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Health Economics and Policy | 8e

James W. Henderson

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8TH EDITION

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Health Economics and Policy,
Eighth Edition

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Cover Image Source: adventtr/Getty Images

Library of Congress Control Number: 2021911784

ISBN: 978-0-357-13286-9

Cengage
200 Pier 4 Boulevard
Boston, MA 02210
USA

Printed in the United States of America
Print Number: 01 Print Year: 2022

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.

Private insurance paid a little more than 25 percent of the total cost of medical care in 1965, with that share rising to about one-third by 1990, where it has remained since that time. Payment by third parties provides little incentive to control spending on the part of either the provider or the patient. As long as insurance companies are willing to pay the bills, physicians will continue to provide all the care that their patients request. Fully insured patients have no incentive to limit their utilization. Even when the expected benefit of a procedure is small, in most cases patients will demand it, because the patient's share of the cost is small.

It should come as no surprise that the cost of services covered by insurance—public and private—has risen at a faster rate than the cost of services that are not covered. Why? When consumers purchase goods and services at discount prices, they tend to buy more than when charged the full price. What other reasonable explanation would explain the crowds that flock to clearance sales and the enthusiastic consumer acceptance of outlet malls? Health economists refer to this phenomenon as **moral hazard**. Between 1970 and 2006, hospital spending for services usually covered by insurance increased 20 times, whereas spending on eyeglasses—something typically not covered by insurance—increased only 10 times. Insulating patients from the full cost of medical care has had the effect of desensitizing patients to the prices charged and at the same time has encouraged greater utilization.

moral hazard Insurance coverage increases both the likelihood of making a claim and the actual size of the claim. Insurance reduces the net out-of-pocket price of medical services and thus increases the quantity demanded.

Shift from Retrospective to Prospective Payment Cost-plus was the standard approach for hospital pricing from the inception of Medicare until 1983, when pricing shifted to prospective payment on the basis of the diagnosis rather than services provided. DRG pricing sets the payment in advance on the basis of the principal diagnosis at the time of hospital admission. In contrast, private insurance pays hospitals negotiated prices that represent significant discounts from billed charges. As a result, the financial risk of treating patients has shifted from the payer to the provider, creating an incentive for providers to limit access to care. Many providers participate in provider networks that offer discounts to group members.

Shift from Private to Public Insurance Quite possibly, the single most important change affecting medical care delivery has been the shift from private- to public-sector financing. The private sector was responsible for $3 of every $4 spent in the industry in 1960. The government's role in financing was modest, standing at less than 25 cents out of every medical care dollar. The introduction of Medicare and Medicaid in the mid-1960s resulted in an increase in the government's share of spending to almost 40 percent within 10 years. Since then, the government's total share has risen to about half of total spending, while the federal share has more than tripled, from 10 percent in 1960 to approximately 40 percent. This translates into a federal budgetary obligation that has grown from $2.9 billion to over $1 trillion in five decades.

alternative payment models Payments based on criteria other than fee-for-service, including capitation, bundled payment, and pay for performance.

bundled payment Single payment for all services and procedures associated with an episode of care. One of the commonly suggested alternatives to fee-for-service payment.

Recent Developments in System Design

Even with the introduction of prospective payment, health care payments are still based on some form of traditional FFS and its volume-based reward structure. Every procedure, every item has its price, and the more services provided, the higher the total spending. Many policymakers argue for the expanded use of **alternative payment models** (APMs) to improve the quality of care and reduce spending. **Bundled payment** and **capitation** are two examples of the APM. Both are attempts to shift the financial risk back on to providers and are not very popular among providers. However, APMs still represent only a small fraction of total payments.

accountable care organization (ACO) An integrated care network of physicians, clinics, hospitals, and other health care providers who coordinate to provide comprehensive medical care to a well-defined population of patients.

Policy Dimensions The ACA advocated the fully integrated delivery system as the answer for improving health care quality and reducing spending at the same time. Newly christened as the **accountable care organization** (ACO), the delivery approach looks a lot like the integrated delivery network popular in the 1990s as managed care became the primary mode of delivery in that decade. Whether we call it case management, the patient-centered medical home, or the ACO, the goal is greater coordination of care to a well-defined patient population at a capitated rate. Successful implementation will require large vertically integrated service networks, sharing patient information across the network using electronic medical records (EMRs), and accepting more financial risk.

Conceptual Approach Regardless of the way a system is organized, there are three primary goals for health care delivery. They include providing access to high-quality health care at affordable prices: access, quality, and cost. During the 1990s, the predominant thought (dominated by the economics perspective) viewed these three goals in terms of harsh trade-offs between access and quality on the one hand and cost on the other, referred to as the "iron triangle." Over time, a growing number of policymakers (influenced by the public health perspective) grew frustrated with the inability to accomplish the three goals simultaneously. In contrast to the popular opinion that dominated public policy at the time, they adopted a new paradigm thinking all three goals could be reached simultaneously, and calling it the "triple aim."

Iron Triangle. William Kissick (1994) viewed the three elements that direct all health policy as competing. The reality of opportunity cost will force policymakers to make painful decisions on how to allocate scarce resources. Expanding access to care, improving the quality of the care provided is expensive. No health care system has the abundance of resources required to provide all the medical care that society could consume. The three goals are interdependent, competing for scarce resources with the rest of the economy to provide basic health, housing, food, security, and every other goal considered worthy (and many that are not).

We can think of access in terms of two domains: general and specific. General access is the ability of providers to meet the demand for services for society as a whole. An unexpected pandemic results in service demand outstripping the ability of providers to supply the necessary resources to meet the care needs of those afflicted. The inability to provide therapeutics to treat the illness or a vaccine to provide immunity affects everyone. Specific access refers to the ability of providers to deliver services to limited segments of the population, such as those in remote locations or the uninsured. Waiting lists for the limited supply of donatable kidneys for transplant affect a specific population suffering from end-stage renal failure. Policymakers can measure access issues in view of the overall mortality from diseases amenable to medical care (Nolte and McKee, 2012).

Consider quality of care in the context of ability of a health care system delivering the kind of medical care that people prefer. The Institute of Medicine (IoM, 2000) offered six aims that should be the focus of a high-quality health care system: safe, effective, patient-centered, timely, efficient, and equitable. While difficult to measure, the IoM concluded that improvements in quality would lead to decreases in medical errors.

Controlling medical care spending begins by understanding medical care costs. Cost control depends on the ability to control the major elements of costs: resource prices, resource productivity, and utilization of services. We derive the cost-control identity as follows. In the standard production process, output (Q) is a function of the resources used (R)

$$Q = Q(R) \tag{1}$$

Production of Q using the most efficient combination of R results in total cost (C) equal to

$$C = P_R R \tag{2}$$

where P_R is the price of the inputs R, used to produce Q. With a bit of algebraic manipulation, first multiply the right-hand side of equation (2) by 1 ($= Q/Q$) to get

$$C = P_R \times \frac{Q}{Q} \times R \tag{3}$$

Next, rearrange the terms to get

$$C = P_R \times \frac{R}{Q} \times Q \tag{4}$$

From (4), we see that the total cost comprises three elements: the level of input prices, the efficiency of the production process (shown by the input-output ratio), and the volume of services. The static world of cost identities may not provide much encouragement to would-be cost containers. Fuchs (1988), for one, argued against placing too much emphasis in our ability to moderate input prices, improve efficiency, or reduce service utilization. Our ability to control cost (and in turn spending) may go back to equation (1), the production process itself. Cost-saving technological improvements and changes in the input mix from higher-priced to lower-priced inputs may provide some hope for continued moderation in medical spending. As we will see later, do not rule out the possibility of a more competitive medical care sector bringing down actual prices of medical care.

Triple Aim. By 2010, many of the more progressive policymakers changed their approach to accomplishing the three health policy goals. The first order of business was to change its label. Not fully accepting that trade-offs are inevitable, they began referring to the goals as the **triple aim**. Society could pursue these goals simultaneously, without competing each with the other: experience of care, population health, and per capita health care spending. Berwick, Nolan, and Whittington (2008) articulated that this vision was attainable under the direction of an **integrator**. From their perspective, this integrator was the ACO, similar to the provision of care through large, organized medicine such as Kaiser Permanente. Elimination of waste and improvements in efficiency were the keys to accomplishing these objectives. Harvesting big data opportunities and directing provider behavior through a different incentive structure were of paramount importance.

triple aim An approach to optimizing health system performance designed along three dimensions: enhancing the patient experience, improving population health, and reducing per capita spending.

integrator An entity responsible for consolidating the resources required to achieve the Triple Aim.

The two approaches now share the stage. It is a matter of time before one will emerge as the dominant approach. When it does, you can be sure that we will see the direct influence it has on policymakers. As is the case with any conflict of visions, if we fall short of our goals, another variant will emerge. Maybe it will be the quadruple aim or the steel triangle.

The Current Framework

The ACA became law in 2010, consolidating decision making in the federal government and initiating a 10-year process intended to expand health insurance coverage to millions of uninsured Americans. Ironically, Congress never planned the legislation as passed to reach the president's desk. When Massachusetts voters elected Scott Brown to fill their vacant Senate seat on January 19, 2010, the dynamics of the U.S. Senate changed by denying Democrats their filibuster-proof majority. The legislative process normally takes two

bills passed separately in the House and Senate through a process that results in separate votes on a single compromise bill intended for the president's signature. Because of the change in the Senate's composition, Democrats in the House of Representatives realized that their only option was to pass the Senate version of the bill or get nothing at all.

