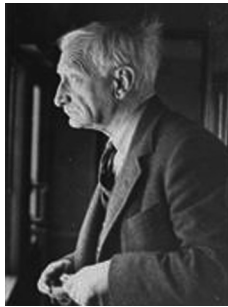
Health reform is necessarily a continuing process as all countries must adapt to face challenges of cost constraints, inequalities in access to care, aging populations, emergence of new disease conditions and advancing technology including the growing capacity of medicine, public health and health promotion. The growing stress of increasing obesity, diabetes, and other chronic diseases, requires nations to modify their health care systems. Learning from the systems developed in different countries helps to learn from the processes of change in other countries.



Otto von Bismarck (1815–1898), Chancellor of Germany, Founder of the Social Security health insurance model in 1883. *Source:* https://commons.wikimedia.org/wiki/File:Graf_v._Bismarck.JPG (accessed 6 October 2017).



Nikolai Alexandrovich Semashko (1874–1949), founder of the Soviet health system 1917. *Source:* *Marxists Internet Archive* Available at: <https://www.marxists.org/archive/semashko/1923/06/health.htm> (accessed 6 October 2017).



William Henry Beveridge (1879–1963); circa 1947; Baron Beveridge; economist, London School of Economics; author of the Social Insurance and Allied Services (“Beveridge Report” on the Welfare State) in the United Kingdom 1942; visionary of the UK National Health Service 1948. *Source:* *London School of Economics LSE ref no. IMAGELIBRARY/1290*. Available at: <https://archives.lse.ac.uk/Record.aspx?src=CalmView.Catalog&id=IMAGELIBRARY%2f1290> (accessed 2 Oct 2017).



US President Lyndon Baines Johnson (1908–1973); president (1963-1969) introduced Medicare (1965), Medicaid (1965). *Source:* *US government official portrait courtesy LB Johnson Library credit Frank Muto*, Available at: <http://www.lbjlibrary.net/collections/quick-facts/> (accessed 6 October 2017).



Thomas Clement (Tommy) Douglas (1904–1986); Father of the Canadian Medicare universal health plan (1946–1971); Premier of Saskatchewan; a national survey, voted Tommy “The Greatest Canadian” 2014. *Courtesy of Joan Dianne Douglas on behalf of the Douglas family* (accessed 10 October 2017).



US President Barack Obama (1961) 44th president 2009-2017. *Source:* *US government official photograph in the Oval Office, December 2012*, available at: https://commons.wikimedia.org/wiki/File:President_Barack_Obama.jpg (accessed 8 October 2017).

BACKGROUND

In almost all high- and many medium-income countries, the State has assumed the responsibilities for social security and health care for all their citizens. The “welfare state” took on measures such as workers compensation, unemployment and disability insurance, and special disability benefits for the blind, widows, orphans, and the elderly through pensions. Some states instituted child benefits to raise levels of child care and nutrition through child allowances provided from taxation and other government revenues. The main models of *state-operated health services* are the German “Bismarckian system”, the Soviet “Semashko system”, the British National Health Service “Beveridge system: and the Canadian National Health Insurance system”. Although there are many national variations, the classical national health insurance models are the Bismarckian Social Security system, and the Canadian National Health Insurance system operated by the provinces with federal standards and cost sharing. Other nations, such as the United States, have mixed public-private systems of prepaid and self paid health care.

Medium- and low-income countries aspiring to universal access for the total population must face the need to allocate at least 5–6 percent of gross domestic product (GDP) for health, to define health targets and give priority to programs that address those targets, along the lines of the Sustainable Development Goals (SDGs). Other requirements include the need to train people at different levels to plan, manage, administer and deliver services; to develop the capacity to monitor the epidemiology of population health; and, to give strong political support to health and related issues of social support, education, community infrastructure, especially emphasizing the values of prevention and health promotion.

Assuring access to quality health care for all is accepted as a basic principle of public health and human rights. This includes medical and hospital care, but these alone, while vital, are not sufficient to produce a high standard of population health for all. There are many self care, genetic, socioeconomic, and community factors that affect health status, with medical care being one of the vital aspects of the broad spectrum of health needs (see Chapter 21). In order to promote optimal health, effective population-level prevention, availability, and access to care must be seen in the wider context of the individual- and of societal conditions which increased risk of disease, and application of appropriate measures to reduce those risks to prevent disease and promote health. Some interventions are provided by medical care including its preventive role, while others are social, sanitary, environmental, nutritional, legal, economic, and educational, among other factors. This interrelates with human resources for health, financing and economics, organization, technology, law, ethics, and globalized health.

The World Health Organization (WHO) defines a health system as: *“The people, institutions and resources, arranged together in accordance with established policies, to improve the health of the population they serve, while responding to people’s legitimate expectations and protecting them against the cost of ill-health through a variety of activities whose primary intent is to improve health. It is a set of elements and their relationship in a complex whole, designed to serve the health needs of the population. Health systems fulfill three main functions: Health care delivery, fair treatment to all, and meeting health expectations of the population.”*

WHO’s World Health Reports (2000, 2006, 2013) focused on health systems financing and management in the search for universal health coverage. Under the globally endorsed SDGs, universal health coverage (UHC) is designated Goal 3 (Health and Wellbeing), target 3.8: *“Achieve universal health coverage (UHC), including financial risk protection, access to quality essential health care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all”*. **Box 8.1** outlines WHO building blocks for UHC.

Universal access is a means of assuring that the economic barrier to health care is mostly if not completely removed for the total population and may lead to increased access to medical and hospital services for those previously excluded. While UHC increases access to medical care and health indices, it does not, of itself, guarantee achievement of many important health targets. Allocation of resources is an even more fundamental problem to address the needs of those with the highest risk of early disability or avoidable premature death. A system of national health must be able to allocate resources to meet those needs and must not simply be a payment system for doctors and hospitals. Changing demographics, medical advances and epidemiological challenges including social and health inequalities also be addressed with high priority.

BOX 8.1 “Building Blocks” for Universal National Health Coverage

- Adequate financing with pooling of risk.
- A well-trained and adequately remunerated workforce.
- Information on which to base policy and management decisions.
- Logistics that get medicine, vaccines, and technologies to where they are needed.
- Well-maintained facilities organized as part of a service delivery and referral network.
- Leadership that sets and enforces the rules of the game, provides clear direction, and harnesses the energies of all stakeholders including communities and other sectors.

Source: World Health Organization. Strategic vision: Better health outcomes depend on better health systems. Available at: <http://www.who.int/nationalpolicies/vision/en/> (accessed 14 May 2017).

This case study provides the background and experience of the development of UHC over the past century and a half, with lessons learned for consideration in how—and what—is done to achieve this goal. Most industrialized countries have implemented national health programs such as health insurance systems or national health services. Each system developed in the political, social, and historical context of the country—and continues to evolve. Medium- and low-income countries are also struggling to achieve universal access to care and health for all by expanding primary health care and social security plans which provide benefits to workers and for certain vulnerable populations—primarily mothers and children. As they move up the scale of economic development, developing countries must also address the problem of how to decrease morbidity and mortality, achieve equity in access to health care, and expand the funding basis for health care through national health insurance. Some countries experience rapid economic development, but lag behind in directing increased national wealth towards improving health status. This is often due to a lack of focused political commitment, trained policy analysts, and cultural adaptation to the crucial importance of public health.

Each national health system has its own characteristics and challenges. Systems management requires continuous evaluation based on well-developed information systems, trained health management personnel, societal involvement through all levels of government, as well as the private sector, professional organizations and advocacy groups. There is no defined “gold standard” plan for providing universal access to health care that is suitable for all countries. Each country develops and modifies a program of national health appropriate to its own political and cultural needs and available resources. However, there are evolving patterns in health care organization, so that networking within and between countries ensures that they can—and do—learn from one another (Box 8.2).

Barriers to necessary health care can be geographic, ethnic, cultural, social, lack of information and awareness, psychological, financial, and poverty. Removing financial barriers to care is necessary and constructive, but not sufficient to address the health problems of individuals and of a society. Equity in financial access with universal coverage is vital to population and individual health since anyone can have serious illness at any time. But equally important, long-term preventive care and health promotion are essential to good population and individual health standards. Inequities exist in all societies, but many countries have successfully reduced these by poverty alleviation, job creation, education, and other programs that reduce interregional, socioeconomic, and demographic differences in health. Special attention to high-risk groups in a population is essential. Groups at-risk may be based on age, gender, ethnicity, genetic legacy, occupation, risky lifestyle, location of residence, religion, sexual orientation, economic status, or other factors that increase susceptibility to disease, premature death, or disability. Services must be based on need and not only demand, which can escalate costs by

BOX 8.2 Key Elements of National Health Systems

1. A tradition of government and nongovernmental initiatives to improve health of the population.
2. Public administration and regulation; public-private partnerships.
3. Intersectoral cooperation with education, social services and the private sector.
4. Demographic, economic, and epidemiologic monitoring.
5. Health targets monitored with accessible data systems.
6. Public health programs, including strong elements of health promotion.
7. Universal coverage by public insurance or service system.
8. Access to a broad range of health services.
9. Strategic planning for health and social policies.
10. Monitoring health status indicators.
11. Recognition of special needs of high-risk groups and related issues.
12. Portability and accessibility of benefits when changing employer or residence.
13. Efforts to reduce inequity in regional and socio-demographic accessibility and quality of care.
14. Adequacy of financing.
15. Cost containment.
16. Efficient use of resources for a well-balanced health system.
17. Consumer satisfaction and choice of primary care provider.
18. Provider satisfaction and choice of referral services.
19. Promotion of high-quality service.
20. Promote patient and staff safety.
21. Comprehensive public health and health promotion programs.
22. Comprehensive primary, secondary, and tertiary levels of medical care.
23. Well-developed information and monitoring systems.
24. Continual policy and management review.
25. Promotion of standards and accreditation of services, professional education, training, research.
26. Governmental and private provision of services.
27. Decentralized management and community participation.
28. Assurance of ethical standards of care for all.
29. Conduct epidemiological, basic sciences and health systems research.
30. Preparation for mass casualties from disasters and terrorism.

Source: Adapted from Tulchinsky TH, Varavikova EA. The New Public Health, Third Edition, chapter 13, Box 13.3, page 644. San Diego, CA; Academic Press/Elsevier, 2014.

over-servicing. Health systems planning needs to promote access to patient care, but also those services that reach the entire population, especially people at high risk who are often least able to seek and access appropriate care.

A program that provides equal access for all may not achieve the objective of better health for the population unless accompanied by other

important governmental, community and personal self-care activities. These include enactment and enforcement of environmental and occupational health laws, food safety, nutrition standards, clean water, improved rural care, higher educational levels, and provision of health information to the public. Additional national programs are needed to promote health generally and to reduce specific risk factors for morbidity and mortality. Responsibility for health lies not only with medical and other health professionals, but also with governmental and voluntary organizations, the community, the family, and the individual.

