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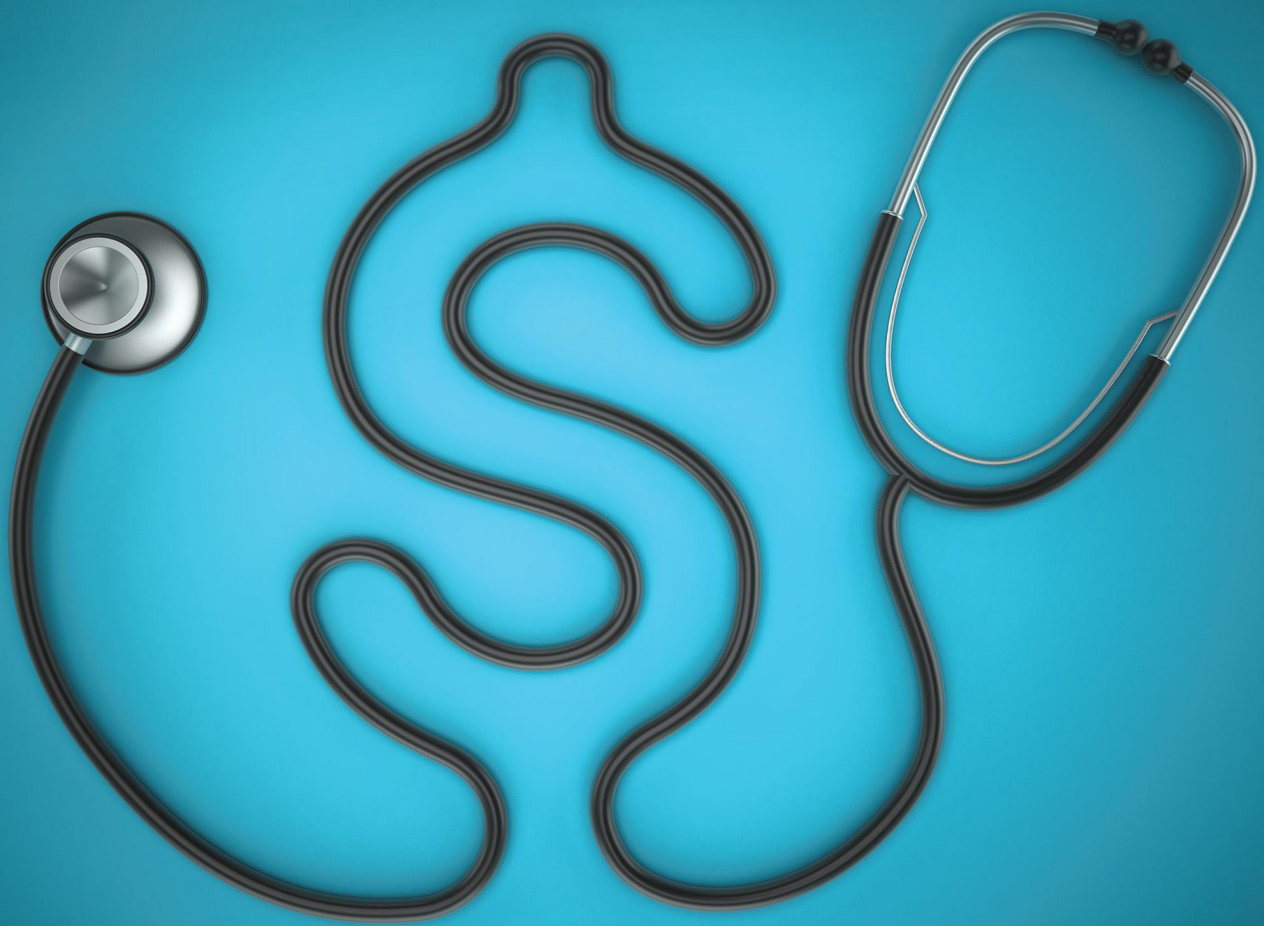
Health Economics and Policy | 8e

James W. Henderson



Health Economics and Policy

8TH EDITION

James W. Henderson

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Health Economics and Policy,
Eighth Edition

James W. Henderson

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Brief Contents

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Preface

On January 20, 2021, Joe Biden took the oath of office and became the 46th president of the United States. President Biden wasted no time in confirming his long-standing commitment to the Affordable Care Act (ACA) by signing the American Rescue Plan Act (ARPA) into law 50 days after taking office. The ARPA extends ACA premium tax credits to cover individuals with incomes exceeding 400 percent of the federal poverty level. In addition, it substantially increases financial incentives to the 12 states that have not yet expanded Medicaid eligibility to all adults who have incomes less than 138 percent of the federal poverty level. These changes, passed with razor-thin majorities in Congress, are temporary and will likely be followed by further legislation enhancing the ACA's grip on the U.S. health care system.