Even with signed legislation, the reform process was not complete. A simple word search of the act finds the phrase "the secretary shall" over 1,000 times, referring to the role of the secretary of Health and Human Services in providing the operational details that were left out of the legislation. Over 15,000 pages of regulations published in the *Federal Register* serve as a guide to the implementation process.

History of the 2010 Legislation

In contrast to the way Bill Clinton handled health care reform in the 1990s, Barack Obama chose to follow the process from afar and let Congress do the heavy lifting. Elected in November 2008 with health care reform as a key plank in his legislative platform, the path to reform was not certain at the outset. While the Democrats enjoyed clear majorities in both houses of Congress, close senatorial races in several states delayed the confirmation of the full Senate until July 2009. A series of recounts in Minnesota finally gave the Democrats their 60th senator and more importantly a filibuster-proof majority. The pathway to reform opened up, and deliberations forged ahead.

Legislative action moves at a glacial pace, and less than two months later, the death of Edward Kennedy of Massachusetts meant that the majority was no longer filibuster proof. Less than a month later, the Massachusetts state legislature rewrote law to allow the governor to appoint a successor until a special election could choose a permanent successor. This gave the Senate at least four months to get a reform bill approved.

What first seemed like plenty of time turned out to be barely enough time. The House of Representatives passed its bill in November. The Senate, a more deliberative body, did not pass a bill until Christmas Eve. After the holiday break, another obstacle presented itself. The Massachusetts voters elected a Republican to fill the now vacant Senate seat, and the Democrats were now one vote short of the required number to ensure the passage of the final legislation. Normally, separate bills that emerge from the two houses find their way to a joint committee that reconciles the differences and provides Congress with a single, compromise bill that goes back to each house for a vote.

A call for a vote on a reconciliation bill in the Senate would fall short of the required 60 for consideration. The only way to overcome this dilemma was for the House to discard its version of the bill and approve the Senate version passed the previous year. It is

Key Legislative Dates

THE PASSAGE OF THE LAW

- July 7, 2009—Franken (MN) seated creating filibuster proof (for less than 2 months)
- August 25, 2009—Kennedy (MA) dies
- September 24, 2009—Kirk (MA) replaces Kennedy (filibuster proof again for 117 days)
- November 7, 2009—House version passes
- December 24, 2009—Senate version passes
- January 19, 2010—Brown (MA) elected to fill Kennedy seat (no longer filibuster proof)
- March 21, 2010—House votes to accept Senate bill (219–212; 4 votes would have changed the outcome)
- March 23, 2010—Obama signs ACA into law

understandable that there are problems with the final legislation. Congress never intended the Senate version to be the final legislation. The bill passed after a close vote (219–212). What we now have is a document with glaring problems that energized its opposition.

The Key Elements of the ACA

The ACA is 2,400 pages of legislation organized into 10 sections. The act focuses on a combination of Medicaid expansion and subsidized insurance purchased in insurance exchanges, or marketplaces, throughout the country. The key provisions of the act resulted in the following:

1. Additional regulation of the private health insurance market
2. Expanded Medicaid eligibility and the creation of health insurance exchanges
3. Mandates enforced by penalties that require individuals to maintain coverage and firms to offer affordable plans
4. Reduction in Medicare spending to fund coverage for non-Medicare recipients
5. New federal taxes

Expanded Insurance Regulation Already the most regulated industry in the U.S. economy, the ACA extended federal control over what normally has been the responsibility of the states. By setting standards for qualified health plans, the act (along with the subsequent rules and regulations set out by the administration) actually defines an essential benefits package for certification.

guaranteed issue A requirement that insurers must issue a policy to anyone who applies for one with no consideration of health status.

guaranteed renewability A feature of an insurance policy that requires the insurer to guarantee renewal of the policy as long a premiums are paid, regardless of any changes in the health status of the policy holder.

Other required features include **guaranteed issue**, **guaranteed renewability**, and no benefit exclusions due to preexisting conditions. Deductibles, indexed for inflation, may not exceed $8,150 for individuals and $16,300 for families for the plan year 2020. Out-of-pocket spending may not exceed the maximum deductibles. There are no lifetime spending limits. Coverage levels are identified by the percentage of the full actuarial value of the plans' expected spending. Bronze coverage is actuarially equivalent to 60 percent of the full actuarial value of the expected spending, silver coverage is 70 percent, gold coverage is 80 percent, and platinum coverage is 90 percent. Individuals under age 30 may purchase high deductible, catastrophic policies.

Expanded Insurance Coverage The act provides two primary mechanisms to increase health insurance coverage: expansion of Medicaid and creation of the health insurance exchanges in the states (now called marketplaces). In an attempt to establish a uniform eligibility standard across the states, individuals qualify for Medicaid if their family income is less than 138 percent of the federal poverty level (FPL). To encourage states to participate in the expansion, the federal matching payments were set at 100 percent of the cost of the expansion (since lowered to 90 percent). The original intent was that all states would be required to participate in the expansion, but a 2012 Supreme Court decision made the expansion voluntary for the states. As a result, 14 states have not yet changed Medicaid eligibility thresholds.

Initially intended to establish fully functioning electronic marketplaces, the plan organized health insurance exchanges to provide a place where insurance companies would offer qualified health plans to individuals who did not have access to affordable plans through an employer. Established by the state or the federal government, these exchanges provide standardized information on all insurance options, including benefits, premiums, and subsidies, in a way that individuals can compare available plans. Premium subsidies are available to individuals earning between 100 and 400 percent of the FPL income, making the plans more affordable. Cost-sharing subsidies limit the percentage of out-of-pocket spending for households making less than 250 percent of the FPL.

Personal Responsibility Mandate The mandate requires that individuals purchase qualified insurance. Failure to comply would result in penalties equal to the greater of $695 ($2,085 per family) or 2.5 percent of household income. Enforcement was weak, and exemptions were generous. Never more than 20 percent of the uninsured population actually paid the penalty. Tax reform legislation in 2017 set the penalty tax rate at zero, effectively making the mandate meaningless.

Employers with more than 50 full-time workers on the payroll are required to provide a qualified insurance plan or pay a penalty tax. The tax amounts to $2,000 per employee (in excess of 30 employees) or $3,000 per employee receiving a subsidy, whichever is less.

Changes to Medicare For the first time in program history, federal legislation is using Medicare revenues to provide coverage for the nonelderly by expanding Medicaid eligibility and providing income-based subsidies in the **insurance exchange**. Providing a substantial portion of the overall funding, the reductions in Medicare spending amount to $740 billion over the first decade. One-third of this amount originates from reductions in Medicare Advantage, the premium support program that allows seniors to purchase subsidized private insurance. Further, the Medicare payroll tax increased from 2.9 to 3.8 percent for families earning more than $250,000. Medicare benefits expanded to mirror the features of qualified plans in the rest of the system (free preventive services and expanded prescription drug benefits).

insurance exchange A digital marketplace available in every state where individuals can shop for health insurance and receive government subsidies making it more affordable.

New Federal Taxes An increase in federal taxes raised over $570 billion over the first decade, representing the second largest funding source for the new law. The new taxes include a tax on private insurance plans, a Medicare surtax on high-income taxpayers, a surtax on investment income, excise taxes on high-cost plans, a revenue tax on medical device manufacturers, and mandate taxes on individuals who do not purchase insurance and employers that do not provide insurance. Subsequent federal legislation has effectively eliminated the last three on the list, resulting in an increase in the federal budget deficit (an outcome that was not supposed to happen).

Major Accomplishments

Proponents of the ACA point out the increased insurance coverage as the major accomplishment of the reform. Using survey data, Frean, Gruber, and Sommers (2016) estimate that the ACA extended insurance coverage to approximately 20 million Americans who were previously uninsured, reducing the percentage of the population uninsured from 16 to 9 percent. Estimates from administrative data provide additional insight into the coverage expansion (Haislmaier, 2018; Haislmaier and Gonshorowski, 2017). Table 1.3 summarizes these findings.

Overall coverage of the population under the age of 65 increased from 233.9 to 249.7 million or 15.8 million after full implementation of the program. Over 80 percent of the expansion (or 13.7 million) was due to increased enrollment in Medicaid and CHIP. Coupled with the 7.5 million increase in individual coverage, the two major avenues for expanded coverage were responsible for 21.3 million insured. The 5.5 million decline in unsubsidized individual and employer-sponsored insurance lowered the overall coverage gains to 15.8 million.

Unintended Consequences

Quite often, a major system reform results in changes that the legislation did not originally intend. The ACA was no different. Most notable among the unexpected results of the ACA include access problems, affordability issues, and increased consolidation among providers.

TABLE 1.3 COVERAGE EXPANSION, 2013–2017 (IN MILLIONS)

Enrollment in millions	2013	2014	2015	2016	2017	Change 2013–2017
Individual Market	11.8	16.5	17.7	17.0	15.2	+3.4
Subsidized	0	5.4	7.4	7.6	7.5	+7.5
Unsubsidized	11.8	11.1	10.3	9.4	7.7	−4.1
Employer-sponsored market	161.2	156.6	157.6	157.6	159.9	−1.3
Fully insured ESI	60.6	53.9	53.0	52.0	51.6	−9.0
Self insured ESI	100.6	102.7	104.6	105.6	108.3	+7.7
Total Private Market	173.0	173.1	175.2	174.6	175.1	+2.1
States expanding Medicaid	33.6	42.0	44.2	45.3	45.4	+11.8
States not expanding Medicaid	27.3	27.9	28.5	29.6	29.2	+1.9
Total Medicaid	60.9	69.9	72.7	74.9	74.6	+13.7
Total Private and Medicaid	233.9	243.0	247.9	249.6	249.7	+15.8

Sources: Haislmaier and Gonshorowski (2017) and Haislmaier (2018).