Individual access to an essential “basket of services” as a prepaid insured benefit is fundamental to a successful national health program. Each country addresses this issue according to its means and traditions, but cost-effective evidence-based methods of meeting a country’s epidemiologic and demographic needs should be prioritized. Coverage and payments for heart transplantation, for example, may be beyond the means of a health system, but early and aggressive management of hypertension, smoking, poor diet, physical inactivity, and rapid care for acute myocardial infarction are effective in saving lives at modest cost and containing the need for more intrusive health care interventions. Prevention is cost-effective and should be integral to the development of service priorities within the insured benefits with incentives included in the “basket of services”.

Globalization affects health systems around the world not only in the ease of spread of infectious diseases, but in increased access to modern preventive, diagnostic, treatment modalities. Access to antiretroviral drugs has dramatically changed the face of HIV/AIDS globally, including in low-income countries with support of international and bilateral donors. The same is true for vaccines, including the MMR (measles, mumps, rubella, 2 doses), Hib (Hemophilus influenza b), rotavirus, pneumococcal pneumonia and HPV (Human papillomavirus) vaccines, which will save millions of children’s lives and foster well being in the coming decade. Information technology, migration of medical professionals, and internalization of educational standards are all global health issues affecting national health systems.

Health systems in all countries are facing common problems in population health, with rising population age, hypertension, obesity and diabetes prevalence, and rising health care costs. Health systems research capacity is important in each country as it attempts to cope with rapid changes in population health and individual health needs with limited resources. Development of research capacity enables improved capacity of decision-makers for informed, cost-effective decisions. In developing countries, low levels of funding for health in general—including research—impede evidence-based health system development and training of the new health workforce. Strengthening reporting systems of data aggregation, as well as economic and epidemiologic analysis, are vital for health policy and management.

National Health Systems

National health systems from Germany, UK, Canada, US and Russia are presented here as representing major models of organization. These organizational models influence health care system formulation in both developing and developed countries, as well as for countries restructuring their health services. Health care systems and financing are under pressure everywhere, not only to assure access to health for all citizens, but also to keep up with advancing medical technology, and contain the cost increase at sustainable levels. Because a health system is judged by more than its cost and measure of medical services, indicators of health status of the population, as well as morbidity and mortality are vital and should be available for the public through community organizations and the media. This topic has developed a complex terminology of its own. The World Health Organization (WHO) helps development of national health systems as shown in [Box 8.3](#).

BOX 8.3 WHO Definition, Rationale and Content of Health Systems

Universal health coverage is defined as ensuring that all people have access to needed health promotion, preventive, curative and rehabilitative health services, of sufficient quality to be effective, while also ensuring that people do not suffer financial hardship when paying for these services.

- Good health is essential to sustained economic and social development and poverty reduction.
- Access to needed health services is crucial for maintaining and improving health.
- At the same time, people need to be protected from being forced into poverty because of the cost of health care.
- A well-functioning health system working in harmony is built on having:
 - Trained and motivated health workers;
 - A well-maintained infrastructure;
 - A reliable supply of medicine and technologies;
 - Backed by adequate funding;
 - Strong health plans;
 - Evidence-based policies.

WHO assists in creating resilient health systems by supporting countries to:

- *“Develop, implement, and monitor solid national health policies, strategies and plans.*
- *Assure the availability of equitable integrated people-centered health services at an affordable price.*
- *Facilitate access to affordable, safe, and effective medicine and health technologies.*
- *Strengthen their health information systems and evidence-based policy-making, and to provide information and evidence on health-related matters.”*

Source: World Health Organization. Health systems. Available at: <http://www.who.int/healthsystems/about/en/> (accessed 2 May 2017).

TABLE 8.1 Life Expectancy at Birth, Selected Countries, 1960–2015

	1960	2015
Canada	71	82
China	43	76
France	70	83
Germany	60	81
India	41	68
Nigeria	37	53
UK	71	82
USA	70	79
World	52	72

Source: Derived from World Bank. Life expectancy at birth, total (years). Available at <http://data.worldbank.org/indicator/SP.DYN.LE00.IN> (accessed 15 October 2017).

Health systems are meant to improve health and quality of life, as measured by quantitative and qualitative methods. The Human Development Index (HDI) provides a standard method of comparison which combines many health and social indices into a summary figure for social development of countries. These include life expectancy at birth, gross domestic product (GDP) per capita, child mortality, education and others. Table 8.1 shows life expectancy, still a valued health status indicator, for some industrialized, mid-level, and developing countries. Comparisons between countries health indicators are useful to portray relative international health status among nations.

The foundations of public responsibility for health care systems go back to ancient Greece and Rome where city states employed municipal doctors to service the poor and slaves. In the Medieval and Renaissance periods, monasteries and nunneries provided charitable care to the poor while professional guilds provided prepaid medical care and other social benefits to members and their families. These later evolved into the Friendly (benevolent) Societies, as mutual benefit programs that provided for burials, pensions, and payment for health services for members. In the twentieth century, these developed through collective bargaining into health insurance plans through private or professionally sponsored insurers, and labor union–sponsored health plans. Governmental responsibility for health systems evolved in public health and health protection systems in the nineteenth and twentieth

centuries and continues to evolve to face new challenges as well as preventive and treatment capacities.

The health systems described highlight the unique and common features of national health systems in the search for “health for all”, and policies for making health a priority in resource allocation, policy priority for human rights, and for socioeconomic development. Figure 8.1 indicates the 1995–2014 trends in total health expenditures as percent of Gross Domestic Products of selected countries in the European Region of WHO. German and Swedish expenditures rose to between 11% and 12%, in the United Kingdom to over 9% while Israel is relatively stable under 8% and the Russian Federation expenditures rose to 7% of GDP.

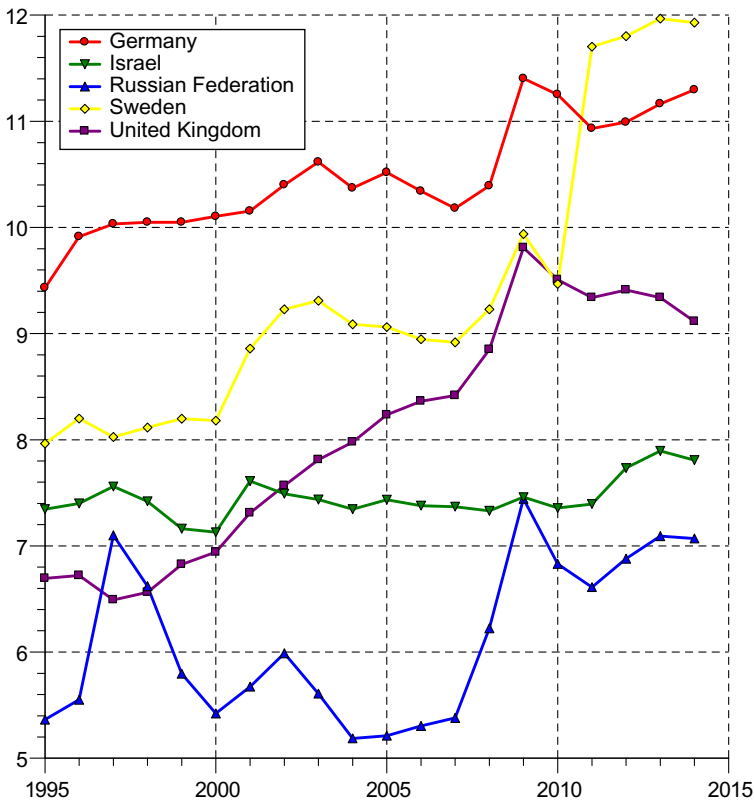


FIGURE 8.1 Total health expenditures as percent of Gross Domestic Product, WHO estimates, selected countries European region, 1995–2014. *Source:* World Health Organization European Region, Health for All Data Base, 2016. Available at: <http://data.euro.who.int/hfaadb/> (accessed 12 November 2017).

Germany: The Bismarckian System

Otto von Bismarck was born in Schönhausen, Pomerania to a noble landowning family. He studied law at Göttingen and Berlin and entered the civil service. Following failure of the 1848 revolution he entered political life as a conservative. He became a prominent hero in the Franco-Prussian War of 1870 and unified the German Confederation becoming Chancellor from 1871 to 1890. Despite his aristocratic roots and deep political conservatism, Bismarck created Europe's first modern welfare state in the 1880s, establishing national health insurance for workers and their families (1883), accident insurance (1884) and old age pensions (1889). While his motivation may have been political—to stem the rising popularity of socialist parties—it also served nationalistic purposes to develop healthier children as future workers and soldiers. His legacy of employment-based social insurance for the health of workers and their families is widely emulated and remembered to this day as the “Bismarckian model” of national health insurance built on the principles of solidarity, self-governance and competition. The Bismarckian model established state social insurance with prepayment by workers and their employers. It utilized Sick Funds (*Krankenkassen*) as insurers to provide payment to the physician, hospital, or other provider.

Germany's health care system today is characterized by participation as well as sharing of decision-making powers between the states (*Länder*), the federal government and civil society organizations. Since 2009, Statutory Health Insurance (SHI) has been mandatory for all citizens and permanent residents pay a uniform contribution of 15.5 percent of their income (*Gesetzliche Krankenversicherung*) with 118 sickness funds (*Krankenkassen*, *January 2016*). SHI covers 85 percent of the population, who have the right to choose their preferred sickness fund for a comprehensive range of services. The sickness funds are linked to associations of physicians accredited to treat patients covered by SHI. Private health insurance (PHI) covers 11 percent of the population for designated groups such as civil servants. Others (4%) such as the military are included in other specific governmental programs. Since the 1990s financial incentives are being introduced to improve quality and efficiency of care along with beneficiaries right to choose between sickness funds increasing competition and a market orientation. Hospitals are paid by diagnosis related groups (DRGs)—i.e., payment by diagnostic category rather than hospital length of stay, adopted from US experience. Physicians are paid by a capitation system—i.e., a fixed payment for each person registered for care with a doctor for a fixed period of time (as opposed to fee-for-service) in the doctor's medical associations. Long-term care is covered by a federal mandatory program. Germany expends 11.3 percent of GDP (2015) on health, one of the highest levels among EU members, with 73 percent from public sources and 27 percent privately sourced. In 2014, Germany had 6.2 acute care beds per 1,000 beds per 1000

population, nearly 40 percent above the rate for the original EU countries (3.8 per 1,000). Of these, 48 percent of beds were in publicly owned, 34 percent in private nonprofit, and 18 percent in private for-profit hospitals. Busse et al. (2017) describes reforms since its founding in 1883 gradually achieving universal coverage. The system is also seeking greater cost effectiveness as compared to neighboring countries.

In Europe, many countries developed taxation or social security models based on the Bismarckian approach, with compulsory contributions by workers and their employers to a national social security system. This then financed approved services usually paid through private medical practice with fee-for-service payment. Many European countries and Japan gradually developed similar forms of compulsory health insurance for workers and their families following World War I, or later after World War II, expanding to universal coverage health insurance systems. This model is used in France, Belgium, the Netherlands, Japan, Switzerland, and Latin America as well as post-Soviet health reforms and countries of Eastern Europe (CEE).