A firm understanding of the impact of health care policy on the costs and consequences of health care delivery and finance is essential for a clear understanding of the impact of these kinds of changes in health care policy. My purpose in writing this text is to provide the reader with the economic background to understand and analyze the national dialogue on health care issues. The text's primary goals are to enable readers to:

- recognize the relevance of economics to health care issues.
- apply economic reasoning to understand the challenges of delivering health care in a cost-effective way.
- understand the mechanisms of health care delivery in the United States within broad social, political, and economic contexts.
- explore the changing nature of health and medical care and its implications for medical practice, medical education and research, and health policy.
- analyze public policy in health and medical care from an economic perspective.

To accomplish these goals, the book's 17 chapters are organized into four parts.

Part One: The Relevance of Economics in Health and Medical Care

The text begins with a basic overview of the health care industry with emphasis on the economic issues that affect medical care delivery and finance. Chapter 1 provides details on the historical development of the U.S. system of health care delivery and payment, emphasizing the current framework. Chapter 2 discusses the basics of U.S. health care spending and a preliminary examination of the health care spending problem. Chapter 3 examines how markets work in general and the similarities and differences in how medical care markets work. Chapter 4 analyzes the imperfections in medical markets and their welfare implications. Chapter 5 introduces the readers to the basic approach of economic evaluation in medical care decision making, and its application to medical care with special emphasis on cost-effectiveness analysis, the preferred technique among most health economists.

Technical appendices, intended for use by more advanced students, appear at the end of Chapters 2–5. Appendix 2A provides an overview of the challenges of comparing medical care spending over time and across different countries. Appendix 3A presents an overview of how economists deal with observational data in their empirical studies. The two appendices at the end of Chapter 4 present the neoclassical models of consumer choice and production. Finally, the appendix to Chapter 5 provides a primer on modeling cost effectiveness to address resource allocation problems in health care.

Part Two: Demand-Side Consideration

Part 2 examines the demand side of the market. Chapter 6 identifies and describes various factors that influence the demands for health and health care. It explores and explains observed patterns in the quality and price of medical care. Chapter 7 discusses the basic dimensions of population health and the risk factors leading the differences in health outcomes across demographic groups.

Part Three: Supply-Side Consideration

Part 3 addresses the supply side of the health care market. Chapter 8 assesses the market for health insurance, comparing the private and social insurance models. Chapter 9 evaluates the efficiency of alternative health care delivery systems in containing medical care costs. It also describes an increasingly popular coverage option, the consumer-directed health plan that combines a high-deductible health insurance policy accompanied by a health savings account to cover out-of-pocket expenses. Chapter 10 describes the market for health care practitioners and the effect of recent changes in the health care sector on their behavior. Brief discussions of the markets for nurses and for dentists are also included. Chapter 11 summarizes major theories of hospital behavior and describes the role of not-for-profit hospitals in the U.S. health care industry. The U.S. pharmaceutical industry and the challenges facing drug and device innovators and their target markets are the focus of Chapter 12.

Part Four: Public Policy in Medical Care Delivery

The text's final chapters squarely address health policy and its economic implications. Chapter 13 formally introduces Medicare and examines its economic impact on medical care delivery. The appendix to that chapter addresses the implications of an aging population. Chapter 14 examines the other major health care entitlement program, Medicaid. The appendix to Chapter 14 provides a brief discussion of the challenges of making projections with economic data. Chapter 15 summarizes important characteristics of medical care delivery systems in the three major health care delivery models—national health insurance, single payer, and consumer directed (market oriented). Chapter 16 summarizes major features of the ACA, describes the health policy options available to policymakers, and closes with ways to make the current U.S. system work more effectively. Finally, Chapter 17 restates the major lessons we can learn from the economic approach to public policy.

Pedagogical Features

This text's ultimate focus is on public policy. The technical tools of economics are important, but they are not ends to themselves. Instead, the approach uses theory as a way of preparing students to address policy questions.

Each chapter begins with a brief policy issue related to the chapter's focus. Also included are additional boxed discussions called "Issues in Medical Care Delivery." They summarize important studies in medical research, epidemiology, public health, and other fields as they relate to the economics of health care delivery. Another feature found at the conclusion of most chapters is a "Profile" of an individual who has made a significant contribution to the field of health economics. Many profiled individuals are economists; some are physicians; all have had a profound impact on how we view health, health economics, and health policy.

The "Back of the Envelope" features show the economic way of thinking, using graphs. These and similar graphical presentations are frequently used by economists in informal

settings. They might represent scribbles on the back of an old envelope used to make a point during lunch with colleagues. Topics include the following: the valuation of a life, how to calculate a rate of return, the notion of elasticity, the impact of employer mandates, cost-benefit calculations, and the cost-effectiveness of disease prevention, among many others. Developing the ability to use models in this way is an important goal of this book.