Access Problems Expanded insurance coverage does not necessarily translate into improved medical care access. Shortages of certain specialties, including general practitioners and surgeons, combined with low reimbursement rates to physicians, contributing to many refusing to treat Medicaid patients, have made it difficult for the newly insured to find regular sources of care. Medicaid recipients are twice as likely to visit the emergency room as are the uninsured. With over 80 percent of the newly insured covered by Medicaid, the ACA has the potential to increase emergency room visits considerably (Garcia, Bernstein, and Bush, 2010). Over time, the sustained reductions in Medicare payments to hospitals lead the chief actuary of the CMS to conclude that 15 percent of hospitals will run operating deficits within the first decade of the program, which translates into over 800 community hospitals nationwide (Foster, 2010).

The rollout of the insurance exchanges in 2013 fell far short of expectations. Problems with the website, problems with information security, and 4.7 million insured Americans losing their plans caused disruptions and led to continued decline in the public perception of the program. Insurers are continuing to exit the exchanges. Over 60 percent of counties across the country have only one or two insurer options in the exchanges. By 2017, cost of coverage was over 100 percent higher than the actuarially fair premium for 19–34-year-olds. With 2017 premiums over 100 percent higher than 2014 premiums, many young healthy people are choosing not to purchase coverage.

Affordability Problems Two of the most popular features of the law are the coverage provision for adult children and the exclusion of preexisting conditions from the insurance underwriting process. Together these two features have worked against the creation of workable risk pools in the insurance exchanges. The dependent coverage provision is keeping healthy young people out of the exchanges, and the preexisting conditions' exclusion is populating the risk pools with older and sicker individuals.

game Bending the rules of the game in order to manipulate the outcome.

The penalty for refusing to purchase coverage was modest from the beginning. The guaranteed issue provision made it too easy to **game** the system. Weak enforcement

provisions (no garnishing of wages, no attaching assets, no jail time) and liberal exemption policies made it easy to ignore the individual mandate. At least 20 percent of enrollees took advantage of the 90-day grace period to pay delinquent premiums (which is the same number of days that you can be uninsured without facing a penalty). The game was to pay your premiums for nine months, stop paying the last three months of the year, have your coverage cancelled, and reenroll in the same plan the next year. That way you get a 25 percent discount, receive a full year's coverage, and pay only for nine months.

Other insurance requirements allow risk rating by age, geographic region, tobacco use, and family size. Premiums may not vary more than 3 to 1 on the basis of age and 1.5 to 1 on the basis of tobacco use. As a result, insurance premiums for the young and healthy who remain are twice as high as they would be otherwise, further discouraging this important demographic cohort from participating in the exchange pools, resulting in **adverse selection**.

adverse selection A situation where different parties in a transaction have access to different information that may be relevant to the exchange, placing one at a distinct disadvantage in the trade.

Finally, the co-op health plans established in the original legislation did not serve their intended purpose to provide a reliable alternative to the for-profit plans in the exchanges. What seemed like a good idea was actually doomed from the outset. Underfunded and staffed with inexperienced administrators, only 5 of the original 23 were still active by the end of 2016. The other 18 failed and lost over $2.5 billion in taxpayer funds. The remaining five continued to lose money and eventually closed. In many ways, the exchange experience of the co-ops is similar to the other insurers. Most insurance companies lost money on their exchange plans and no longer participate.

Provider Integration By encouraging the creation and use of ACOs, hospital systems find it advantageous to form large medical systems. Horizontal integration has resulted in an increase in the size of the typical medical practice, providing more bargaining power with insurance companies leading to higher medical prices and thus insurance premiums. There is little evidence of substantial economies of size or scope in physician practices. Placing more than 10–15 physicians in the same clinic or expanding the number of specialties offers few cost savings.

The fully integrated system with the full scope of care from primary to specialty to outpatient and inpatient care results in reduced competition, increased bargaining power, and higher prices. Increased market power can also produce substantial entry barriers for prospective competitors, virtually guaranteeing persistent **economic rents** and serving to suppress innovation and choice.

economic rent The amount earned by a factor of production in excess of its opportunity cost. Typically, the supply of the factor is fixed.

Changes in the System since Passage

President Obama signed the bill into law on March 23, 2010, but the controversy did not end there. In fact, it was only beginning. There have been two Supreme Court rulings upholding the constitutionality of the act, with the 2012 ruling actually changing several key features of the law itself. The court also ruled the mandate to purchase insurance to be unconstitutional on the basis of the main argument of its defenders, that the federal government could force residents to purchase insurance because the federal government has oversight responsibility over interstate commerce. However, Justice Roberts reinterpreted the mandate penalty to be a tax, which was within the purview of the federal government and thus made the act constitutional. A second change was that the Medicaid expansion and the federal government threat to withhold the matching grants to states that did not expand the program were unconstitutional. Thus, instead of requiring states to participate in the expansion, participation was voluntary.

THE REVISION PROCESS

- SCOTUS rulings on constitutionality (June 2012 and 2015)
- Changes already implemented (at least 70)
- Congress repeals and Obama vetoes (January 11, 2016)
- 2016 elections left Republicans with control of Congress and the presidency
- 2017 efforts to repeal and replace (falls one vote short in the Senate; McCain)
- 2017 tax reform legislation eliminated the tax penalty for being uninsured (individual mandate no longer fits definition of a tax)
- 2018 district court declares ACA unconstitutional (again)

During the final term of the Obama presidency, Congress tried several times to repeal the ACA and in 2016 actually sent a repeal bill to the president (which the president vetoed). After the election of Donald Trump in 2016, the Republicans controlled both houses of Congress, and many thought they were going to get rid of the ACA finally. In 2017, however, repeal efforts fell one vote short in the Senate, and the legislature never voted on the issue again.

Presidential orders are a straightforward way to get around taking legislation to Congress. Trump used this process successfully in rewriting regulations that serve to enforce aspects of the ACA. His orders have provided Association Health Plans with a new way for small businesses to band together to purchase insurance (June 2018). He reinstated short-term limited-duration insurance policies (August 2018) with renewal guaranteed for up to three years (a practice that was allowed under ACA, but an Obama executive order limited coverage to three months), and he expanded access to health reimbursement accounts to pay premiums for plans chosen by the employee (January 2020).

Trump also expanded the use of Section 1332 innovation waivers, allowing states to experiment with ways to provide coverage for their Medicaid population. He targeted gaming by reducing the grace period for paying premium and changed guaranteed issue rules to keep people from waiting until they became sick to purchase insurance. He also expanded access to health savings accounts to support the chronically ill.

Ten Key Economic Concepts

Given the complexity of economic theory, it may come as a surprise that a relatively small number of key concepts guide economic thought. These concepts will serve as unifying themes throughout the book.

1. Scarcity and choice address the problem of limited resources and the need to economize. Not enough resources are available to meet all the desires of all the people, making rationing in some form unavoidable. We are forced to make choices among competing objectives—an inescapable result of scarcity.
2. Opportunity cost recognizes that everything and everyone has alternatives. We cannot use time and resources spent to satisfy one set of desires to satisfy another set. The cost of any decision or action is measured in terms of the value placed on the opportunity foregone.
3. Marginal analysis is the economic way of thinking about the optimal allocation of resources. Choices are seldom an all-or-nothing proposition—individuals make decisions at "the margin." Decision makers weigh the trade-offs, a little more of one thing and a little less of another. In this environment, the incremental benefits and incremental costs of a decision are considered.

4. Self-interest is the primary motivator of economic decision makers. Driven by the power of self-interest, people are motivated to pursue efficiency in the production and consumption decisions they make. According to the well-known eighteenth-century economist Adam Smith, this pursuit of self-interest, moderated by market competition, causes each individual to pursue a course of action that promotes the general goals of society.
5. Markets and pricing serve as the most efficient way to allocate scarce resources. The market accomplishes its tasks through a system of prices, what Smith called the "invisible hand." The invisible hand can allocate resources because everyone and everything has a price. When they desire more, prices increase. When they desire less, prices decrease. Firms base their production decisions on relative prices and relative price movements. The price mechanism becomes a way to bring a firm's output decisions into balance with consumer desires—something that we refer to as equilibrium.
6. Supply and demand serve as the foundation for all economic analysis. The basis of all pricing and output decisions depends on the forces underlying these two economic concepts. Decision makers allocate goods and services among competing uses by striking a balance, or attaining equilibrium, between consumers' willingness to pay and suppliers' willingness to provide. This is rationing via prices.
7. Competition forces resource owners to use their resources to promote the highest possible satisfaction of society, including consumers, producers, and investors. If resource owners do this well, rewards follow. If they are inept or inefficient, we expect penalties. Competition takes production out of the hands of the less competent and places it into the hands of the more efficient, constantly promoting more efficient methods of production.
8. Efficiency in economics measures how well resource use promotes social welfare. Inefficient outcomes waste resources, but the efficient use of scarce resources enhances social welfare. The fascinating aspect of competitive markets is how the more-or-less independent behavior on the part of thousands of decision makers serves to promote social welfare. Consumers attempt to make themselves better off by allocating limited budgets. Producers seek maximum profits by using cost-minimizing methods.
9. Market failure arises when the free market fails to promote the efficient use of resources by producing either more or less than the optimal level of output. Sources of market failure include **natural monopoly**, externalities in production and consumption, and public goods. Other market imperfections, such as incomplete information and immobile resources, also contribute to this problem.
10. Comparative advantage explains how people benefit from voluntary exchange when opportunity cost serves as the basis of production decisions. The individual or entity that has the lowest opportunity cost of production has the comparative advantage.

natural monopoly A firm becomes a natural monopoly based on its ability to provide a good or service at a lower cost than anyone else and satisfy consumer demand completely.