The Israeli system, adopted in 1995, based on the Bismarckian model is mandatory national health insurance in which everyone must choose one of four long-standing Sick Funds now called Health Organizations. They compete for members, and are paid a per capita sum for which they are obliged to provide comprehensive services including hospital, primary care, and preventive services. The services improved vastly under national health insurance, with services kept up to date with annual additions to the statutory “basket of services.” Health statistics show Israel as among the top countries for life expectancy, with rapidly falling mortality from strokes, coronary heart diseases, and cancers. Consumer satisfaction is high, maternal and child health are stressed, a low hospital bed to population ratio, while health expenditures are relatively modest and a stable per capita health expenditure just under eight percent of GDP (Lancet 2017).

The United Kingdom: The Beveridge System

William Beveridge was born in 1879 in Bengal, India, where his father was a judge in the Indian Civil Service. He trained as a lawyer coming to prominence in the British Liberal government of 1906–14 when he advised David Lloyd George (Chancellor of the Exchequer from 1908 to 1915, Prime Minister from 1916 to 1922) on old age pensions and national insurance. In 1911, initiated by Lloyd-George, influenced by the German compulsory health insurance scheme, the Liberal government of Great Britain introduced the National Health Insurance Act. It was compulsory for all wage earners between 16 and 70 years of age. This was a two-part plan based on a worker and employer contributory system for both unemployment insurance and for medical care for workers and their families. Administration was through approved mutual benefit societies (the Friendly Societies), some based on insurance companies, and

others by professional associations and trade unions. General practitioner services were paid on a capitation basis rather than a salary, preserving their status as self-employed professionals. Initially this plan covered one-third of the population increasing to half by 1940, however there was disruption due to mass unemployment during the Great Depression starting in 1929 and continuing to the late 1930s.

In the early days of World War II, the British government established a National Emergency Medical Service for hospitals in preparation for the anticipated large-scale civilian casualties that were expected during the Blitz bombing by Nazi Germany. This established national health planning and rescued many hospitals from near bankruptcy due to the effects of the Great Depression in the United Kingdom (UK). During World War II, at the behest of Prime Minister Winston Churchill, Beveridge developed a postwar social reconstruction program. The Beveridge Report of 1942, *Social Insurance and Health Services*, outlined the concept of a future welfare state including a national health service, placing medical care in the context of general social policy for the total population. The wartime government coalition approved the principle of a national health service, which had wide public support, despite opposition from the medical association.

In 1945, the newly elected Labour government of Clement Attlee took up the recommendations of Beveridge to introduce the National Insurance Act (1946) as a comprehensive system of unemployment, sickness, maternity, and pension benefits funded by employers, employees and the government. The National Health Service (NHS) Act was instituted in 1948 under the leadership of Aneurin Bevan, against continued opposition from medical organizations, as a universal state health service in Britain. The NHS provides a nationally tax-based financed, universal coverage system providing free care by general practitioners, specialists, hospitals, and public health services. This includes diagnosis and treatment of illnesses at home or in hospital, including dental and optometric care. The original NHS structure was divided into three separate services: hospital, general practitioner, and community health services. The hospital and specialist services were under the authority of 14 regional boards. General practitioners worked under national contracts, and community health services, such as public health, home nursing and health visitors, midwives, maternal- and child care, came under the control of the county and city local authorities. All units reported to the minister of health and his staff. The hospital bed supply in the UK in 2014 was just under half the rate in France and one third of the rate of beds in Germany per 1,000 population. Hospital based specialists are salaried but highly independent; general practitioners ran their own practices and provided the foundation of the NHS system. Over time, this tripartite structure evolved to some degree of integration of GP and community health services, along with hospitals under Hospital Trusts reporting to Regional Health Authorities. The NHS, with periodic reforms, is still in place in the UK and

well accepted by the population and—over time—even by conservative governments and by the medical profession.

There are differences between the NHS systems of the UK: England, Scotland, Wales and Northern Ireland each operate their own NHS, albeit with funding and structure of the central NHS. Regional disparities in health indicators still exist despite changes in funding giving greater resources within regions (north-south divide) of England; each of the four has their own, policy directions. Social class and geographic inequities in health within the NHS have been recognized since the 1970s with a series of reports and analyses showing large gaps in life expectancy, avoidable (i.e., preventable) mortality between the south and north of England and even more so with Scotland and significantly poorer health indicators. The Marmot Report on inequalities from 2010 indicated the scope of the problem: *“People living in the most deprived neighborhoods will on average die seven years earlier than people living in the richest neighborhoods. Even more disturbing, people living in poorer areas not only die sooner, but spend more of their lives with disability—an average total difference of 17 years. The review has estimated the cost of health inequalities in England: productivity losses of £31–33 billion every year; lost taxes and higher welfare payments in the range of £20–32 billion per year; and additional NHS healthcare costs well in excess of £5.5 billion per year.”*

The “Beveridge model” is a term used for the National Health Service model, which has since been adopted by many European countries and should be regarded as a strong model for countries reforming their universal health care systems, such as Spain and Italy. The Scottish NHS diverges from the central English NHS in addressing inequalities by a focus on the health sector as the sole responsibility for reduction of inequalities. The English NHS and other government agencies see the problem more broadly and adopted poverty-fighting measures with some success in improving mortality and morbidity social and health disparities since 2000. The NHS system remains generally popular in providing health security for all, and reaching good outcome measures despite regional inequities. No change of governing political party has led to dismantling the NHS for a privatized health system over the seven decades since its inception.

Canada: National Health Insurance

TC (Tommy) Douglas was born in Falkirk, Scotland and immigrated at the age of 10 with his working class family to Winnipeg, Manitoba, Canada. He developed osteoarthritis and the doctors were going to amputate his leg as the family lacked funds for long-term medical care. His leg was saved by a senior surgeon who refused the amputation. This made Tommy a lifelong advocate and fighter for publicly administered, universal health care for all. He became a Baptist minister and entered politics winning the Saskatchewan

general election of 1944 for the CCF party in a massive victory. It was the first democratic socialist government elected in North America. He held the office for 17 years, during which time he pioneered many major social and economic reforms.

Canada (population 35.5 million) is a federal state and a constitutional monarchy with parliamentary systems at national and provincial/territorial levels. Health is primarily a provincial responsibility, but federal funding and standards play an important role in the Canadian health system. Local authorities also carry out many primary public health services including sanitation, water safety, and supervision of food safety, among other responsibilities. The Provinces/Territories are responsible for the funding of hospital, community, home and long-term care, as well as mental and public health services. Starting in the 1930s, federal grants-in-aid were given to the Provinces/Territories for categorical health programs, such as cancer and public health services programs. Since the SARS (severe acute respiratory syndrome) epidemic in 2003, the Canadian federal government has increased its capacity in public health with a new federal department of public health, regional laboratories and encouragement of many schools of public health across the country.

Canada's national health program evolved as a system of provincial health insurance with federal government financial support and standards. Initiatives for national health insurance in Canada go back to the 1920s, but definitive action occurred only after World War II. The federal government regulates drug and medical device safety, funds research and provides services to the Native indigenous population groups, the military, RCMP (Royal Canadian Mounted Police) and federal prison inmates. Services for veterans were later transferred to provincial Medicare programs.

The development of national health insurance was largely due to the bitter experience of the Great Depression of the 1930s, a strong agrarian cooperative movement, and the collective wish for a better society following World War II. In 1946, the social democratic Cooperative Commonwealth Federation (CCF) party under the leadership of Tommy Douglas formed the government of Saskatchewan, a large wheat-growing province of one million people on the western prairies. The national universal health insurance program evolved from the provincial initiatives led by Tommy Douglas, now considered "the Father of Canada's universal Medicare plan." Douglas established the Saskatchewan Hospital Insurance and Diagnostic Services Act in 1946 under provincial public administration. In 1956 a federal cost-sharing formula began providing approximately 50 percent cost-sharing with greater levels of funding going to the poorer provinces. By 1961, all 10 Provinces and two Territories had implemented hospital insurance plans, in a two-tiered national health insurance plan—i.e., universal provincial/territorial health plans with federal standards and cost-sharing. In 1962, again in Saskatchewan, the medical care insurance plan (Medicare) was implemented after a bitter doctors' strike. In 1961, the federal government appointed a

Royal Commission on Health Services (the Hall Commission) which in 1964 recommended adoption of the Saskatchewan model across the country with federal support and standards. The Saskatchewan plan was rapidly followed by similar plans in other provinces encouraged by generous federal cost-sharing.

The Federal government cost-shares provincial and territorial programs. Provinces/Territories must adhere to the standards of the Canada Health Act (1984), which defines services to be covered for hospital, diagnostic, and physician services. There is federal funding support for provincial/territorial public health, long-term care, home care and community mental health services. This federal legislation was expanded to provide co-funding for provincial/territorial Medicare plans, which over a short period brought all Canadians into provincially administered systems of publicly financed health care, while retaining the private practice model of medical care. Hospital care is provided mostly through non-profit, non-governmental hospitals.

Developed over the period 1946–71, the provincial/territorial health insurance plans were promoted by federal governmental cost-sharing, political support, and national standards. The plans were initially financed by taxation and premiums, but later solely by general tax revenues with federal support under the Canada Health Act of 1984. Federal standards required the provincial plans to be: publicly administered; comprehensive in coverage of health services; universal; portable across provinces; and, accessible without user fees. Federal reimbursement to the provinces/territories initially covered 25 percent of national average medical care expenditures per capita and 25 percent of the actual expenditures by each individual province. This provided higher-than-national-average rates of support to poorer provinces as well as portability between provinces/territories. By 1971, all provinces had implemented such plans, and a high degree of health services equity was achieved across the country.

Care is provided by private medical practitioners on a fee-for-service basis under negotiated medical fee schedules with no extra billing allowed. Hospitals are operated by nonprofit voluntary, religious organizations or municipal authorities, with payment by block budgets. Per capita spending on health in Canada is relatively modest in comparison with that of the US, but above OECD averages. Public spending as a percent of total health expenditures is close to the OECD average (see [Box 8.4](#)). This Medicare-type plan was later adopted in a number of other countries including Australia. Medicare is still popular in Canada, with support from all political parties and by most medical professionals. Medicare and federal cost-sharing weighed in favor of the poorer provinces, allowing these to catch up in health care services and standards with the richer provinces.