Chapter 1 introduces 10 key economic concepts that serve as unifying themes throughout the book. As you read, you will notice definitions of key words and phrases in the margins.

New in the Eighth Edition

The eighth edition is presented in e-book format, a significant change from previous editions. As such, you may use either a computer, mobile device, or e-book reader to display the text in book form. You will have access to multiple digital pages that you may navigate easily. The entire book is immediately accessible with imbedded links to other resources in the e-book file.

The most notable change to the eighth edition is the complete reorganization and expanded content in Part 1. The material is now presented in five chapters instead of four. Chapter 4, "Welfare Implications in Medical Markets," provides detail that was scattered across the book examining the social cost of government action and impediments to competition. There is an expanded look at ACA and how it has changed the current approach to medical care delivery and finance.

Three new appendices have been added. The appendix to Chapter 2 examines the use of price indices to adjust nominal medical spending for inflation. The discussion on causal inference is expanded into an appendix to Chapter 3 and addresses one of the major challenges in using observational data in social science and medical research, and how to interpret empirical results. It is important to know the difference between causation and correlation when reading empirical research. Most chapters have at least one boxed feature entitles Applied Micro Methods. This extended abstract summarizes a paper that uses one of the identification strategies popular in the literature: propensity score matching, synthetic control, difference-in-differences, instrumental variables, and regression discontinuity. Finally, Chapter 5 on economic evaluation is divided into two parts: the basic theory of economic evaluation is in the main chapter and the empirical approach to performing an evaluation is provided in an appendix.

The chapters in Part 4 have been reorganized to focus on the policy environment as it exists under the ACA and the changes that can be expected under new federal leadership. Medicare reform and Medicaid expansion are fully discussed. The health systems discussion in Chapter 15 is reorganized to focus on the three primary alternatives that U.S. policymakers may consider as blueprints for reform: national health insurance, single payer, and consumer oriented.

The biggest challenge is always Chapter 16, reform alternatives. The discussion of policy options provided by the rest of the developed world discussed in Chapter 15 paves the way to examine the accomplishments and shortcomings of the current system and focus on the incremental approach to reform. By the time you read this chapter, there will likely be additional changes. At some risk, I include my recommendations on the incremental changes that I believe would improve system efficiency and expand insurance coverage. As you read the book, develop your own list of recommendations. When it is all over, we can compare notes.

Level

Health Economics and Policy is written with the non-economics major in mind but contains enough economic content to challenge economics majors. My undergraduate class at Baylor University is composed of both economics majors and premedical students, many of whom have little or no economics background. There are usually a few other business majors, many of whom are interested in studying health care administration in the future. I have used this text in a required graduate course for MBA students who are concentrating in health care administration and in my executive MBA class on public policy in health care. All these students are good thinkers and most have done well despite having had no previous economics coursework.

The text is appropriate for an introductory health economics course offered in an economics department, in a health care administration graduate program, or in a school of public health, college of medicine, or school of nursing or pharmacy.

Supplements

Supplements, including PowerPoints, an Instructor Manual, and a Cognero Test Bank can be found at www.cengage.com.

Acknowledgments

As the sole author of this book, I take full responsibility for its contents. Nevertheless, a single individual could not complete a project of this magnitude. I owe a great deal to my Baylor University colleagues who have sharpened my focus and challenged my inconsistencies. Their comments and suggestions have been important to me, and the book is better because of their efforts. I have also had many capable research assistants over the years who have supported my efforts. Thanks to all of them.

I am grateful to the hundreds of Baylor University students who used this book in its first seven editions or in manuscript form. Their comments have proven invaluable in developing an integrated framework for discussing health care issues.

Of course, I could never have completed the project without the support of my wife and family. Thank you, Betsy, for your support and understanding over the past 25 years since the publication of the first edition. As my extended family grows, it does not get easier. I dedicate my efforts to my three grandchildren, Lottie, Luke, Jr., and Libby. They have increased my enthusiasm in championing the importance of economics in thinking about and evaluating health care policy. I pray that my efforts will ultimately have an impact.