Summary and Conclusions

The previous decade served as a game-changer in the saga of U.S. health care reform. Expanded insurance coverage, primarily due to the Medicaid expansion ushered in by the ACA, has brought coverage levels above 90 percent of the resident population. Access is still a challenge for the 30 million who remain uninsured. As we move forward, we are poised on the threshold of another round of health care reform.

U.S. medical care financing remains a potpourri of public and private funding. The public sector directly finances over 45 percent of total spending. Private health insurance and private philanthropy finance 43 percent, leaving about 11 percent to come from direct, out-of-pocket payments from individuals.

Medical care delivery is far from perfect. Critics claim there are too few primary care physicians and too many specialists, leading to greater reliance on acute and specialty care and underutilization of primary and preventive care. Policymakers designed the ACA to close some of the gaps in health insurance coverage that limit reliable access for many Americans.

The health reform debate has never abated, and the controversy surrounding reform will extend beyond the 2020 election. Whether it is a continuation of the status quo, incremental change building on the strengths and buttressing the weaknesses of the ACA, or a complete overhaul of the system, we are in for continued uncertainty. Once again, we are standing at the crossroads. Which path will we take this time?

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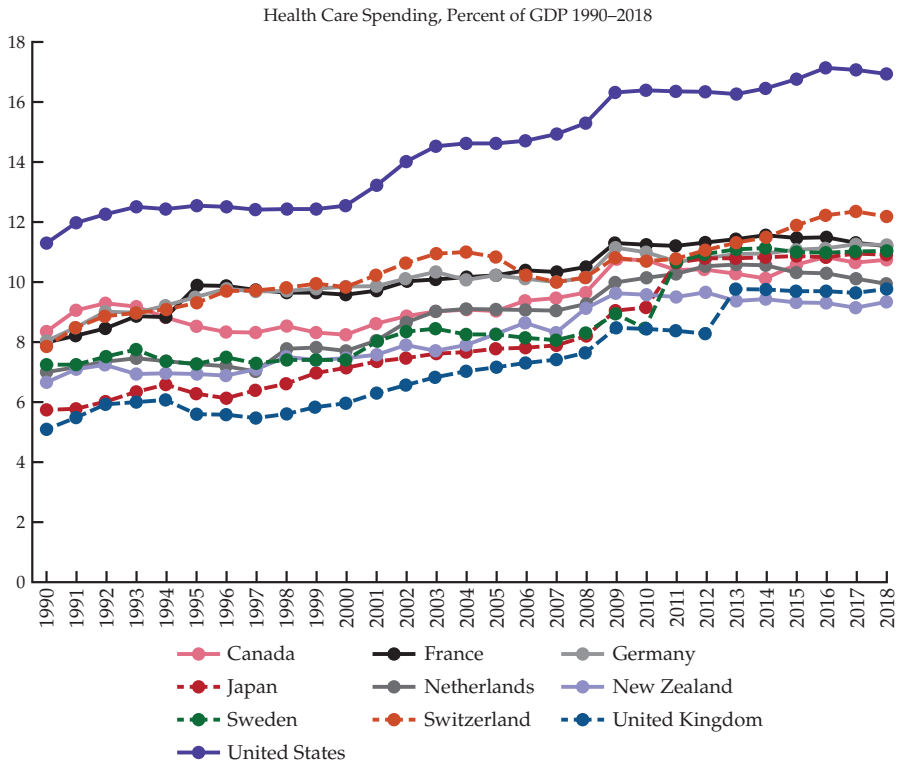
CHAPTER 2

Health Care Spending Issues

ISSUES IN MEDICAL CARE DELIVERY

RISING HEALTH CARE SPENDING IS A SOURCE OF ANXIETY EVERYWHERE



The share of health care spending as a percentage of gross domestic product (GDP) is rising in virtually every developed country across the world. The nearby figure illustrates the data back to 1990 for 10 developed nations. The same challenge faces policymakers in each of these countries. Each country's experience is similar even though they started the period at different levels. Spending as a share of GDP marched steadily upward.

The average increase was 53 percent. Canada experienced the lowest increase (28 percent), and the United Kingdom experienced the highest (92 percent). Seven of the 10 saw their shares increase between 40 and 55 percent. The increase in the share of the United States (50 percent) was slightly below average. Nobody has solved this problem. Everyone is asking the same questions. Why does medical care take up larger and larger shares of economic output in the developed world? How do policy analysts try to explain rising health care spending? Do the added benefits of the increased health care spending outweigh the costs to society? We will attempt to shed some light on the answers to these questions in this chapter.

In this chapter, we first examine the basic characteristics of health care spending: how it is measured, how fast it is growing, and what we are buying. Next, we will explore why the United States spends more than the rest of the countries in the developed world. We will address the spending problem, the factors associated with spending growth and the nature of the health care cost disease we face. We end the chapter with a summary and conclusions.

Health Care Spending: The Basics

One of the major factors driving the health care reform debate is spending, including total spending, spending per person, and spending as a share of total economic output. Referring to Table 2.1, national health expenditures were $4,014.2 billion in 2020, 18 percent of the GDP.

premium A periodic payment required to purchase an insurance policy.

No matter where a health care discussion begins, the topic of conversation soon turns to the issue of affordability. Employees and employers complain about high **premiums**, patients and providers note high treatment costs, and policymakers lament high and rising spending. Each perspective presents a different aspect of the same problem. In 2019, the average cost of a health insurance policy was $20,576 for a family and $7,188 for an individual, up over 50 percent in the decade since passage of the Affordable Care Act (ACA) in 2010 (Kaiser Family Foundation, 2019). The average cost per hospital stay was over $10,000, and Americans spent over $4.0 trillion on health care—18 percent of the **gross domestic product (GDP)**.

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

The major concern over health care spending is not that it is high; the concern is that the steady upward spiral does not seem to have an end to it. Government projections estimate that medical care spending will continue its rise, topping $6.2 trillion by 2028—almost 20 percent of GDP (Centers for Medicare and Medicaid [CMS], 2020). Although economic theory has yet to determine what the optimal percentage ought to be, the United States spends more on medical care by virtually every measure than any other country in the world. What does it mean then to spend 8, 10, or 16 percent of a country's GDP on medical care? More importantly, should the amount spent on medical care be a concern to policymakers?

TABLE 2.1 NATIONAL HEALTH EXPENDITURES, SELECT YEARS, IN BILLIONS OF DOLLARS (UNLESS OTHERWISE STATED)

Category	1960	1970	1980	1990	2000	2005	2010	2015	2019	2020
Hospital care	$9.0	$27.2	$100.5	$250.4	$415.5	$608.6	$822.3	$989.0	$1,192.0	$1,316.4
Physician and clinical services	5.6	14.3	47.7	158.4	288.2	413.0	512.6	635.9	772.1	794.4
Dental services	2.0	4.7	13.3	31.6	62.1	87.2	105.9	120.0	143.2	148.3
Other professional services	0.4	0.7	3.5	17.3	36.6	52.8	69.9	87.4	110.6	114.8
Home health care	0.1	0.2	2.4	12.5	32.3	49.3	71.6	89.9	113.5	116.2
Nursing home care	0.8	4.0	15.3	44.7	85.0	111.4	140.5	156.2	172.7	183.2
Prescription drugs	2.7	5.5	12.0	40.3	121.2	205.2	248.4	324.4	369.7	358.7
Other medical products	2.3	5.0	13.9	36.2	56.8	73.2	91.2	118.1	139.7	135.2
Other personal care	0.5	1.3	8.4	23.8	63.9	95.0	129.1	165.4	193.6	210.3
Personal health care	$23.3	$63.1	$217.0	$615.3	$1,161.5	$1,695.7	$2,191.4	$2,686.2	$3,207.0	$3,377.5
Government administration	0.1	0.7	2.8	7.2	17.1	28.2	30.2	42.8	48.9	52.0
Net cost of health insurance	1.0	1.9	9.3	31.6	64.2	122.9	153.2	199.1	239.9	295.2
Public health activities	0.4	1.4	6.4	20.0	43.0	57.3	75.7	85.7	97.8	98.9
Research	0.7	2.0	5.4	12.7	25.5	40.3	49.1	46.4	56.6	58.6
Structures and equipment	1.8	5.6	14.4	36.6	57.8	79.4	93.5	117.6	145.1	132.0
National health expenditures	$27.2	$74.6	$255.3	$721.4	$1,369.2	$2,023.8	$2,593.2	$3,177.7	$3,795.4	$4,014.2
Per capita personal spending (dollars)	$125	$300	$942	$2,425	$4,119	$5,743	$7,093	$8,394	$9,7865	$10,204
Per capita national spending (dollars)	$146	$355	$1,108	$2,843	$4,855	$6,854	$8,394	$9,930	$11,582	$12,118
National spending percent of GDP (%)	5.0	6.9	8.9	12.1	13.4	15.5	17.3	17.4	17.7	18.0

Source: CMS website, https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical (Accessed February 1, 2021).

Metrics of Health Care Spending

We measure health care spending in a number of different ways: total, personal, nominal, real, per capita, and as a percentage of GDP. Each tells a slightly different story based on the same theme. Health care spending is high and rising, absorbing an ever-greater portion of our incomes and making it more difficult to satisfy other important priorities.