The Canadian health program differs substantively from those of the United Kingdom and the United States. Health systems are important in the political and cultural life of a country. Each within its own tradition is

BOX 8.4 Health Indicators, Canada, OECD, 2015

- Population: 35.5 million.
- GDP per capita: USD \$44,201.
- Hospital bed supply: 2.7/1000 population.
- Average acute care hospital length of stay 7.5 days.
- Life expectancy: 82.2 years.
- Human Development Index: 0.920, ranked 9th country.
- Health spending growth: Growth rate spending per capita in health was fairly strong up to 2010, but slowed markedly in recent years, being close to zero in real terms over the past four years.
- Share of GDP for health spending (excluding capital expenditure): 10.2 percent in 2013, compared with an OECD average of 8.9 percent, and much lower than in the US (16.4%).
- Per capita health spending in Canada: equivalent of USD \$4,351 per person in 2013, compared to the OECD average of USD \$3,453, but only half of the US (USD \$8,713).
- Public sources accounted for 71 percent of overall health spending, slightly less than the OECD average (73%).

Source: OECD. OECD Health Statistics 2015. How does health spending in Canada Compare? Available at: <https://www.oecd.org/els/health-systems/Country-Note-CANADA-OECD-Health-Statistics-2015.pdf> (accessed 8 May 2017).

attempting to ensure population health through public or private means, to constrain the rate of cost increases. Comparisons using various health indicators can be controversial, but the Canadian universal health service or insurance coverage seems to have improved the health status of the population more rapidly than similar indicators for the total US population, but not necessarily for all segments of the population. After decades of focus on developing national health insurance, Canada became a leading innovator in health promotion prevention (see Chapter 21).

Reform Pressures and Initiatives

The Canadian health program established universal coverage for a comprehensive set of health benefits without changing the basic practice of medicine from individual medical practice on a fee-for-service basis. Poorer provinces were able to use the federal cost-sharing mechanism to raise standards of health services, and a high degree of health services equity was achieved across the country.

Rapid increases in health care costs led to a review of health policies in 1969 (the Federal–Provincial Committee on the Costs of Health Services). The resulting report stressed the need to reduce hospital beds and develop lower-cost alternatives to hospital care, such as home-based care and

long-term care. Federally-led initiatives during this period extended coverage to include home-based care and long-term nursing home care, while restricting federal participation in cost-sharing to the rate of increases in the gross national product (GNP). Since then, many provincial and federal reports have examined the issues in health care and recommended changes in financing, cost-sharing, hospital services, development of primary care, and other community services.

In 1974, a new approach to health was outlined by the Federal Minister of Health, Marc Lalonde, in a landmark public policy document, *A New Perspective on the Health of Canadians*. This report described the Health Field Theory in which health was seen as a result of genetic, lifestyle, and environmental issues, as well as medical care itself. As a result, health promotion became a feature of Canadian public policy, with the objective of changing personal lifestyle habits to decrease cross-cutting risky behaviors such as smoking, obesity, and physical inactivity. The pioneering work in nutrition from the National Nutrition Survey published in 1971 led to the adoption of federal mandatory enrichment regulations for basic foods with essential vitamins and minerals. This and other initiatives in the 1980s led to the Ottawa Charter on Health Promotion (see Chapter 21), which has had a global impact with the foundation of Health Promotion as a crucial new aspect of public health and health system policy.

The Canadian health system being primarily the responsibility of the provinces/territories had a down side. During the SARS pandemic of 2003, the provinces dealt with it and were found to be lacking strong public health institutions adequate to the task. Following high level reviews of the SARS episode the federal government established a CDC-like institution, regional laboratories capable of infectious disease challenges and eight schools of public health across the country to ensure continuing development of a competent public health workforce. Universal health care needed to be supplemented by introduction of Lalonde-initiated health promotion and equally so a strong microbiologic public health component to ensure rapid and competent responses to new emerging health challenges.

How does the Canadian public view the universal public single payer Medicare run by the provinces with federal guidelines and cost-sharing program? Despite complaints, mostly from US sources, the Canadian public appreciates their health protection very much. In 2004, the Canadian Broadcasting Corporation (CBC) television conducted a program over many months called "The Greatest Canadian," with 10 candidates and advocates. This included a call to all people in Canada to nominate their greatest Canadian. Canadians from coast to coast were asked to vote and chose Tommy Douglas, known as the "Father of Medicare" and selected by national polling as "The Greatest Canadian of all time." The Canadian public is proud of their Medicare plan, and appreciates the security and social protection as a great achievement for everyone in the country. Australia,

Taiwan, and South Korea have adopted national health insurance systems similar to the Canadian model.

The United States: Public-Private Health System

The US (population 322 million, GDP per capita USD \$56,066 in 2015) has a system of government based on the Federal Constitution, with 50 states each having its own elected government. The Constitution gives primary responsibility for health and welfare to the states, while direct federal services are provided to armed forces, veterans, and indigenous (Native) Americans. The federal government has established a major leadership role in national health by the development of national standards, national regulatory powers, funding, and information systems. The federal level has many governmental structures for regulation of food, drugs, and environment, as well as for research, public health services, training programs and health insurance systems for the elderly and the poor. The US has the world's costliest health care system with over 86 percent health insurance coverage, but universal access remains elusive, and population health indicators are well below many less-wealthy countries. However, the US has through trial and error experimentation made major contributions to the content and organization of public health systems, which are important for strengthening health systems in medium- and low-income countries as well as influencing countries with universal health systems (see Chapter 15). Clearly, the US can learn from other countries as well (see [Box 8.5](#)).

In 1798, the federal government established the US Marine Hospital Service to provide hospitals for sick and disabled merchant seamen. This later became the uniformed US Public Health Service Commissioned Corps (USPHS) headed by the Surgeon General (1873). Services were added for Native Americans, military personnel and their families (through the

BOX 8.5 Health Indicators, US, OECD, 2015

- Population: 319 million.
- GDP per capita: USD \$56,066.
- Hospital bed supply: 2.9/1000 population.
- Average acute care hospital length of stay: 6.1 days (2013).
- Life expectancy: 79.3 years.
- Human Development Index: 0.920, ranked 11th country.
- Health Expenditures per capita USD \$8,713.
- Share of GDP for health spending (excluding capital expenditure): 16.4 percent.

Source: OECD, OECD Health Statistics 2015. How does health spending in the US Compare? Available at: <https://www.oecd.org/unitedstates/Country-Note-UNITED%20STATES-OECD-Health-Statistics-2015.pdf> (accessed 8 May 2017).

Veterans Affairs Department), the Food and Drug Administration (FDA), the National Institutes of Health (NIH), the Centers for Disease Control (CDC) and many other world class federal programs of research, service and teaching. Other departments and legislation were added to promote nutrition and hygiene, establish state, municipal, and county health departments, and regulate drugs and health hazards.

In 1921, the Sheppard-Towner Act established the federal Children's Bureau that administered grants to assist states to operate maternal and child health programs. From the 1920s, labor unions won health insurance benefits through collective bargaining, which became the main basis for prepayment for health care in the United States until today. In 1927, the Committee on the Costs of Medical Care recommended a universal national health program. This initiative was set aside during the Great Depression of 1929–39. The US Social Security Act (SSA) of 1935 was introduced by President Franklin D. Roosevelt as part of the "New Deal" to alleviate the mass suffering of the people during this very traumatic period in the US (and Europe). The SSA was intended to include national health insurance, but this part of the SSA was set aside largely due to strong opposition of the insurance industry and the organized medical profession. The SSA provides financial benefits for widows, orphans, and the disabled, as well as pensions for the elderly, and provided a base for future reform including health insurance.

With the outbreak of World War II, a significant percentage of eligible military recruits were found unfit for compulsory service due to preventable health conditions. This, and the wish to maintain population health, led President Roosevelt to initiate regulations in 1941 for fortification of "enriched" foods reaching a majority of the population including salt with iodine, flour with iron and vitamin B complex, and milk with vitamin D. During World War II (1941–45), governmental health insurance was provided to many millions of Americans serving in the armed forces, along with their families. At the same time, health benefits through voluntary insurance for workers were vastly expanded in place of wage increases and this became the major method of prepayment for health care for a majority of the population. At the end of the war, millions of veterans were eligible for health care through the Veterans Administration (VA), which established a national network of federal hospitals and primary care services.

In 1946, President Truman attempted to bring in national health insurance, but the legislation (the Wagner-Murray-Dingell Bill) failed in the US Congress. One section of the bill was approved, enabling the federal government to initiate a program to upgrade country-wide hospital facilities, while limiting the beds to population ratio, under the Hill-Burton Act (see Chapter 15). Legislation also provided massive federal funding for the newly established National Institutes of Health (NIH) to fund and promote research to strengthen public and private medical schools, teaching hospitals, and research facilities. In 1946, President Truman established the federally-assisted School Lunch

program through the Department of Agriculture bringing nutritious meals to many (millions increasing from 7 million in 1946 to 30 million in 2016) of school children throughout the US. In the 1950s, the federal government also established the Centers for Disease Control and Prevention (CDC) and increased assistance for state and local public health activities and encouraged expansion of schools of public health across the country.

US Medicare and Medicaid

In the 1960s, a large percentage of elderly and poor Americans lacked health insurance. In 1965, President Lyndon Johnson introduced Medicare for the aged (over age 65), plus disabled persons, and persons on renal dialysis as an amendment (Title XVII) to the 1935 Social Security Act (SSA). Medicare covers hospitalization, skilled nursing home-based care, medical appliances, and other benefits with copayments. Medicaid, Title XIX of the SSA, also enacted in 1965 by President Johnson, provided federal cost-sharing for acceptable state health plans for the poor, with local authority participation. Medicaid is financed through shared responsibilities primarily of the federal, state and local governments. Medicaid has seen substantial increases in adult and children enrollees through expansions of eligibility, such as the State Children's Health Insurance Program (SCHIP) extending Medicaid to large numbers of children.

Medicare and Medicaid together brought about 25 percent of Americans into public systems of health insurance. Limitations included variable definitions of poverty for Medicaid eligibility in each state, and copayments for Medicare beneficiaries. The population enrolled in Medicare increased from 19 million in 1966 to 55.5 million in 2015, including disabled persons under the age of 65. The Medicaid enrolled population increased from 28.2 million in 1991 to 49.3 million in 2006 and to 65 million in 2017, or about one of every five persons in the United States. This contributed to increasing public sector health expenditures rising from under 25 percent of total health expenditures in 1960 to 47.7 percent in 2009, of concern for both critics and supporters of public health care programs.

The Changing US Health Care Environment

In the US during the 1960s through to the 1990s, rapid health cost increases were attributed to many factors including the lack of a national health insurance mechanism. The plethora of health insurance systems fostered high costs and restrictions on access due to pre-existing conditions. Other factors for rapid cost increases included an increasing elderly population, high levels of morbidity in the poor population, the spread of AIDS, rapid innovation and costly medical technology, specialization, high laboratory and diagnostic imaging costs, and large-scale public investment in medical education,

research and health facility construction. The US system includes a mix of public health insurance and service programs (Medicare, Medicaid, Veterans Administration, Indian Health services, and military health coverage) which provide for a significant part—36.5 percent in 2014—of the US population. However, the majority (66%) is covered by the private insurance industry through employer-employee contracts which developed rapidly as the dominant health insurance sector with minimal government regulation. The cost of private health insurance to employers included in labor contracts of their employees and pensioners has become very high. In 2008, General Motors reported to a Senate hearing that the cost of health insurance per car produced was double the direct cost of labor and more than the cost of steel per car. This impinged on competitiveness in price with for example with Japan which has a successful universal governmental health insurance plan with public-private mix of services.