James W. Henderson

CHAPTER 1

U.S. Medical Care: A System at the Crossroads

ISSUES IN MEDICAL CARE DELIVERY

THE PATIENT PROTECTION AND AFFORDABLE CARE ACT OF 2010

If you are like many who follow the health care reform debate, you grow weary of the rhetoric and find yourself disillusioned by the acrimony it produces. Passed without a single Republican vote, President Barack Obama signed the Patient Protection and Affordable Care Act (ACA) into law on March 23, 2010. Despite predictions that support for the plan would increase as Americans became familiar with its details, the number favoring the bill steadily declined throughout the year. By the November 2010 midterm elections, tracking polls indicated that nearly 60 percent of voters opposed the measure and actually favored its repeal (Rasmussen, 2010). By 2020, the ACA's popularity had not improved substantially—40 percent considered its complete repeal a good thing for most Americans, whereas 41 percent thought it would be bad (Rasmussen, 2020).[1]

The negative public perception is quite puzzling because the act actually addresses many of the concerns of Americans—covering the uninsured, subsidizing the purchase of insurance to make it more affordable, and allowing those with preexisting conditions to purchase insurance at standard premiums. Nevertheless, the plan also has its unintended consequences. The new insurance pooling requirements resulted in significantly higher premiums for the young and healthy in an effort to subsidize the elderly and those with preexisting conditions. Even with the addition of 20 million newly insured, over 30 million remained uninsured.

In the aftermath of the 2020 election, single-payer sentiment is still strong among progressives in Congress. However, the success of the ACA remains a high priority for the new president and he is unlikely to support policy to replace it. Instead, look for the administration to advocate the addition of a **public option**. Regardless, single-payer advocates are unlikely to give up on their desire for a government-run plan for all Americans, and market advocates will remain opposed to more government intrusion. With all the **uncertainty**, one thing is certain; we do not have the option of doing nothing. The debate is heating up. There is still plenty of work to do.

public option A public health insurance plan comparable to Medicaid, designed to compete with private insurance.

uncertainty A state in which multiple outcomes are possible but the likelihood of any one outcome is not known.

[1]This negativity toward the ACA may be the result of the increased popularity of the single-payer approach. Sentiment in favor of a government-run single payer reached 45 percent in March 2020 (up from 36 percent in the summer of 2019) with 41 percent opposed.

Public concern over the future of health care has not changed with the passage of health care reform legislation. Americans still worry about three broad issues: quality, access, and affordability. Limited access for the uninsured[2] and the uncertainty of continued access for those with insurance are key considerations as policymakers deliberate reform options. High and rising spending (with the associated increases in **premiums**) continues to challenge employers' ability to offer **group insurance** to their employees and focuses attention on the growing burden of the two major government health care programs—**Medicare** and **Medicaid**. An additional concern is whether the spending increases associated with expanded access will have a negative effect on the quality of care.

premium A periodic payment required to purchase an insurance policy.

group insurance A plan whereby an entire group receives insurance under a single policy. The insurance is actually issued to the plan holder, usually an employer or association.

medicare Health insurance for the elderly provided under an amendment to the Social Security Act.

medicaid Health insurance for the poor financed jointly by the federal government and the states.

This chapter will first examine the historical development of the medical care delivery system in the United States: the major changes in medical care delivery and the mechanism we use to finance it. We will then examine the current framework established by the ACA, evaluate the progress made thus far in achieving its goals, and finally examine the unintended consequences of its implementation.

Historical Developments in Medical Care Delivery and Payment[3]

Three important factors served to make the modern medical care delivery system what it is today: the germ theory of disease, expanded use of medical technology, and increased urbanization. Over the course of the past century, patient expectations changed dramatically—no longer do they seek a caring environment; they have come to expect a cure.

The development of the germ theory of disease, first articulated by Louis Pasteur in 1870, revolutionized the treatment of patients. Providers saw diseases as having specific causes rather than merely being effects of disequilibria or the result of moral turpitude. The search for causal factors required more elaborate testing and diagnostic services. Centralized medical care, bringing the patient to the practitioner, became a necessity.

New hospital technology, especially advances in surgical and diagnostic imaging, provided physicians with the tools that would revolutionize medical intervention. Surgeons first used anesthesia in 1846. However, it was not until the adoption of antiseptic procedures, beginning in 1867, that the high rates of death from infection following surgery began to fall. The introduction of X-ray technology in the late 1800s and, more recently, the development of more advanced imaging tools—such as computed tomography (CT) scans and magnetic resonance imaging (MRI)—have vastly improved the ability to diagnose injury and illness.

flexner report A 1910 report published as part of a critical review of medical education in the United States. The response of the medical establishment led to significant changes in the accreditation procedures of medical schools and an improvement in the quality of medical care.

A third factor, urbanization, also played an important role in the centralization of medical facilities. Migration to the urban centers meant more one-person households and fewer extended-family living arrangements. People could no longer count on treatment at home. Home was an apartment building or boarding house and likely inappropriate for convalescence. Without family nearby, patients had no one to serve as caregiver anyway.

Emergence of the Modern Medical Care System

The modern medical care system began to emerge in the twentieth century. Early in the century, the distinguished **Flexner Report** (1910) served as a pointed condemnation of

[2]The Emergency Medical Treatment and Active Labor Act (EMTALA) passed in 1985 made it illegal for hospital emergency departments to deny care to anyone requesting care. Turning away patients because of lack of health insurance is not an option.