Table 2.2 provides a comparison of the growth rates in health care spending, both total and per capita, in both nominal and real (inflation adjusted) terms. Of the four measures listed in the table, total health care spending in nominal terms has the highest values during each period. Per capita spending adjusts for population size and exhibits slower growth. Regardless of measure, the decade of the 1980s saw the highest average growth in spending.

In real terms, per capita spending grew at less than 2 percent annually in the current decade. Adjusting health care expenditures by the GDP deflator depicts nominal spending in real terms, providing a measure of the opportunity cost of resources absorbed by the health care sector. Data in this table suggest that the United States has experienced a substantial slowdown in real growth, implying that Americans have experienced the significant reduction in opportunity cost to accommodate spending in their health sectors.

Health spending as a percentage of GDP—the spending-to-GDP ratio—is the most widely used performance measure for the health care sector. However, it is important to remember that there are two components to this ratio, health spending in the numerator and GDP in the denominator. Examining a point in time draws our attention to the ratio alone and does not tell us a lot. It is more informative to look at the measure over time, examining both the change in spending and the change in GDP.

Referencing Table 1.1 again, we see that spending in the United States approaches 20 percent of GDP. The climb has been steady, increasing 1.5 to 2 percentage points per decade. Some of the increase is a natural result of shifting priorities and productivity advances in other parts of the economy. However, some of the spending increase is due to changing population demographics. As the population ages, the medical care system must shift priorities from acute care to chronic care. On average, the elderly spend more on medical care than the young, up to five times more per capita.

The Growth in Spending

Our concerns over health care spending ignore the fact that national spending (both in nominal and real terms) has slowed considerably over the several decades. U.S. spending grew at an annual rate of 7.5 percent for the six years 2001–2007 and slowed to 3.8 percent for the years 2008–2013 (see Figure 2.1). Clearly, annual growth in spending since the mid-1990s peaked in 2002 at just under 10 percent. That rate fell steadily until 2014, the first year of implementation of the ACA.

TABLE 2.2 ANNUAL COMPOUND GROWTH IN HEALTH SECTOR COMPONENTS, 1980 THROUGH 2019, PERCENTAGES

Measure of health spending	1980–1989	1990–1999	2000–2009	2010–2019
Nominal health care spending	9.78	5.76	6.97	3.88
Nominal per capita health care spending	8.90	4.59	5.96	3.27
Real health care spending[1]	5.69	3.76	4.51	2.25
Real per capita health care spending[1]	4.84	2.61	3.52	1.65

Source: OECD Health Statistics 2020.
[1]Spending adjusted by the GDP price deflator.

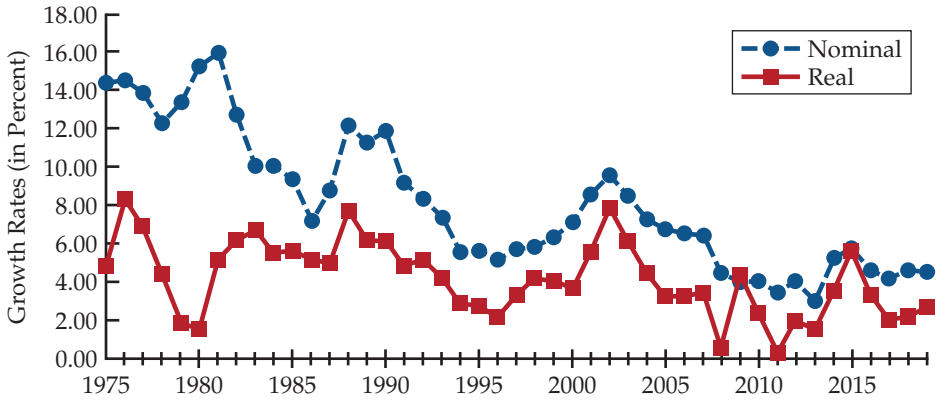


FIGURE 2.1
Growth in Nominal and Real Health Care Expenditures, 1975–2019

Any discussion of the role of the ACA in this slowdown in the growth of health care spending ignores the fact that health care spending growth has been trending down for over three decades. Advocates point to the structural changes made to the delivery system the law initiated as the main reason for slowdown in spending growth. Others focus on the Great Recession as the main determinant of slow growth. As in most disagreements, each side has a point.

Other possible factors contributing to the slowdown may include a temporary decline in hospital price inflation after the introduction of prospective payment in 1983. Spending rebounded in the late 1980s, but 15 years of annual growth rates above 10 percent finally created enough of a backlash that the industry responded with a more controlled approach to service delivery and the managed care revolution was born. A slowdown in the introduction of new medical technologies and increased patient cost sharing in the form of higher deductibles and copays contributed to the decline well into the 2000s (Chandra, Holmes, and Skinner, 2013). In addition, because Medicare and Medicaid represent over 40 percent of all spending, aggressive action on the part of the federal government (in the form of reductions in payment rates to providers) led to action by private insurers to make cost-saving adjustments of their own. Since full implementation of the ACA in 2014, the spending decline reversed itself and subsequently spending has grown at a compound annual rate of 5.8 percent.

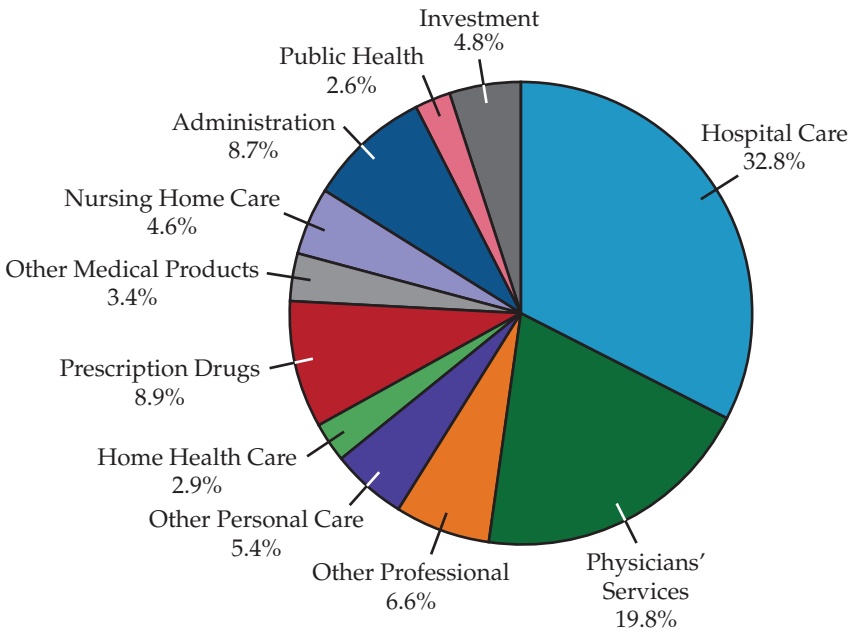
Spending by Category

Spending on personal health care consumed 84 percent of overall spending. Personal spending includes the purchase of all goods and services associated with individual health care, such as hospital care, the services of physicians and dentists, prescription drugs, vision care, home health care, and nursing home care. The remaining 16 percent includes spending on program administration, both public and private, government expenditure on public health, and investment in research and structures. The breakdown in Table 2.1 clearly reveals how spending by category has trended over the past seven decades.

The largest category of spending is hospital care, comprising almost one-third of overall spending in 2020. Spending on hospital services reached $1,316.4 billion in 2020. Hospital costs, valued as actual revenues received, experienced a decade of accelerated growth in the 1980s. The growth in hospital spending moderated in the 1990s due primarily to aggressive cost-control efforts on the part of private payers. From 2000 to 2005, hospital spending grew at an annual compound rate of 8 percent, increasing concerns that spending would continue to accelerate. In the second half of the decade, spending growth moderated somewhat to 6 percent per year. For the past several decades, hospital care has remained

between 30 and 35 percent of health care spending, and patients have paid for approximately 3 percent of hospital care out of pocket.

Spending on physicians' services amounted to 20 percent of total health care spending in 2020. The total of $794.4 billion tends to mask the importance of physicians in the health care sector. Even though only 20 cents of every medical care dollar flows directly to physicians, they are indirectly responsible for most of the rest. Physicians admit patients to hospitals, recommend surgeries, prescribe drugs and eyeglasses, and in general oversee the entire health care delivery system. Patients finance roughly 10 percent of physicians' services out of pocket.



Consumers spent $358.7 billion on prescription drugs and $135.2 billion on other medical products in 2020. This absorbed 8.9 and 3.4 percent of total health care spending, respectively. Patients pay only 14 percent of all prescription drug costs out of pocket.

Other spending includes payments for dentists' services and other professional services, nursing home care, home health services, and other personal care. When combined, these categories of care account for approximately 20 percent of all personal health care spending. Nursing home care amounted to $183.2 billion of total personal health care spending in 2020. Dental services accounted for $148.3 billion and other professional services $114.8 billion. Home health spending at $116.2 billion has increased over 400 percent since 2000. Other personal care amounted to $210.3 billion.

The remainder of health spending, amounting to 16 percent of the total, comprises administrative costs, public health spending, and investment in research and structures. In 2020, the United States spent 8.7 percent on administration, government spending reached $82 billion, and private cost of administering insurance was $295 billion. Public health spending (almost $100 billion), investment in research ($58.6 billion), and spending on structures and equipment ($132 billion) brought total spending to over $4 trillion.

Why Do Americans Spend So Much on Health Care?

Future prospects will likely see spending continue to grow at rates of 5–6 percent per year. Total per capita medical care spending reached $12,000 in 2020. At this level, U.S. per

capita spending on medical care is over 50 percent higher than in most other developed countries. Much of the difference is predictable: Countries with higher living standards, measured by per capita income, spend more on promoting health.