The Affordable Care Act (ACA) introduced by President Barack Obama in 2010 brought some 16 million previously uninsured persons into public and private insurance, increased governmental regulation to ensure fair pricing and payment and, especially, to abolish the past abuses of the “pre-existing condition” exclusions from insurance. Other equally important factors were high levels of preventable hospitalization, institutional orientation of the health system, high administrative costs due to multiple private billing agencies in the private insurance industry, high incomes especially for specialist physicians, and high medical malpractice insurance costs. The pressure for cost constraint came from government, industry, and the private insurance industry. (See Chapter 15).

Private medical practice, with payment by fee-for-service, was the major form of medical care in the US until the 1990s. Most hospitals were operated through a mix of nonprofit agencies, including federal, state, and local governments, and voluntary and religious organizations, but a growing percentage are privately owned, for-profit (from 7.8% of beds in 1975 to 20.6% in 2013). In an effort to contain costs, the diversity of insurance systems promoted experimentation with organizational systems. Health Maintenance Organizations (HMOs) and other forms of managed care systems grew rapidly to become the predominant method of organizing health care in the United States.

Prepaid group practice (PGP) originated from private companies contracting to provide medical care, especially in remote mining camps and construction sites. In the 1940s, New York City sponsored the Health Insurance Plan of Greater New York to provide prepaid medical care for residents of urban renewal and low-income housing areas. This was later extended to include organized union groups such as municipal employees and garment industry workers. PGP became best known in the Kaiser Permanente network developed for workers of Henry J. Kaiser Industries, at the Boulder Dam and Grand Coulee Dam construction sites in the 1930s. Kaiser Permanente health plans now provide care for millions of Americans

in many other states. Initially opposed by the organized medical profession and the private insurance industry, PGP gained acceptance by providing high-quality, less-costly health care. This became attractive to employers and unions alike, and later to governments seeking ways to constrain increases in health costs.

Since the 1970s, the generic term *Health Maintenance Organization* (HMO) was promoted by the federal government in the HMO Act by President Richard Nixon in 1973. HMOs, which operate their own clinics and staff (i.e., the staff model), or through contracts with medical groups as Preferred Provider Organizations (PPOs), have become an accepted, if criticized, part of medical care in the United States and an important alternative to fee-for-service, private practice medicine. In 2011, 70.2 million Americans were registered in HMO plans or 22.5 percent of the total US population.

In recent years, the terms *Accountable Care Organizations* (ACO), *Patient-Centered Medical Home* (PCMH) and *Population Health Management System* (PHMS) have come into wide use to denote organizations that take responsibility for comprehensive care for enrolled patients, with payment based on a form of capitation rather than fee-for-service. ACOs are present in all 50 states, Washington, DC, and Puerto Rico, with the population covered increasing from 2.6 million in 2011 to 23.5 million in 2015. The ACO comes in different models, but many include a hospital base and may be linked to independent practice associations (IPAs), and specialty groups, or hospital medical staff organizations, or in a network of hospitals linked with other providers as an organized delivery system. These are not-for-profit group practices led by doctors who are salaried and subject to rigorous annual professional review. This model may be adaptable on a wider scale to improve quality and cost effective care to improve health of Americans.

In 1983, a prospective payment system, called *diagnosis-related groups* (DRGs), was adopted for Medicare, to encourage more efficient use of hospital care, with payment by categories of diagnosis. The DRG is a classification system, for inpatient stays, categorizing possible diagnoses into more than 20 major body systems and subdivides them into almost 500 groups for the purpose of Medicare reimbursement. This replaced the previous system of paying by the number of hospital days, or *per diem* or by itemized billing which encouraged longer hospital stays. DRGs provided incentives for hospitals to diagnose and treat patients expeditiously and effectively. Payment for Medicare and Medicaid patients shifted to this method placed the public insurance plans in a stronger position for payments to hospitals. In many states this has also become standard for patients with private health insurance as well.

During the late 1980s, the term *Managed Care* was introduced, expanding from HMOs of the Kaiser Permanente type to include both non-profit

and for-profit systems. These include Independent Practice Associations (IPAs), which operate with physicians in private practice, and Preferred Provider Organizations (PPOs), which provide insured care by doctors and other providers associated with the plan to the enrolled members or beneficiaries at negotiated prices. The DRG payment system and HMOs or managed care systems reduced hospital utilization. While total costs of health care increased in this period, without reduction of hospital utilization the increase would have been considerably higher.

In 1994, President Clinton tried to introduce a health plan based on federally administered compulsory universal health insurance through the place of employment. A state could opt to form its own health insurance program including through its own department of health. Physicians could contract with health insurance plans to provide care on a fixed-fee schedule, or in HMOs, whether based on group or individual practice. The Clinton health plan failed in Congress mainly due to well financed opposition by the insurance industry and the organized medical community. In addition, opposition was also widespread among the majority of the population who already had good insurance benefits under their employment-based health insurance plans or Medicare. Their interest was in keeping the status quo so that the bill was defeated.

Following the failure of the Clinton national health insurance proposal, managed care experienced tremendous growth. Managed care systems have been able to cut costs in health care in ways that the US government could not. In the US as a whole, in addition to the nearly 58 million persons enrolled in HMOs, another 91 million persons are enrolled in PPOs, with 25 percent of Medicaid and 10 percent of Medicare beneficiaries in various “managed care plans”. The search for cost containment led to the development of a series of important innovations in health care delivery, payment, and information systems. HMOs demonstrated that good care provision can be operated efficiently with lower hospital admission rates than care provided on a fee-for-service basis. The managed care systems brought about profound changes in health care organization in the United States.

In 2010, President Barack Obama established the Patient Protection and Affordable Care Act/Health Care and Education Reconciliation Act of 2010, widely known as The Affordable Care Act (ACA or Obamacare) bringing health insurance to millions of previously uninsured Americans when it went into effect in 2014 (see [Box 8.6](#)). The ACA requires most companies to cover their workers, and mandates that everyone has coverage or pay a fine. ACA also requires insurance companies to accept all newcomers, regardless of any preexisting conditions, and assists people unable to afford insurance. This legislation covers young people under their parents’ health insurance plans until the age of 26, covering 2.5 million young Americans. It eliminated other limits on coverage, allowing those who had already reached a lifetime limit to be eligible for coverage. The Affordable Care Act

BOX 8.6 Health Insurance Population Coverage in the United States: 2015

- Between 2008 and 2013, the uninsured rate was relatively stable; 42 million Americans (13.4 percent) were uninsured in 2013.
- In 2014-2015, the uninsured rate decreased due to the Affordable Care Act.
- In 2015, 9.1 percent or 29 million were uninsured for the entire calendar year.
- The percent of people with health insurance coverage for all or part of the years increased from 86.7 percent in 2013 to 90.9 percent in 2015.
- In 2015, private health insurance coverage was 67.2 percent; government coverage 37.1 percent.
- Employer-based insurance in 2015 covered the most people (55.7 percent of the population), followed by Medicaid (19.6 percent), Medicare (16.3), and direct purchase (16.3).

Source: Barnett JC, Vornovitsky MS. Current population reports P60-257(RV): health insurance coverage in the United States: 2015. US Government Printing Office: Washington, DC, 2016. Available at: <https://www.census.gov/content/dam/Census/library/publications/2016/demo/p60-257.pdf> (accessed 8 July 2017).

introduced discounts as large as 50 percent for pharmaceuticals for seniors. Health care reform is currently a contentious issue with the Donald Trump government planning to repeal the Obama health care reforms to be replaced with a plan still under development.

US health care spending increased from 13.1 percent of GDP in 1995 to 16.6 percent in 2014, threatening the ultimate insolvency of Medicare and cutbacks in Medicaid in the near future.

Social Inequities

Lack of universal access and the empowerment it potentially brings encourages an alienation or non-engagement with early health care for the socially disadvantaged sector of the population. This promotes inappropriate reliance on emergency department care and hospitalization in response to under-treated health needs. With large numbers of uninsured persons and many others lacking adequate health insurance, access and utilization of preventive care are below the levels needed to achieve social equity in health in the US. This is especially true for maternal- and child-health and for chronic diseases such as diabetes, hypertension, cancer, and heart disease. Infant mortality rates in the United States vary greatly by race and ethnicity. As measured by the infant mortality rate, the rate among non-Hispanic black mothers was 2.4 times higher than the rate for white non-Hispanic mothers. A significantly higher rate of infant mortality exists among Puerto Rican and American Indian populations compared with the national average. CDC

reports that maternal mortality rates have increased in the United States between 2000 and 2013 from 14.5 to 17.3 per 100,000 live births possibly due to changes in reporting and increase in chronic illnesses and influenza during pregnancy particularly in the African American population.

In 2000, the Department of Health and Human Services (DHHS) released *Healthy People 2010* with two main goals: “increase the quality and years of healthy life” and “eliminate health disparities.” These goals focus on 28 specific areas developed by over 350 national membership organizations and 250 state health, mental health, substance abuse, and environmental agencies. Many states have adopted use of these targets as their own measures of health status and performance. The US Public Health Service, in cooperation with the National Center for Health Statistics, regularly make available a wide set of data for updating health status and process measures relating to these national health goals.

Various preventive health initiatives are in place to try to alleviate health disparities, which successfully improved immunization coverage of US infants to meet national health targets, as well as for lead and other efforts directed toward poor population groups. In 2002, a program called Racial and Ethnic Adult Disparities in Immunization Initiative was introduced in order to improve influenza and pneumococcal vaccinations among minorities aged 65 and over.

The US Department of Agriculture’s Women, Infants and Children (WIC) program enables millions of poor Americans to have good nutritional security. The WIC program covers pregnant women, breastfeeding women (up to infant’s first birthday), non-breastfeeding postpartum women (up to 6 months after the birth of an infant or after pregnancy ends) and infants and children (up to their fifth birthday). WIC serves 53 percent of all infants born in the United States. The benefits include: Supplemental nutritious foods, nutrition education and counseling at WIC clinics, screening, and referrals to other health, welfare and social services such as completion of immunization and special needs counseling.

School lunch programs are widespread under a federally assisted meal program operating in over 100,000 public and non-profit private schools and residential child care institutions, providing nutritionally balanced, low-cost or free lunches to more than 31 million children each school day in 2012. Nutrition support for pregnant women and children in need, alleviates some of the ill effects of poverty in the United States, but lack of health insurance affects these groups severely especially in chronic disease, trauma, and other diseases of poverty.