[3]Two important pieces of research, the history of medicine by Starr (1983) and the insightful paper written by Burns and Pauly (2018), on the transformation of the U.S. health care system inspired the reorganization of this section.

medical education. In its wake, bogus medical schools closed, standards became more stringent, and the profession formulated the goal of "scientific medicine," leading to medical schools affiliating with hospitals and ultimately creating the teaching hospital.

The reforms continued throughout the 1920s, aimed at driving incompetent physicians out of the profession. Physician licensing became more structured, and hospital admission privileges were restricted to members of certain medical societies. The decade also saw the role of a nurse change dramatically. Prior to the 1928 reforms in nursing education, poorly trained volunteers or nurses in training did most of the in-hospital nursing. Trained nurses established community practices that directly competed with hospitals. After the reforms, nurses no longer competed with the hospitals; they became employees.

The reliance on patient fees caused severe financial problems for hospitals during the Great Depression. The introduction of private health insurance during the decade of the 1930s would later transform medical care financing. Developed by Baylor University Hospital in Dallas, Texas, and modeled after a prepaid hospital plan for Dallas schoolteachers, the American Hospital Association (AHA) established the first Blue Cross plan—and soon had a virtual monopoly in hospital insurance. The decade also saw a revolution in the pharmaceutical industry. The most important advance was the development of sulfa drugs and penicillin. For the first time, physicians had the power to cure diseases that resulted from infection.

Wartime demands resulted in a sharp increase in the number of physicians and nurses in the 1940s. World War II provided a unique opportunity to improve skills and develop new techniques. The federal government became actively involved in providing hospital care. The passage of the Hill-Burton Act of 1946 dedicated the government to replacing an aging hospital infrastructure that had deteriorated during the Depression and war. With priority given to hospital construction in rural and poor parts of the country, Hill-Burton served to create a climate in the hospital sector that made uncompensated care an expected element of the overall health care financing mechanism.

Precluded from offering higher wages because of rigid price controls, competition for workers forced companies to compete for workers by offering better benefit packages that included group health insurance. A ruling by the National Labor Relations Board in 1948 made health insurance a permanent feature in labor negotiations by ruling that it was subject to **collective bargaining**. Tax-deductible for the employer and tax-exempt for the employee, group health plans now cover over one-half of all workers with private health insurance.

collective bargaining The negotiation process whereby representatives of employers and employees agree upon the terms of a labor contract, including wages and benefits.

Vaccines against polio and rubella discovered in the 1950s marked the true beginning of high-technology medicine. These developments, combined with the widespread use of antibiotics, helped change the image of medicine. Physicians were no longer practitioners with limited knowledge able only to ease suffering. Patients began to expect that a visit to the doctor's office would result in a cure. The anticipated number of doctor and hospital visits during a person's lifetime increased significantly, along with the concern over how to pay for them. The result was an increased demand for private health insurance.

In 1964, Congress passed legislation creating Medicare and Medicaid, making the federal government a major purchaser of health care services. Physicians' earnings rose rapidly. They no longer had to worry about whether the elderly and the indigent would have money to pay their bills. Today, over half of provider income originates from government sources.

The decade also witnessed the beginnings of the investor-owned, for-profit hospital system. Prior to that time, for-profit hospitals were small, rare, and established to benefit clearly defined patient groups. Until the creation of Medicare and Medicaid, the general

population with large numbers of elderly and uninsured was not a dependable source of revenue. Thus, Medicare and Medicaid, serving as a stable funding source, actually facilitated the development of the for-profit hospital sector.

Rapid advancement in medical technology and the subsequent cost-containment strategies that emphasized regulation and planning characterized the 1970s. The federal government became a major force in biomedical research and development with the expansion of the National Institutes of Health. Technological advances included open-heart surgery, organ transplantation, and various types of imaging. The 1970s witnessed the expansion of hospitals and clinics, medical school admissions, and foreign-educated doctors. The total number of surgical procedures increased from 14.8 million in 1972 to 51.4 million in 2010. While it all seemed justifiable, nevertheless, this emphasis on advanced technologies and the expansion of procedures most lucrative to providers under the existing payment system increased substantially.

The intensity of medical interventions also increased. Intensive care units (ICUs) became widely used. Trauma centers emerged in most areas. Although the trauma center is one of those expenses that may be worth the cost, the ICU in contrast has created a painful dilemma. Originally designed for temporary use following shock or surgery, its function has been extended to the terminally ill and the declining elderly—patients with little likelihood of recovery.

gross domestic product (GDP) The monetary value of the goods and services produced in a country during a given time period, usually a year.