Even within the United States, variations in spending across the country are dramatic (Radnofsky, 2013). Per capita personal spending was $6,815 in 2009; it varied from a low of $5,031 in Utah to a high of $9,278 in Massachusetts ($10,349 in the District of Columbia). If per capita spending nationwide had mimicked Utah, personal health care spending would have been $1,547 billion in 2012, a 35 percent decrease. Likewise, spending would have been 13.8 percent of GDP (instead of 17.3).

Although high per capita spending paints a dramatic picture of spending differences across countries, the share of output devoted to medical care is more reflective of shifts in priorities. The percentage of GDP devoted to medical care spending has risen dramatically in the United States since the late 1960s, from less than 6 to 18 percent. In comparison, in most developed countries worldwide, the percentage ranges from 9 to 12 percent. Increasing health care expenditures as a percent of GDP may reflect a conscious choice on the part of the consuming public to spend more for health care. Alternatively, it may reflect an inefficient approach to health care financing.

Clearly, the United States spends more on medical care and devotes a larger percentage of economic output to medical care than any other country in the world. Although interesting, these facts ignore three important questions: What is a reasonable percentage of output to devote to medical care spending? Are we getting our money's worth? How much can we afford?

First, no one knows the ideal percentage of GDP that medical care spending should consume. We do know, however, that spending on all services, including health care, increases as income increases. Wealthy countries spend proportionately more on medical care than poor countries. Because the United States is among the leaders in per capita income in the industrialized world, it should come as no surprise that U.S. medical care spending is the highest.

Second, empirical evidence indicates that the increase in health care spending witnessed over the past 40 years provides substantial benefits to society that far outweigh the associated costs. Lichtenberg's (2002) analysis strongly supports the hypothesis that medical innovation in the form of new drugs and overall health care spending contributed positively to increased longevity between 1960 and 1997. In fact, he concluded that the most cost-effective way to increase life expectancy is through increased spending on new drug development. Cutler and McClellan (2001) examined the benefits of technological change in five common conditions: heart attacks, low-birth-weight infants, depression, breast cancer, and cataracts. They concluded that health care spending on these conditions was worth the cost of care.

The third area of concern is the quality of care, often measured by health outcomes. Those critical of the U.S. delivery system cite the relatively poor health outcomes experienced in this country. The typical indicators used to evaluate the effectiveness of a health care delivery system include life expectancy (or one of its variants) and infant mortality. It is true that the United States lags behind many countries in the developed world in these two categories. Nevertheless, both are crude measures, at best, and ignore the contribution of the underlying demographic and social factors affecting health entirely. Life expectancy and infant mortality say a lot about environment, lifestyle choices, and social problems. The U.S. system must deal with a higher incidence of most of these problems than other industrialized countries—drug abuse, violence, reckless behavior, sexual promiscuity, and illegitimacy. These problems complicate the delivery of medical care and are, in part, responsible for the poor health indicators. A more detailed discussion of population health issues follows in Chapter 7.

ISSUES IN MEDICAL CARE DELIVERY

SPENDING SOMEBODY ELSE'S MONEY

A *Wall Street Journal* article provides an interesting example of how spending someone else's money distorts the decision-making process. A 70-year-old man suffering from a ruptured abdominal aortic aneurysm was admitted to the hospital. After several weeks in the intensive care unit—with all the modern technology that goes with it—and a three-month stay in the hospital, the bill approached $275,000, none paid out of pocket by the patient. The man's physician determined that his poor eating habits, caused by poorly fitting dentures, were contributing to his slow recovery. He requested that the hospital dentist perform the necessary adjustments. Later, the doctor discovered that the man had not allowed the dentist to adjust the dentures. When asked the reason, the man replied, "$75 is a lot of money." It seems that Medicare would not pay for the adjustment, so it would have been an out-of-pocket expenditure for the patient.

When you are spending somebody else's money, $275,000 does not seem like a lot. Nevertheless, when you are spending your own money, $75 is a lot. Our reliance on a third-party payment system is the major institutional feature contributing to rising costs and increased spending. Cost-conscious consumers have little or no role in a system dominated by **third-party payers**.

Source: James P. Weaver, "The Best Care Other People's Money Can Buy," *Wall Street Journal*, November 19, 1992, A14.

third-party payers A health insurance arrangement where the individual, or an agent of the individual, pays a set premium to a third party (an insurance company, managed care organi-zation, or the government), which in turn pays for health care services.

primary and preventive care Routine medical care and screening generally provided by physicians specializing in family practice, general internal medicine, and pediatrics.

price transparency Readily available and easy to understand information on the actual prices paid for medical care services. The actual price paid is essential if consumers are to value and rank alternative treatment options and make informed decisions on the care they receive.

price discrimination The practice of selling the same good or service to two different consumers for different prices. The price differential is not based on differences in cost.

The Health Care Spending Problem

From an economic perspective, there is no optimal level of health care spending. High levels of spending are not a problem in and of themselves; they merely serve to divert our attention from more relevant issues: the inefficiencies in our medical delivery system and the challenges in financing that care and making it available to all those who need it. Rising spending is primarily a political concern. Politicians of all stripes never pass up the opportunity to fan the flames of any crisis, real or perceived, that might promote a cause they support.

The fact that high spending is not fatal to our economic well-being does not mean we should ignore it. Cutler (2018) addressed the reasons we should pay attention. A significant proportion of our spending is wasteful. If we are to be good managers of the scarce resources we have available, we should strive to use them more effectively and efficiently. Wasteful spending in medical care can take many forms, including equivocal spending, high prices, excessive administrative costs, fraud, and abuse.

No one is suggesting that we reduce all medical care spending. Much of our medical provision is worth the cost. However, we cannot say that about all medical care. A significant proportion of our resources are misallocated, providing care that is unnecessary or even inappropriate. In other words, too often we do not provide the right treatment in the right place at the right time. There are too many high-priced procedures, not enough **primary and preventive care**, too much basic care provided in emergency departments instead of primary care clinics, and delayed care because of inadequate access to reliable means of financing.

As stated earlier in the chapter, high prices lead to high levels of spending. The high prices may be the result of pricing practices that permeate the medical industry: Lack of **price transparency** and **price discrimination** are two of the most prominent. Markets do

not work efficiently when consumers do not know the prices they pay. With little or no incentive to find out the prices they pay (often because they pay only a fraction of the total bill), consumers have no reason to practice cost-conscious spending behavior. Lack of uniform pricing within individual markets and even by the same provider serves as a significant barrier to entry limiting competition and the options available to consumers. The result of it all is higher prices and a lack of competition, removing any market mechanism to assert downward pressure on prices.

The high cost of administration also contributes to high spending. Keeping track of multiple private payers and the myriad of prices negotiated with the large number of providers is a waste of valuable resources. The **dead weight loss** (shadow cost)[1] of taxation necessary to finance government spending adds to the inefficiencies. Finally, inappropriate payments to providers resulting from fraud and abuse may be as high as 10 percent of spending in Medicare and Medicaid (responsible for over 44 percent of overall spending).

dead weight loss Cost to society stemming from a market failure to efficiently allocate resources. The resulting equilibrium fails to produce the socially optimum quantity of a good or service. Often caused by government actions such as taxes, subsidies, price controls, or other restrictions on the market.

The level of waste in the U.S. delivery system is a much bigger concern than the high spending itself. Wasteful spending may be as high as one-fourth of all medical spending. Shrank, Rogstad, and Parekh (2019) reviewed 54 studies that estimated the excess spending in six domains: failure in the delivery and coordination of care, overtreatment, provision of low-valued care, pricing failure, and fraud and abuse were studied.

Attributing the growth in spending to waste, fraud, and abuse may be the political scapegoat, but undoubtedly, many of the commonly cited administrative problems result in wasteful spending (Fuchs, 2014). The National Health Care Anti-Fraud Association estimates that each year about 3 percent of health care spending is lost to fraud (Iglehart, 2009). The improper payment rate in the government-run Medicaid program may be as high as 10.5 percent of total spending (federal share only). The Medicare fraud rate is around 8.5 percent. Addressing these wasteful practices would bring spending down and make medical care more affordable for everyone. Affordability and access go hand in hand.

As medical spending increases, so do the challenges we face in financing the care we receive. The privately insured face premium increases that outpace the growth in wages and salaries, and those without adequate insurance must bear the full weight of the high prices that result from the inefficiencies. Constrained by mounting federal budget deficits and facing the challenges of maintaining low taxes, government programs fail to preserve access to high-priced procedures, risking accusations of overt rationing. Together these issues create distributional problems that result in access disparities across demographic groups.

All resources are scarce, and all spending has its own opportunity costs. Money spent on medical care is money that we cannot spend on other priorities. High medical spending puts more pressure on policymakers to establish appropriate spending priorities. The trade-off is real. The time is right. It is past time for policymakers to put aside ideological differences to work together to reform our delivery system to provide one that is more equitable, more efficient, and sustainable for future generations of Americans.

Concerns over High and Rising Spending

There is widespread consensus that the current path of health care spending growth is unsustainable. Even with the changes resulting from passage of the ACA, success in achieving the elusive goals of access, affordability, and quality remain a challenge. What are the obstacles? Why is success so elusive?

[1]Since 1992, the Office of Management and Budget has required that estimates of the cost of public investment include a measure of the marginal excess burden, or shadow cost, to take into account for the administrative costs associated with taxation (Conover, 2010).

Improvements in affordability and access will remain elusive until we accept certain realities about the problem. In a series of articles, Fuchs (2008, 2014, 2018) shared his insights into the scope of the challenge. Growth in health care spending outpaces growth in the rest of the economy. If the trend continues, the health care sector will continue to absorb an ever-increasing share of GDP in the future.