Health disparities are a complex problem that goes beyond the issue of uninsured Americans. Low-income and illegal immigrants face challenges to access medical insurance. New immigrants must wait five years before they are eligible for Medicaid. The structure of the medical system plays an important role in an individual’s ability to obtain medical care. This includes

convenience of making an appointment, office hours, waiting times, and transportation. A lack of health literacy also plays a role in an individual's ability to seek medical attention. Individuals not fluent in English experience communication gaps. In 2003, it was estimated that an excess of USD \$58 billion a year is spent on health care in the United States as a result of low health literacy. In certain areas of the country, medical facilities are scarce. Minorities are under-represented in medical professions. Black, Latino, and Native American populations make up approximately six percent of the physician workforce, although these populations represent over 26 percent of the population in the United States.

Health disparities remain an important social and political issue in the United States. The Office of Minority Health (OMH) of the Department of Health and Human Services was established in 1986 to address issues of health disparities among racial and ethnic minorities. Important health disparities exist in America in relation to region of residence, with the southern states having high rates of obesity, stroke, and coronary heart disease mortality, which are thought to be due to customary diets rich in fatty and salty foods. State health departments will need to address these issues in order to reduce gaps in life expectancy due to lifestyle factors which are grounded in tradition and poverty as well as lack of health insurance. One of the main goals of *Healthy People 2020* is to eliminate health disparities.

Health Information

The US has developed extensive information systems of domestic and international importance. The CDC publishes the *MMWR (Morbidity and Mortality Weekly Report)*, which sets high standards in disease reporting and policy analysis. The US National Center for Health Statistics (NCHS), the Health Care Financing Administration (HCFA), the US Public Health Service (USPHS), the Food and Drug Administration (USFDA), the National Institutes of Health (NIH), and many nongovernmental organizations (NGOs) carry out data collection, publication, and health services research activities important for health status monitoring. National nutrition surveillance and other systems of health status monitoring are reported in the professional literature and in publications of the CDC. National monitoring of hospital discharge information facilitates the understanding of patterns of utilization and morbidity. These information systems are vital for epidemiologic surveillance and managing the health care system. US Surgeon General Reports have an important influence on health systems not only in the United States, but also internationally.

The CDC created the National Center for Public Health Informatics (NCPHI) in 2005 to provide leadership and coordination of shared systems and services, to build and support a national network of integrated, standards-based, and interoperable public health information systems. This is

meant to strengthen capabilities to monitor, detect, register, confirm, report, and analyze data, as well as provide feedback and alerts on important health events. This will enable partners to communicate evidence that supports decisions that impact health. Electronic medical and personal health records are now widely used. These protect patient privacy and confidentiality, and serve legitimate clinical and public health needs.

Media coverage of health-related topics is extensive, and is important to promote health consciousness in the public. However, the sheer volume of information may make it difficult to discern which information is most relevant, and due to misinformation on internet sites, can also create opposition to public health initiatives such as the refusal to vaccinate children. Public levels of health knowledge grow steadily, but vary widely by social class and educational levels.

US Health Targets

In 1979, the US Surgeon General's Report *Healthy People* set a series of national health targets for a wide variety of public health issues. The program defined 226 objectives in 15 program areas within the three categories of prevention, protection, and promotion. These goals and objectives were formulated based on research and consultation by experts in different fields who participated in a conference by the US Public Health Service. Consensus is based on position papers, studies, and conferences involving the national governmental health agencies, the National Academy of Science Institute of Medicine, and professional organizations such as the American Academy of Pediatrics (AAP), the US Preventive Health Services Task Force, and the American College of Obstetrics and Gynecology (ACOG). Many private individuals and organizations contribute to this effort, including state and local health agencies, representatives of consumer and provider groups, academic centers, and voluntary health associations.

These targets are periodically assessed as performance indicators of the US health system and then updated. Progress made during the 1980s included major reductions in death rates for three of the leading causes of death: heart disease, stroke, and unintentional injuries. Infant mortality decreased, as did the incidence of vaccine-preventable infectious diseases.

The latest iteration, *Healthy People 2020*, identifies national health priorities. It strives to increase public awareness and understanding of the determinants of health, disease, disability, and opportunities for progress. It defines measurable objectives and goals for Federal, State, and local authorities in the areas of health promotion, health protection, preventive services, surveillance and data systems, and age-related and special population groups. The final reviews of *Healthy People 2000* showed significant decreases in mortality from coronary heart disease and cancer. *Healthy People 2020* renews this

effort to establish national targets which are adopted by state level governments and strongly influence policy in health insurance systems.

The US has managed to achieve many of the targets set by the 1979 Surgeon General's *Healthy People* report. At the same time, the average annual increases in health care expenditures in the United States slowed markedly from the 1986–90 period with average annual increases of 10.7 percent, falling to under 7 percent annually between 1995 and 2005. This is partly due to lower general inflation rates (<3%), but also cost-containment measures being adopted by government insurance (Medicare and Medicaid) programs, the health insurance industry, the growth of managed care, and rationalizing the hospital sector by downsizing and promoting lower-cost alternative forms of care.

National health insurance was delayed by congressional rejection of the Clinton health plan. President Barack Obama's 2010 Affordable Care Act (ACA) provided millions of previously uninsured Americans health insurance within better regulated private insurance or in state-run Medicaid plans, but in 2017 is facing "repeal and replace" efforts by the President Trump administration and Republican Congress. A number of possibilities exist to extend health insurance coverage: state health insurance initiatives with federal waivers and cost-sharing; a federal single payer universal coverage plan based on the federal Medicare model or a federal-state Medicaid model.

Summary of the US Health System

The US health system is often called a costly and inefficient nonsystem. There are many stakeholders and providers, high costs, and poorer population health results than those achieved in other industrialized countries such as Britain, Germany, and Canada. The health system is diffused with high levels of coverage for diverse insurance plans through employment-based insurance along with publicly financed and administered health insurance (e.g., Medicare, Medicaid, ACA). Inequalities are a significant health challenge in the US along with the uninsured, poverty, aging of the population, rising levels of obesity and diabetes. The principle of universal access through public insurance for all is still a highly politicized issue in the United States, although public acceptance seems to be gradually growing.

The US has a reputation for good to outstanding quality of medical care, but for those without insurance, services are limited to hospital emergency care only. Important ethnic, social, and regional inequities in health status are still present, but not necessarily greater than in countries with universal access health care plans such as the UK NHS. Further, there are many parallel programs in the United States that have important positive public health content, such as universal school lunch programs, nutrition support for poor women, infants, and children (the WIC program); food stamps for the working poor; fortification of basic foods, free care for the uninsured in

emergency departments, Medicare for the elderly, Medicaid for the poor, and ACA coverage for the near-poor. [Box 8.7](#) shows the challenges of the US health system.

Despite rapid increases in health care expenditures during the 1970s and 1980s, despite improved health promotion activities and rapidly developing medical technology, the health status of the American population

BOX 8.7 US Health System: Challenges and Strengths

- | | |
|------------|--|
| Challenges | <ul style="list-style-type: none"> ● Lack of universal health coverage; ● Total per capita cost of US health system is by far the highest in the world; ● Private insurance at place of employment for majority of population or individual purchase; ● Public insurance or service plans for high-risk population groups; elderly, poor, veterans, and military populations cover over one-third of the total population; ● Uninsured for 2015 was 9.1 percent; the insured coverage for all or part of the year was 90.1 percent; ● Mediocre performance in overall life expectancy, infant mortality compared with many other countries; ● Rising obesity, diabetes, and other health risk factors; ● High administrative costs for private insurance; ● Rural and ethnic populations disadvantaged in access to care and avoidable mortality; ● Political deadlock on the way ahead; ● Likely reduction in insured coverage of cancelled or revise ACA; ● Single payer systems with competitive systems of providing care could limit cost increases; ● Universal coverage unlikely in the near term but could evolve state by state, or federally through Medicare |
| Strengths | <ul style="list-style-type: none"> ● Insurance coverage for some 91 percent of US population; 9% uninsured; ● High standards of medical and related professional care; ● High levels of academic standards in professional training; ● Innovative management systems; ● Public health leadership, research, publication innovative, and high quality medical teaching centers across the country; ● Excellence in medical research performance including vaccine development; ● Preventive programs strong tradition; screening for cancer; smoking reduction; food fortification, school lunch programs; nutrition support for poor pregnant women and children (WIC); ● Hospitals obliged to provide emergency care to all regardless of insurance status, citizenship, legal status or ability to pay |
-

has improved less rapidly than that in other western countries and universal coverage has not been achieved. US performance measures are lower than many middle- and high-income countries with much lower per capita health expenditures, including measures such as infant mortality rates and life expectancy. Infant mortality in the US remains high in comparison to OECD countries and ranks 34th among all countries in 2012 (estimated). Even the rate of infant mortality of the white population of the United States was higher than that of 16 countries that spent much less per person and a lesser percentage of GNP per capita on health care. Life expectancy at birth in the United States in 2014 was below that of 24 countries, just behind Costa Rica, Portugal and Slovenia. In 2014, the US life expectancy at birth was 78.8 years, well below the OECD average of 81.6 years.

Social inequities in these health status indicators are further evidence of failures of the United States health system to reach its full potential, despite its being the costliest system in the world and its high quality for those with access (Commonwealth Fund, 2008). The advent of the ACA (Obamacare) introduced in 2010 brought health insurance to millions of Americans, but is challenged as unaffordable. The US still lacks a universal single payer health plan of Canadian or European tradition, but the ACA is a huge step forward in America where the working poor are in large measure excluded from access to health care except for emergencies. The struggle for universal access and cost containment are still formidable political and societal challenges for the United States.

Russian Federation: The Semashko Model

In 1918, following the Russian revolution, the Soviet Union (USSR) introduced its national health plan for universal coverage within a state-run system of health protection. The Soviet model, designed and implemented by Nikolai Semashko, provided free health care for all as a government-financed and -organized service. It brought free health services to the population, with a system of primary- and secondary-care based on the principles of universal and equitable access to care through district organization of services. It achieved control of epidemic and endemic infectious diseases and expanded services into the most remote areas of the vast under-developed country. This model was also applicable in countries included in the USSR following World War II until the collapse of the USSR.

The model developed in the former Soviet Union in 1917 by Semashko brought free health care with governmental management by republic and regional authorities according to national norms set out by the Ministry of Finance. Since the 1930s health care became available for all with mostly underdeveloped basic infrastructure for health care including human resources.

The Semashko plan provided universal access to preventive and curative care, and control of infectious disease in a uniform plan, with many republics previously having only primitive care available, achieving national standards of services and improved health indicators. Since the 1960s, an “epidemiologic transition” was occurring characterized by declining mortality from infectious diseases and rising death rates from non-infectious diseases. Life expectancy increased since 1995, still remains far below levels in many medium-income developed countries.

The transition in health systems following the collapse of the Soviet Union in 1991 took different paths for the socialist Central and Eastern European countries (CEE) as compared to the core countries of the Soviet Union, called the Commonwealth of Independent States (CIS). The CEE countries moved rapidly to dismantle their Soviet, centrally managed sanitary-epidemiological system (Sanepid) system with decentralization while retaining universal coverage with central funding, but with local authority participation in some cases. Most CEE and CIS countries have introduced health insurance systems, with more out-of-pocket payments (both formal and informal), and efforts to strengthen primary health care, with family medicine delivered by general practitioners. In most cases central authorities also maintained responsibility for epidemiological surveillance and environmental monitoring with some transferring responsibilities for environmental health in other ministries. The CEE and CIS countries maintained similar levels of health expenditures as percent of GDP between six and seven percent over the past decade, while the original European Union (EU) countries reached an average of 10 percent of GDP.