All the developments of the decade shared one thing: They were expensive. Table 1.1 summarizes medical care spending in the United States over the post–World War II period. The four summary measures provide evidence that medical care spending is high and growing. During the decade of the 1950s, total spending increased at a rate of 7.9 percent per year. Total spending at the beginning of the decade was $12.7 billion, doubling by its end. Medical care spending as a percent of **gross domestic product** (GDP) increased from 4.5 to 5.0 percent, and per capita medical care spending increased from $82 in 1950 to $146 ten years later.

TABLE 1.1 U. S. HEALTH CARE SPENDING SUMMARY MEASURES, VARIOUS YEARS

Year	Total spending (in billions)	Percent change[1]	Percent of GDP	Per capita spending
1950	$ 12.7	–	4.5	$ 82
1960	27.2	7.9	5.0	146
1970	74.6	10.0	6.9	355
1980	255.3	13.1	8.9	1,108
1990	721.4	11.0	12.1	2,843
2000	1,369.2	6.6	13.4	4,855
2010	2,593.2	6.6	17.3	8,394
2015	3,199.6	4.3	17.6	9,995
2020[2]	4,014.2	4.6	18.0	12,118
2025[2]	5,247.4	5.5	19.0	15,266

Source: Centers for Medicare and Medicaid Services (CMS) website, https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical (Accessed April 17, 2020).
[1]Annual rate of change from the previous year listed.
[2]https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsProjected (Accessed April 17, 2020).

cost shifting The practice of charging higher prices to one group of patients, usually those with health insurance, in order to provide free care to the uninsured or discounted care to those served by Medicare and Medicaid.

certificate-of-need (CON) Regulations that attempt to avoid the costly duplication of services in the hospital industry. Providers are required to secure a certificate of need before undertaking a major expansion of facilities or services.

Employee Retirement Income Security Act (ERISA) Federal legislation passed in 1974 that sets minimum standards on employee benefit plans, such as pension, health insurance, and disability. The statute protects the interests of employees in matters concerning eligibility for benefits. The law also protects employers from certain state regulations. For example, states are not allowed to regulate self-insured plans and cannot mandate that employers provide health insurance to their employees.

entitlement programs Government assistance programs where eligibility is determined by a specified criteria, such as age, health status, and level of income. These programs include Social Security, Medicare, Medicaid, Temporary Assistance for Needy Families (TANF), and many more.

The 1960s was the first of three decades characterized by rapid growth in medical care spending. The annual compound rate of growth was 11.6 percent between 1960 and 1990. At the beginning of that 30-year period, medical care spending was $27.2 billion, 5.0 percent of GDP, and $146 per capita. By 1990, it stood at $721.4 billion, 12.1 percent of GDP, and $2,843 per capita. The primary factors contributing to growth in spending during this period include the expansion of federal government involvement in the payment for medical care services for specific groups—Medicare for the elderly and Medicaid for the indigent—and **cost shifting** by providers to subsidize care for those without insurance.

Federal legislation, specifically the National Health Planning Act of 1974, created a network of government planning agencies to control medical care costs. In addition, states passed **certificate-of-need** (CON) laws to limit the growth in hospital investment in capital improvements and technology. Even a brief national experiment with wage and price controls during the Nixon presidency did little to curb the growth in medical care costs and spending.

Possibly the most significant piece of legislation affecting health care was not viewed as particularly significant at the time. Passed to regulate the corporate use of pension funds, the **Employee Retirement Income Security Act** (ERISA) of 1974 exempted self-insured health plans from state-level health insurance regulations. The passage of ERISA provided an incentive for employers to switch to self-insurance. Today, companies that self-insure employ more than two-thirds of all workers in group health insurance plans.

The 1980s ushered in a change in direction in health care policy, resulting in a shift away from regulation and planning and toward a greater reliance on market forces. A president who wanted to lower taxes and a Congress that refused to cut spending characterized the era. Federal budget deficits grew dramatically. By the end of the decade, those areas of the budget in which spending was mandated—the **entitlement programs** including Medicare and Medicaid—grew seemingly without limit and came under intense pressure to reduce their rate of growth. During this period, the introduction of alternative payment schemes and delivery systems was significant. **Prospective payment**, **capitation**, the use of **diagnosis-related groups** (DRGs) to pay hospitals, and the introduction of a **relative-value scale** (RVS) to pay physicians are all examples of these changes. Health maintenance organizations, preferred provider organizations, and other systems of managed care became more common.

By 1982, health care expenditures exceeded 10 percent of GDP for the first time. To slow the rate of growth in federal expenditures, Medicare initiated a new hospital reimbursement scheme on the basis of the principal diagnosis rather than services performed. Implemented in 1983, DRGs have had profound effects on the hospital industry, moving a large percentage of the financing from **retrospective** to **prospective payment**.