A lot of the increased spending is the result of supply-side advances in medicine and the appetite of Americans to consume a more expensive mix of health care services. More specialists, improved diagnostic tools, advanced surgical interventions, improved therapies, and pharmaceuticals that are more effective represent quality improvements that allow us to live longer and better. Newhouse (1993), Ginsburg (2004), and the Congressional Budget Office (2008) in separate research examined the impact of technology growth on spending. Their consensus conclusion is that about one-half of the increase in medical spending is due to the introduction of new technology. Few policy analysts recommend that we forgo these improvements to save money.

Another demand-side factor leading to more spending is the prevalence of health problems associated with obesity and other lifestyle conditions and the onset of diseases related to an aging population. The prevalence of unhealthy lifestyles is another reason for increased health care spending. Poor nutrition, too many calories, and too much fat, along with a lack of exercise, have led to an alarming increase in the proportion of the population that is overweight and obese. Obesity-related conditions may be responsible for as much as 27 percent of inflation adjusted per capita medical expenditures in the United States (Thorpe et al., 2004).

Insurance coverage has increased dramatically over the past four decades. Insurance, both public and private, covered 62.7 percent of all medical spending in 1970. By 2015, third-party insurance accounted for almost 90 percent of all medical care spending. As a result, the percentage paid out of pocket has fallen from 37.3 percent of total spending to less than 10 percent over that same period. To determine the extent that increased insurance coverage contributes to overall spending, Finkelstein and McKnight (2008) examined how the introduction of Medicare in 1965 affected spending by the elderly. They calculated that the overall increase in insurance coverage might be responsible for as much as one-half of the increase in per capita spending from 1950 to 1990.

According to recent census estimates, approximately 30 million Americans were still without health insurance. Having no health insurance is not the same thing as having no access to medical care. In fact, the uninsured in this country receive about 60 percent of the medical care per capita of those with insurance. Nonelderly Americans who were privately insured spent $4,876 per capita on medical care in 2013 compared to $2,443 for those who were uninsured the entire year and $3,439 for those uninsured part of the year. In contrast, per capita spending in Canada that year was $4,502. While uninsured Americans are not going without care, they do receive less care than insured Americans do (Coughlin et al., 2014).

accountable care organization (ACO) An integrated care network of physicians, clinics, hospitals, and other health care providers who coordinate to provide comprehensive medical care to a well-defined population of patients.

Most patients do not venture too far from home when they seek medical care services. Local provision is the norm, whereas travel for services is uncommon. Consolidation of service delivery in search of scale economies and market power is a common practice in markets of various types. Medical care delivery is no exception. Certain aspects of the ACA actually encourage further consolidation in a variety of ways. A favorable regulatory climate has led to an increase in merger activity fostering the development of the **accountable care organization** (ACO). The ACO (serving as the integrator in the movement to accomplish the triple aim) brings together an integrated system of health care delivery extending from primary care clinics, specialty centers, inpatient care, rehabilitation, and more. The organizational structure concentrates market share under one entity, often expanding

bargaining power with private payers resulting in prices that are often double those paid by Medicare and Medicaid.

Robinson (2011) found that hospital prices and contribution margins were higher in concentrated markets for similar patients than those in markets that were more competitive. He examined two heart and four orthopedic procedures and found average prices ranged from 13 to 29 percent higher. Robinson and Miller (2014) also found higher prices in hospital-owned physician organizations in California. They found higher total spending for commercial health maintenance organization (HMO) enrollees when hospitals were owned by physician groups.

Undoubtedly, all these factors are responsible in one way or the other to the overall inefficiencies in health care delivery and finance. Debate over the relative impact of these factors has contributed to the political divide on the necessary steps to address the spending problem. One thing is certain: To control spending, we must spend our health care dollars efficiently. Until everyone—patient, provider, and payer—has the incentive to spend money wisely, the problem will remain.

The Role of Prices There is a link between high spending and relatively high input prices (Anderson et al., 2003; Anderson, Hussey, and Petrosyan, 2019). In the United States, physicians earn considerably higher salaries, hospitals charge substantially more for their services, and prices for branded pharmaceuticals are higher than in the rest of the developed world.

However, health care inflation may not lead to the growth in health care spending. To understand the role of medical pricing as a factor in high and rising medical care spending, we must first consider medical pricing in the context of overall price inflation (see Figure 2.2). Clearly, since 1975, medical care pricing has exceeded the overall inflation rate by an average of 1.8 percent annually (using the personal consumption expenditure, or PCE, price index to measure inflation). At the same time, it seems that we can divide the chart into two distinct periods, with the dividing line the mid-1990s. Medical inflation exceeded overall inflation by an average of 3.4 percent per annum up until 1995 and 0.58 percent thereafter.

Our experience over the past 20 years has provided some evidence that excess medical inflation may not be as big an issue as it once was. Regardless, there is no guarantee that keeping medical inflation in line with overall inflation (even if both are relatively low) will solve our health care spending problem. Figure 2.3 clearly reveals that since 1995 even as excess medical inflation fell, the gap between medical price inflation and the growth in health care spending remains about the same. The difference increased from 2.9 percent in the first half of the period to over 3.5 percent in the latter half.

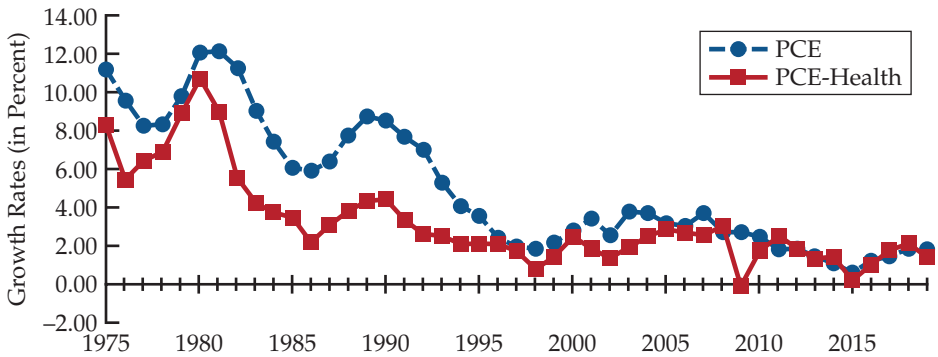
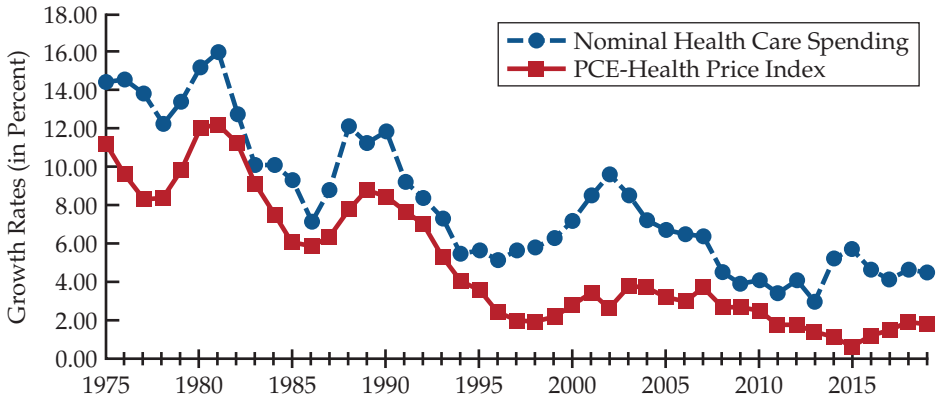


FIGURE 2.2
Growth in Prices: PCE and PCE Health Care, 1975–2019

FIGURE 2.3
Growth in Nominal Health Care Spending and PCE-Health Price Index, 1975–2019

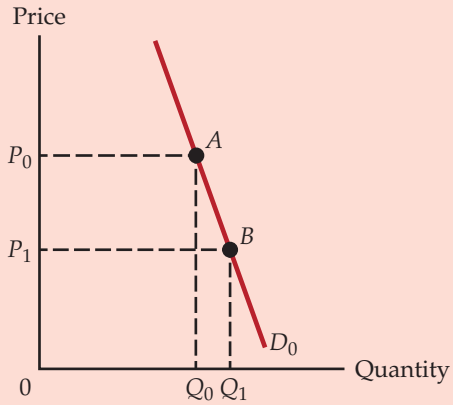


As we saw earlier in the chapter, health care spending as a percentage of GDP continues to increase steadily over time. Health care spending growth continued on its downward path until 2014 when it abruptly jumped back up to over 5 percent per year. Despite low medical inflation, we are experiencing accelerated growth in spending, reverting back to our earlier experience. What exactly did President Obama mean when he said that we are going to bend the health care cost curve?