The CIS acute care hospital bed capacity ratio declined to six per 1000 population in 2014 far higher than CEE countries (declined to 4.6 per 1000), which were higher than the western countries, although all country groups were declining (see Chapter 15). The importance of these differences lies in the fact that total resources allocated for health in the Soviet system was relatively low while the allocation allowed hospital care to consume some 70 percent of total expenditures compared with less than 50 percent in western countries. The outcome of this allocation of resources was weakness in development of primary care, prevention and community care in favor of an over-developed hospital bed supply.

The Russian Federation adopted a mandatory health insurance (MHI) plan in 1993 to open up additional funding for health care in the face of severe governmental funding constraints. It remains a highly centralized system and is struggling to provide universal access to basic care. Despite this, death rates from avoidable causes such as stroke and coronary heart disease have declined in the past decade and life expectancy has risen modestly, but remaining far below western as well as former socialist countries of Central and Eastern Europe. Fig 8.2 shows the differences in life expectancy of the three groups of countries with the Countries of Eastern Europe (CEE)

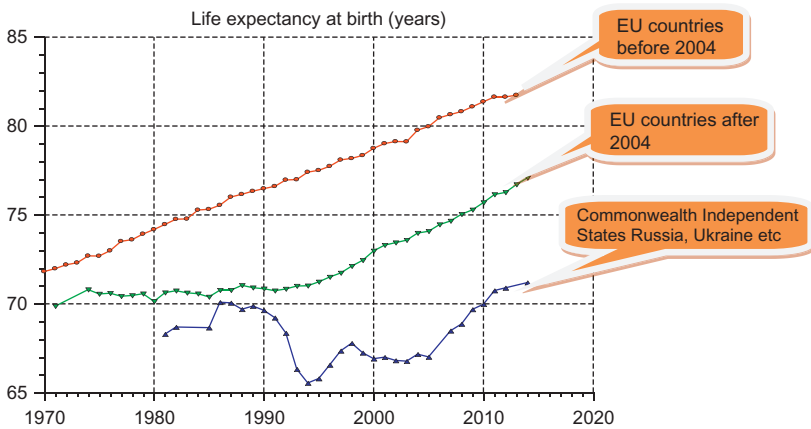


FIGURE 8.2 Life expectancy at birth, EU, EU/EEC and CIS 1970–2013. *Source: Health for All Database. Available at: <http://data.euro.who.int/hfadbf/> (accessed 5 May 2017).*

(countries which joined the European Union after 2004) improving rapidly since the 1990s.

CURRENT RELEVANCE

Developing national health systems with universal access has been a long process in high-income countries and is an important goal for all countries including medium- and low-income countries to promote improving access to health for the total population. The Commonwealth Fund published an outstanding international profile of selected health care systems in high-income countries (2015) including: Australia, Canada, China, Denmark, England, France, Germany, India, Israel, Italy, Japan, The Netherlands, New Zealand, Norway, Singapore, Sweden, Switzerland, and the United States.

Global spending on health is expected to increase from US\$7.83 trillion in 2013 to \$18.28 (uncertainty interval 14.42–22.24) trillion in 2040 (in 2010 purchasing power parity-adjusted dollars). We expect per-capita health spending to increase annually by 2.7% (1.9–3.4) in high-income countries, 3.4% (2.4–4.2) in upper middle-income countries, 3.0% (2.3–3.6) in lower middle-income countries, and 2.4% (1.6–3.1) in low-income countries.

Low- and medium-income countries face major difficulties in developing universal health coverage, especially in terms of financial and professional resources. A study of global health care financing (Dielman et al Lancet 2016) reported on health expenditures from 184 countries, including public, donor, and private (“out of pocket”) payments between 1995 and 2014. High-income countries spent more, and mostly from public sources, increasing expenditures by an estimated three percent per year. Medium income countries increased their health spending more than three-four percent per

year and low-income countries by two percent. Economic development was positively associated with total health spending and a gradual shift away from a reliance on development assistance and out-of-pocket spending towards government spending. In 2014, 59.2 percent of all health spending was financed by the government, although in low-income and lower-middle-income countries, 29 percent and 58 percent of spending was out-of-pocket, 35.7 percent and three percent respectively was with development assistance. Recent growth in development assistance for health has been tepid. Between 2010 and 2016, it grew annually at 1.8 percent, and reached USD \$37.6 billion in 2016. Nonetheless, there is a great deal of variation revolving around these averages. In 2016 countries spending less than five percent of GDP on health, included many in Asia, the Middle East and sub-Saharan Africa (Institute of Health Metrics and Evaluation, 2016).

While there is wide variation in health spending in low- and lower-middle-income countries and there is overall increased spending in absolute terms, there is still a heavy reliance on out-of-pocket spending and development assistance, which itself is growing very slowly. This indicates that medium- and low-income countries are not providing the financial means to develop universal health access insurance plans. Economic growth also does not translate into adequate funding for universal health care without dramatic changes in policy and decreased dependency on donor aid.

International agencies—such as WHO—are promoting the search for ways to provide universal and equitable care, while controlling costs and improving efficiency in low- and middle-income countries.

ETHICAL ISSUES

The 1948 Universal Declaration of Human Rights, Article 25 states:

"(1) Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.

(2) Motherhood and childhood are entitled to special care and assistance. All children, whether born in or out of wedlock, shall enjoy the same social protection."

The Universal Declaration of Human Rights specific inclusion of access to medical care for all should be seen as a priority in planning universal health insurance (UHI) for promotion of access to health needs for remote rural populations as well as urban poor, and displaced persons. This also applies to conditions of warfare, civil strife, natural disasters as well as incitement to and actual genocide.

As said previously, the global consensus of the MDGs (2000–15) and the SDGs (2015–30) have undertaken to implement key elements of this important declaration. It is easier to be pessimistic than optimistic in the potential for success, but the significant achievements of the MDGs in poverty reduction, educational equity between the genders and in reduction of child and maternal mortality as well as in control of HIV, malaria and tuberculosis are signs of important progress and future possibilities. National governments must take up the financial burdens and management of expanding health systems as well as contributory advances in education, environment and other government sectors toward achieving these goals. Bilateral aid and international donors are vital, but they cannot achieve or sustain all this without national commitments and resources.

National health systems are essential to provide universal access to health care, but must be developed recognizing that restraint in increasing costs, equity in access and quality, as well as efficiency and effectiveness in use of resources are vital to achieve health targets and equity in population health. In the United States, a study of ethnic differences in utilization of services among Medicare beneficiaries who have the same entitlements show significant differences indicating lesser use of preventive services such as mammography and higher rates of lower limb amputation for diabetes indicating poorer management of diabetes. Studies in the United Kingdom also show sharp differences in mortality rates by region of residence that correlate with socioeconomic gradations. Universal access alone does not guarantee equality so that the design of service systems needs to take into account differing needs of groups or regions at higher risk and greater need. Universal access by itself is important, but not sufficient to reduce inequalities, which have more complex needs than medical care alone.

Universal coverage health insurance must be developed with great care to avoid mistakes made in many countries in previous decades of promoting rapid increase in health expenditures to the benefit of the middle class while rural and poor urban populations linger in relatively poor health. A universal health insurance plan without strong incentives for prevention and community health will find itself in a trap of punishing the poor for the benefit of the rich. Population health experience of the past century has shown the power of public health, in all its aspects, to raise life expectancy and quality, yet inequalities still plague all health systems. This provides an ethical challenge in planning, resource allocation and political support.

Beyond financing and resource allocation, there are many “nontariff” barriers to health. Even in highly developed national health systems, social class, place of residence, education level, and ethnicity play significant roles in morbidity and mortality rates. Addressing important health risk factors other than medical or hospital care is vital. The disease-risk factors of diet, smoking, physical fitness, nutrition status including obesity, and untreated hypertension. Such conditions are not necessarily managed even where all

residents of a country are insured for health care. Social class, ethnic and regional differences in morbidity and mortality exist due to poverty-associated factors, such as insecurity, lack of control over one's life, lack of financial means or knowledge to purchase healthy foods, as well as fear, loneliness and depression. These are issues that are important and must be addressed in public health policy to reduce inequalities in health and the achievement of national health goals and equity.

ECONOMIC ISSUES

Models of financing of universal health insurance include a variety of methods: general taxation; social security by employee-employer payments through payroll deductions; private insurance under contracts between employee and employer; and private out-of-pocket payments. Taxation financing can be mainly through progressive income tax, resource taxes, surcharges or "sin taxes" (e.g., on cigarettes, alcohol, gasoline) and excise taxes along with local property and business licensing taxation where local authorities have a management role. Funding by general tax revenues at national or state levels or shared between the two levels provides for more local administration while sharing in costs may be the most equitable way of raising funds. Many countries use social security systems based on employer-employee contributions to pay for health services.

The WHO, the World Bank and OECD promote universal health insurance (UHI) for middle-income countries. The advantage will be to reduce the heavy burden of out-of-pocket payments, which are 60 percent of health expenditures in many emerging countries. Universal health insurance provides security for individuals and families against catastrophic health events, for regular medical and hospital care, and for ageing populations with increasing health needs. OECD recommends increasing health expenditures, which improves life expectancy, and to allow UHI implementation. Even a 10 percent increase in national health spending has been shown to reduce child mortality across many countries. Universal health insurance must include promotion of greater efficiency in health care, such as shifting of services from hospital care to outpatient and primary care along with community and home-based care (see Chapter 15). The process requires developing new health care provider roles with emphasis on outreach to groups with greater than average need, promoting public health and preventive care such as for underserved rural or urban communities or groups at special risk for disease such as cardiovascular disease (CVD) and diabetes, making use of epidemiologic and sociologic health data and information systems.

Universal health insurance undoubtedly contributes to improving health indicators such as life expectancy by coverage of the total population, systematizing financing of the health system and providing access to the population. However, without good management of resource allocation, universal

health insurance cannot guarantee achievement of important health targets. Allocation of resources is a fundamental problematic aspect of universal health insurance. National health policy governing universal health insurance must invest adequately in health promotion and disease prevention in order to reduce excessive allocation and utilization of hospital care.