Recent Changes in Medical Care Delivery

The **managed care** approach became the prevailing form of insurance in the U.S. market during the decade of the 1990s. By 1999, employer-based group insurance covered 9 out of 10 employees in a managed care plan (a health maintenance organization, a preferred provider organization, or a point-of-service plan). The rest were still in traditional **indemnity insurance** plans. The increased popularity of managed care changed the incentive structure within the industry, forcing providers to consider costs more carefully.

Primarily a private-sector initiative, managed care no longer viewed hospitals as the revenue generators they once were; instead, they became cost centers. **Horizontal integration**, characterized by hospital mergers and consolidations, transformed a highly fragmented industry with many independent, stand-alone facilities into one characterized

by multihospital systems. An industry characterized by underutilization and overstaffing experienced a move toward integrated delivery networks. Downsizing in the name of efficiency had many concerned about the quality of care and the provision of care to the indigent population.

A system dominated by solo practitioners witnessed a shift to group practice that began in the 1990s. Entering the decade almost 70 percent of all physicians owned their own practice, and by 1994, that percentage had slipped to just over 57. In 2018, less than 20 percent of physicians identified as solo practitioners, while over 40 percent were in group practices of more than 10 physicians. Today, only about one-third are owners, partners, or associates in their practices and hospitals, or hospital-owned practices employ almost one-half of all practicing physicians (The Physician Foundation, 2018).

CHANGES IN MEDICAL CARE DELIVERY

1990s	2010s
Independent hospitals	Clinically integrated systems
Solo practitioners	Group/hospital-based practice
Any willing provider	Provider networks
Integrated delivery networks	Accountable care organizations
Individual health	Population health
Private initiative	Public initiative

More recent merger activity is best classified as **vertical integration**, characterized by clinically integrated systems where a patient may access the entire spectrum of care where primary care clinics provide the gateway into specialty care, hospital care (both outpatient and inpatient), rehabilitation, home care, and even hospice. In many cases, the system's health plan provides insurance coverage to some or all of its patients to receive care within this well-defined network of providers. The best example of this type of system is Kaiser Permanente. Originating on the West Coast, Kaiser operates 39 hospitals with more than 700 medical offices, employing over 23,000 physicians and covering over 12 million members.

Medical care delivery has become more coordinated as systems define and narrow their provider networks. Systems are spending billions of dollars to ensure that all affiliated providers have ready access to patient records electronically. Implementation of the ACA encourages the consolidation of services within the framework now called accountable care.

One additional change has the potential to reshape the entire delivery mechanism to its core. For decades, providers have focused on improving the health status of individual patients with the delivery of care targeting a single person. In the past decade, discussion has shifted from the individual to the population, from individual health to population health. This focus on entire population segments has the potential to change the way we think about medical care delivery. No longer are improvements in health focused solely on a single patient's quality of life. We now target access and health improvements to subgroups within the population.

Recent Changes in the Payment Structure

The 1990s saw a moderation in the growth in spending. Most experts attribute at least part of the slowdown to the expansion of managed care. The annual percentage increase in nominal spending fell from double-digit levels in the 1980s to around half that level by the

prospective payment Payment determined prior to the provision of services. A feature of many managed care organizations that base payment on capitation.

capitation A payment method providing a fixed, per capita payment to providers for a specified medical benefits package. Providers are required to treat a well-defined population for a fixed sum of money, paid in advance, without regard to the number or nature of the services provided to each person.

diagnosis-related group A patient classification scheme based on certain demographic, diagnostic, and therapeutic characteristics developed by Medicare and used to compensate hospitals.

relative-value scale An index that assigns weights to various medical services used to determine the relative fees assigned to them.

retrospective payment Payment determined after delivery of the good or service. Traditional fee-for-service medicine determines payment retrospectively.

prospective payment Payment determined prior to the provision of services. A feature of many managed care organizations that base payment on capitation.

managed care A delivery system that originally integrated the financing and provision of medical care in one organization. Now the term encompasses different arrangements designed to coordinate services and control costs.

indemnity insurance Insurance based on the principle that someone suffering an economic loss receives a payment approximately equal to the size of the loss.

horizontal integration The merger of two or more firms that produce the same good or service.

vertical integration Expansion to secure elements of the supply chain to ensure availability of resources to produce a product or service. Examples might include the acquisition of a primary care clinic by a hospital.

portability The ability to easily transfer insurance coverage from one plan to another as a covered employee changes jobs.

mid-1990s (see Table 1.1). The expansion of medical care spending as a percentage of GDP remained between 13.0 and 14.0 percent until 2001, when it nudged above 14 percent for the first time.