Continuous monitoring and evaluation are essential to a health system, but not only for traditional outcome indicators, such as infant, child and maternal mortality rates, and disease-specific mortality rates. These are all valuable indicators of population health, but not sufficient. Input, process and outcome indicators are important and necessary to include, such as supply and distribution of resources e.g., primary care, maternity centers, hospital beds; process measures e.g., immunization rates, incidence of vaccine-preventable diseases, growth patterns and anemia rates in infancy and childhood, food fortification, micronutrient supplements to risk group, prenatal delivery and neonatal care. Outcome measures include prevalence of disabling conditions morbidity and mortality rates. Disability Adjusted Life Years (DALYs) and Quality Adjusted Life Years (QALYs) help change the emphasis from mortality to quality of life measures as part of the evaluation. National health systems require data systems that generate information needed for this continuous process of monitoring. Monitoring of hospitalizations, length of stay, health-care facility acquired (nosocomial) infection, readmission rate by diagnosis and many more indicators, compliance with standards of care such as in infection control, surgical and maternal mortality, including infection and error rates, and other qualitative measures are now part of monitoring and payment systems. High-quality academic centers are needed for training epidemiologic, sociologic, and economic analyses professionals as well as health system managers and to carry out the studies and research vital for health progress.

Health systems are large-scale employers and among the largest economic sectors in their respective countries, with 7–16 percent of GDP in middle- and high-income countries and, therefore, a major factor in the total national economy. But the gap between countries is very high. Many countries have per capita spending of less than USD \$100 per year, so that inadequate resources prevent people from receiving quality health care, without unaffordable out of pocket expenditures. In contrast, in many high-income countries annual health expenditures are above USD \$5,000 per capita. Donor aid to low-income countries from bilateral or international agencies or other donors rose rapidly from 2000 with an estimated \$10 billion USD to a peak of USD \$37 billion in 2012, with only a modest change up to 2016.

Low-income nations, many of which are undergoing important economic development, are under-spending in national allocations to the health sector and remain highly reliant on international aid. A goal of five to six percent of GDP spent on health is widely regarded as a minimum to provide the health care needed in any country. A 2016 study published in *Lancet* by the

Institute for Health Metrics and Evaluation, indicates that only one of 37 low-income countries, and 36 out of 98 of middle-income countries, are expected to meet the target of five percent. Low rates of national health expenditures in countries will be a serious limiting factor in improved health and universal access, especially if preventive care is unable to compete for resources as compared to clinical and hospital services.

CONCLUSION

All countries face problems of financing, cost constraint, overcoming structural inefficiencies, and funding incentives for high quality and efficiency in health services. National health systems are necessarily complex, but go well beyond medical and hospital care. The quality of the community infrastructure—sewage, water, roads, communication, urban planning—social support such as pensions and welfare for the disabled, widows, orphans and others in need are essential for population health. Attention to the quantity and quality of food (i.e., food and nutritional security), levels of education, and professional organization are all parts of this continuum.

National health systems are not only a matter of adequacy and methods of financing and assuring access to services; they must also address health promotion, national health targets, and adapt to the changing needs of the population, the environment, and with a broad intersectoral approach to health of the population and the individual. The structure, content, and quality of a health system plays a vital role in the social and economic development of a society and its quality of life.

Universal access is increasingly widely accepted as essential to reduce the social inequalities in health. even when income gaps are high. However, vulnerable populations with higher levels of risk than those of the general population are still relatively deprived even under classical universal insurance systems. The key common factors of elevated vulnerability are poverty, isolation by geographic location, physical access by reasons of residency location, ethnicity, education and institutional barriers which reduce access. These inequality factors are the Achilles heel of classical universal health insurance and service systems most of which have sought health promotion measures. There can be little doubt that universal access to health insurance or service systems reduces inequalities, but they require imaginative and outreach-oriented approaches to reach those urban and rural poor, people of aboriginal descent, those with an income lower than the poverty threshold, the unemployed, the homeless, and those who have not completed secondary education.

Societal programs to increase family disposable income for the poor are effective in reducing the health inequities. The two are complementary and equally important in social policy. In the United States more than ten percentages of the population are without any, or have inadequate, health insurance. Loss of health coverage with change of place of employment and the rapidly

increasing cost of private health insurance generated widespread pressure for a national health program. The business community, too, loses confidence in voluntary health insurance as costs of health insurance mounted rapidly and as a cost of employment in an increasingly harms the competitive international business climate.

Narrow planning for health systems ignores this message at the risk of missing their targets of improved health indicators, such as those adopted by the United Nations—i.e., the Millennium Development Goals and Sustainable Development Goals. The MDGs and SDGs represent a growing movement of globalization of health with economic and political dimensions and greater stress on human rights to health policy. They are particularly relevant to LMICs (low- and middle-income countries), but high-income countries have health inequalities that require new approaches based on outreach poverty abatement, and health promotion concepts. MDGs and SDGs presented a challenge to establish common data systems for performance measures to monitor effectiveness of policies and programs. This helps to build capacity for target-oriented health planning in low- and middle-income countries (LMICS). A holistic view of Health for All must take into account the many reasons for health disparities and disadvantage to the poor in health status. Insurance to pay for doctors, hospitals, laboratories and imaging centers is necessary, but not sufficient, to raise population health standards for all. The “nontariff barriers”—i.e., issues beyond payment for services which may be addressed with incentives in payment systems, not only to reduce hospital length-of-stay, but to reduce health-care acquired infections, reaching out to chronically ill people with health promotion measures such as nutritional support, pneumonia and influenza immunization, hypertension control, cancer screening, and many other features of public health promotion.

Since the 1880s, when Bismarck introduced national health insurance in Germany as part of Social Security with funding through Sick Funds, many countries have grappled in unique ways with developing health care systems. National health insurance systems developed through social security and social welfare systems, by national health insurance, or options to provide access to health services. In Canada national health insurance provides universal coverage through national support for provincial health plans, paid for by general taxation, with national criteria. In the United States, President Lyndon Johnson established Social Security-based health insurance for the elderly and the poor through amendments to the Social Security Act of 1935, and President Barack Obama extended health insurance through the Affordable Care Act of 2010. The UK National Health Service—with the Northern Ireland, Scottish and Welsh NHS run semi-independently—was established in 1948, providing a state-run system of medical, hospital, preventive, and community health care. Though not discussed here, Nordic and other European health systems provide universal coverage with involvement

from all three levels of government, but over 80 percent of expenditures are funded through public sources. In Denmark, Norway and Sweden county councils are central to funding and management; in Finland, the municipalities provide most of the health care.

The former socialist countries have gone through painful periods of transition. Many of these countries have developed free-market systems with dynamic growth in national economies along with health system reform. Health systems in transition have adapted with great gains in longevity and reduced mortality from preventable diseases in many former socialist countries in Central and Eastern Europe. Others have had difficulties addressing the “missed epidemiologic transition” from infectious disease to control of non-communicable disease but have begun to make progress in the 21st century.

Globally, public and private donor partnerships have emerged to help the poorest countries cope with overwhelming health problems of raising immunization coverage levels, reducing child and maternal mortality, managing HIV, tuberculosis, malaria, diarrheal and respiratory diseases and vaccine-preventable diseases in keeping with the MDGs based on a consensus of all member nations of the UN. The objectives and specific targets included: reducing poverty, improving equal access of boys and girls to primary education, reducing child and maternal mortality, managing significant diseases such as HIV, tuberculosis, and malaria, along with improving the environment. Reaching the targets for achieving these goals depends on developing infrastructures of health systems that provide access for all and distribution to meet geographic and social inequities in health. Each country needs to develop its own system, but can learn from the experience of others. The purpose of this case study is to highlight the unique and common features, including positive and negative lessons learned from national health systems. Observing and learning can help in defining needs for countries lacking but aspiring to achieve universal health systems, including positive and negative challenges.

Universal access is an important means of assuring that the economic barrier is removed for the total population, leading to increased access to medical and hospital services for those previously lacking the means to reach these services. Universal access systems have been achieved in most industrialized countries. However, the US has not achieved this goal even with, by far, the highest health expenditures of OECD countries. This is due mainly to political gridlock despite success with its single payer system for Medicare for the elderly. For low-income countries, the rates of health expenditures at present and forecast for the coming decades will be insufficient to achieve universal access systems. There must be a fundamental political change in national policies with health as a higher priority for funding and leadership. Universal healthcare access is still a work in progress.

The goal of universal access is a worthy one: to make health care accessible to all. The advent of universal access, however, is not assured given low levels of funding in many countries most in need of improved access but

relying heavily on donors and out-of-pocket payments. The devil is in the details.

RECOMMENDATIONS

1. Universal health insurance (UHI) or national health service systems are essential for advancing population health and should be given high priority in policy and funding by national governments and international aid agencies in middle- and low-income countries in the coming decades.
2. Universal health insurance or service systems cannot be expected to succeed without continuing development of public health and health promotion as equal needs for population health and to achieve SDGs.
3. All countries seeking health development will need to raise public support for financing health systems by raising health expenditures to more than five - six percent of GDP.
4. All countries addressing these issues should endeavor to expand training to include bachelor and master degree training in public health and health systems management in order to raise the professional leadership and management levels to lead in the complexities of health systems in the challenges ahead.
5. Health system development must provide a balance of services from Health Promotion to Hospice care on par with acute and rehabilitation care hospitals as essential, but managed so as to avoid unnecessary economic domination of the health system and potentially damaging health-care infections and trauma.
6. Reaching out to populations-at-risk and in need of preventive care and health promotion by multi-professional and paraprofessional teams—e.g., community health workers, is vital to address chronic care needs and prevent their complications, for remote villages or urban poverty areas, or to groups of people with chronic disease conditions.
7. Health information systems including development and implementation of epidemiology and information technology for monitoring of disease and quality of care require emphasis.
8. Immunization and nutritional support for prevention of infectious diseases, chronic diseases and micronutrient deficiency conditions are crucial for population health and should be given high priority in health system development.
9. Health policy management is vital to achieving universal health coverage to advance population health, but it must be seen as part of Health in All strategies and the SDGs to be effective within financial limitations and cost restraint.
10. Health promotion must be developed in all its aspects to raise population and professional awareness with educational and legal means to reduce risk factors in population health.

STUDENT REVIEW QUESTIONS

1. Describe the major international models of national health systems, including:
 - a. Bismarckian—Social Security employment based compulsory health insurance.
 - b. Beveridge—National Health Service tax-based—UK, Spain, Italy.
 - c. Semashko—Soviet model—state health service plus national health insurance.
 - d. National health insurance—Canadian model of tax-based, universal coverage, provincial administration, with federal standards and cost sharing.
 - e. Mixed public private insurance systems—US Medicare, Medicaid and Affordable Care Act—with majority holding private insurance through place of work.
2. What is the importance of the following measures in comparing national health systems?
 - a. GDP per capita.
 - b. Percent GDP spent on health;
 - c. Hospital bed to population ratio.
 - d. Doctor to population ratio.
3. What statistical monitoring methods may be incorporated into national health systems to promote efficient use of resources and achievement of specified health targets?
4. What methods may be incorporated into national health systems to promote quality of care?
5. How can developing countries achieve universal health care, and at the same time work toward national health targets such as upgrading maternal and child health, control of infectious diseases and preventing chronic diseases?
6. How can low-income countries address the low public expenditure on health to reduce dependence on global financial aid for Sustainable Development Goals (SDGs)?

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