Spending growth actually slowed from over 9 percent in 2002 to less than 4.3 percent in 2015. A Kaiser Family Foundation (2013) study attributed 77 percent of that decline to the overall slowdown in the economy resulting from the 2007–2009 recession. However, that does not explain the experience prior to the recession. Cutler and Sahni (2013) provide an alternative explanation in a study where they estimated that only 37 percent of the overall decline was due to the recession and 8 percent was due to the decline in private insurance coverage. Ryu et al. (2013) attribute 20 percent of the decline to changes in benefit design leading to increased cost sharing and more cost-conscious decision making for the insured. Other factors, such as the slower adoption of new technology and improvements in provider efficiency, contributed to the results. Continuation of these trends (all predating the full implementation of the ACA) could have a major impact on the economy in the next decade.

While many of the changes in the 1990s were private-sector initiatives, the federal government began taking more of an activist role in health care policy. Even though an attempt to restructure the health care system failed in 1994, Congress enacted important legislation that proponents expected would improve access to care. At the federal level, the Health Insurance Portability and Accountability Act (HIPAA) of 1996 provided insurance **portability** to individuals with employer-sponsored insurance. In 1997, Congress passed the Children's Health Insurance Program (CHIP), the largest expansion of a federal medical program since its original enactment. Moreover, in late 2006, Congress expanded the coverage for outpatient prescription drugs within the Medicare program.

Conventional indemnity insurance plans still dominated the market in the 1980s. Gradually, managed care became more prevalent. By the mid-1990s, less than one-half of all employer-sponsored plans were indemnity plans, and by the end of the decade, the prevalence of this conventional form fell below 10 percent.

CHANGES IN THE PAYMENT STRUCTURE

1990s	2010s
Out-of-pocket payment	Third-party insurance
Fee-for-service (FFS)	Alternative payment model (APM)
Volume-based	Value-based
Retrospective payment	Prospective payment
Indemnity payment	Risk sharing
Private-sector initiative	Public-sector initiative

Shift from Out-of-Pocket to Third-Party Payment Table 1.2 provides details of sources of payment for medical care over the past 75 years. Throughout the 1960s, individuals paid for the majority of their medical care out of pocket. Increased insurance coverage, both private and public, displaced out-of-pocket spending as the primary source of payment. By 2015, that total had fallen to 10.5 percent. With the increased importance of third-party payers such as government and private insurers, the insured patient has relatively little out-of-pocket spending at the point of purchase.

TABLE 1.2 FINANCING OF HEALTH CARE EXPENDITURES, VARIOUS YEARS (IN BILLIONS OF DOLLARS AND PERCENTAGE OF TOTAL PERSONAL SPENDING)

	1960		1970		1980		1990		2000		2010		2015		2020*		2025*	
	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%
Out-of-Pocket	12.9	52.2	25.0	37.3	58.1	24.7	137.9	20.5	198.9	15.5	299.8	12.2	341.7	11.2	405.1	10.6	497.5	10.0
Private Insurance	5.8	23.5	15.5	23.0	69.2	29.4	233.9	34.7	458.0	35.6	864.3	35.2	1,060.9	34.8	1,356.9	35.5	1,713.8	34.3
Medicare	–	–	7.7	11.5	37.4	15.9	110.2	16.3	224.8	17.5	519.8	21.1	648.8	21.3	858.5	22.5	1,250.5	25.0
Medicaid	–	–	5.3	7.9	26.0	11.0	73.7	10.9	200.4	15.6	397.4	16.2	542.6	17.8	649.0	17.0	852.6	17.1
Other Programs[1]	1.7	6.9	3.3	4.9	9.7	4.1	21.4	3.2	35.8	2.8	95.6	3.9	121.1	4.0	155.7	4.1	201.5	4.0
Other Third Party and Public Health[2]	4.3	17.4	10.3	15.4	35.0	14.9	97.1	14.4	168.0	13.0	279.1	11.4	330.4	10.7	398.3	10.4	731.5	14.6
Health Care Consumption	24.7	100.0	67.0	100.0	235.5	100.0	674.1	100.0	1,285.9	100.0	2,450.5	100.0	3,045.5	100.0	3,823.6	100.0	4,999.5	100.0
Investment[3]	2.5		7.5		19.9		47.3		83.3		142.7		154.1		190.7		247.9	
Total Health Care Spending	27.2		74.6		255.3		721.4		1,369.2		2,593.2		3,199.6		4,014.2		5,247.4	

Source: CMS website, https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical (Accessed April 17, 2020).
* Projected.
[1]Children's Health Insurance, Department of Defense, and Veterans' Affairs.
[2]Worksite health care, other private revenues, Indian Health Service, Workers' Compensation, general assistance, maternal and child health, vocational rehabilitation, public health activities, and other federal programs.
[3]Research, structures, and equipment.