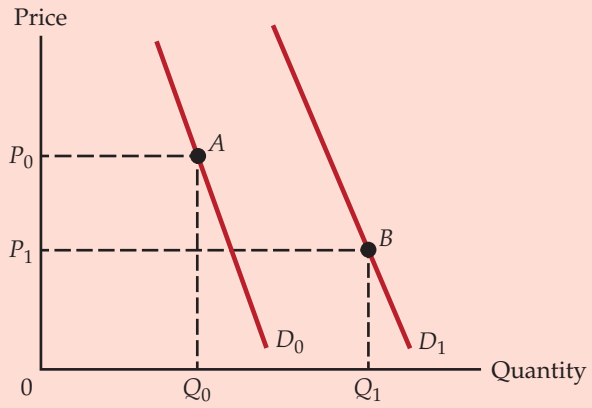
BACK-OF-THE-ENVELOPE

Why a Price Ceiling May Not Lower Spending

It is easy to understand why the casual observer could expect price controls to slow spending growth. Using the following diagram, we depict the demand for medical care by the downward-sloping demand curve, labeled D_0. For purposes of this discussion, assume that providers are accommodating to the wishes of the patient population and supply all the medical care desired at the prevailing price. If equilibrium is at point A, quantity demanded is Q_0, and price is P_0. Total spending will be P_0 times Q_0, depicted by the area $0P_0AQ_0$. If regulators enact a price ceiling at P_1, the new equilibrium will be at point B, and quantity will be Q_1. Since demand for medical care is relatively price inelastic, the new level of spending, $0P_1BQ_1$, is less than before (if the demand were relatively elastic, the new level of spending would be greater).



It would be great for policymakers if things worked out this way. Controlling the growth in medical care spending would be simple. Mandate lower prices in a market characterized by inelastic demand, and spending levels will fall. Several problems are inherent in this approach. Providers will only accommodate patient desires up to a point. Drive the price down below cost, and quantity supplied will go down. Even with accommodating providers, spending is likely to rise. The following diagram shows how.



Begin with the same demand curve D_0, price P_0, quantity Q_0, and spending $0P_0AQ_0$. A price ceiling at P_1 creates an incentive for providers to increase service intensity and may even influence demand. Expanding the size of the eligible population and incorporating advances in technology created for the uncontrolled segment of the market—which is three to four times larger than the controlled segment—work together to shift demand to the right, to D_1. The resulting level of spending, $0P_1BQ_1$, is actually higher than before the drop in price.

Factors Associated with Spending Growth: Recent Evidence Taking different approaches empirically, Dieleman et al. (2017) and Hartman et al. (2020) examine the relationship between recognized factors and the growth in health care spending over time and across medical conditions. The Dieleman study addressed five factors typically associated with spending growth: population size, aging, **disease incidence**/prevalence, service utilization, and price and intensity of care. Over the period 1996–2003, health care spending increased over $933 billion. Three of the five factors were associated with 85 percent of the increase. Price and intensity of the services delivered were associated with over 50 percent of the change in spending, population size was associated with 23 percent, and population aging was associated with 12 percent.

disease incidence The occurrence of new cases of a specific disease over a specific period of time.

Hartman et al. (2020) examining a different period, 2004–2018, provides a slightly different perspective but similar results. In their research, population demographics consistently account for 10–15 percent of spending increases, regardless of time period examined. Between 2004 and 2013, service utilization and intensity of care accounted for 10–30 percent of the growth in spending. However, from 2014 to 2018 it was a bigger factor accounting for as much as 50–70 percent of spending growth. Over time, medical prices played a more significant role, associated with as much as 60–70 percent of the growth in spending in the early period and 40–50 percent in the latter.

Other possible factors contributing to the slowdown point to a temporary decline in the introduction of new medical technologies and increase in patient cost sharing in the

form of higher deductibles and copays (Chandra, Holmes, and Skinner, 2013). In addition, because Medicare and Medicaid represent over 40 percent of all spending, aggressive action on the part of the federal government (shift to managed care and reduction in payment rates to providers) has led to action by private insurers to make cost-saving adjustments of their own.

Modeling Health Care Spending

A growing economy allows more resources to be devoted to those areas of the service sector where productivity may lag, including medical care, education, police protection, and the performing arts. In an economy where productivity is growing in most sectors, consumers can still have more of everything. It is merely a matter of devoting a different proportion of income to the production of the various sectors (Baumol, 1967). This challenge requires incentivizing resource owners to keep them in sectors where productivity is stagnant. Resources (including income) chase productivity, and transferring resources to sectors where relative productivity is growing increases income.

The fact that research tends to rely on ad hoc reasoning to explain the causes of our high spending explains why we have no real solution to the spending problem in medical care. With no formal theory to explain or predict per capita health care spending, we tend to rely on empirical work based on data availability. As a result, much of the research has focused on the relationship between health care spending and GDP. It is usually highly critical of U.S. health care spending as excessive, wasteful, and an inefficient use of resources. It often argues that while spending is high, outcomes are poor. There may be a grain of truth in all the criticism; however, it still begs the question: Why is health care spending high in the United States (and everywhere else in the developed world)?

Baumol's Model of Unbalanced Growth William Baumol (1967) addressed this issue in an important paper over 50 years ago. He divided the economy into two sectors: the progressive sector where we observe regular productivity growth and the non-progressive sector where productivity lags. The reasoning is simple. Capital equipment (automation) is the source of economies of scale, and regular productivity growth is the result of technological innovation. Extensive implementation of physical capital in service industries often increases cost and without improving productivity.

Consider two sectors, call them Sector 1 and Sector 2, where only Sector 1 experiences regular productivity growth. The sectors compete with each other for scarce resources. There is a close relationship between resource prices in the two sectors because each represents alternative employment opportunities for the other. In other words, firms must realize that the opportunity cost of the resources they employ (measured by the prices paid in the other sector) determines the prices they must pay for the resources they employ. If firms ignore opportunity cost and pay lower prices, the owners of these scarce resources will transfer them to the sector paying higher prices.

We derive Baumol's model as follows. Remember, in the standard production process, output (Q) is a function of the resources used (R). This process operates in two separate sectors (denote sectors by i, where $\mathrm{i} = 1, 2$).

$$Q_{\mathrm{i}} = Q_{\mathrm{i}}(R_{\mathrm{i}}) \tag{1}$$

Marginal cost (MC_{i}) in each sector is equal to the ratio of resource prices (P_{Ri}) and their marginal productivity (MP_{Ri}).

$$MC_{\mathrm{i}} = P_{\mathrm{Ri}}/MP_{\mathrm{Ri}} \tag{2}$$

Profit-maximizing firms will set marginal cost equal to marginal revenue ($MC_i = MR_i$). Thus, through substitution

$$MR_i = P_{Ri}/MP_{Ri} \tag{3}$$

Rearranging terms (multiplying both sides by MP_{Ri}), we get (4).

$$P_{Ri} = MR_i \times MP_{Ri} \tag{4}$$

If the respective product markets where each firm operates are perfectly competitive, then the price of the product (P_i) is equal to its marginal revenue (MR_i). Substituting into equation (4) results in (5).

$$P_{Ri} = P_i \times MP_{Ri} \tag{5}$$

The right-hand side of equation (5) is the value of the marginal product of resource i (VMP_{Ri}), which is the demand curve for resource i.

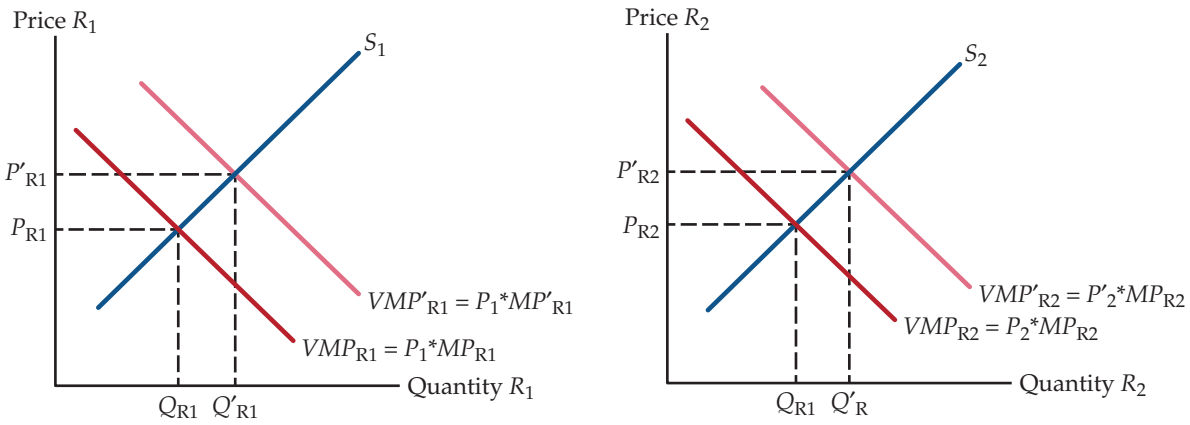
equilibrium The market-clearing price at which every consumer wanting to purchase the good finds a willing seller.

Figure 2.4 is a graphical depiction of Baumol's model. Assume that initially the resource markets in both sectors are in **equilibrium** where resource supply (S_i) and resource demand (VMP_{Ri}) intersect. Prices (P_{Ri}) and quantities (Q_{Ri}) are determined in each sector.

In Sector 1, assume an increase in resource demand depicted by a shift in the resource demand curve from VMP_{R1} to VMP'_{R1}. The increase in demand is caused by an increase in the marginal productivity of the resource ($MP'_{R1} > MP_{R1}$). The price of the resource increases from P_{R1} to P'_{R1} even as the price of the product produced stays the same at P_1. In other words, resources are more productive, resulting in higher resource prices without affecting the marginal cost of producing the product nor the product price.[2]

Production in Sector 2, the non-progressive sector, does not experience the same regular productivity growth as in Sector 1. When resource productivity rises in the progressive sector resulting in higher resource prices there, if firms in the non-progressive sector wish to operate with the same level of resources (prevent them from migrating to

FIGURE 2.4 Graphical Depiction of Baumol's Model



[2]It is evident from equation (2) that when the price of the resource (P_{R1}) increases proportionately with the marginal productivity of the resource (MP_{R1}), the marginal cost of production (MC_i) does not change.

the progressive sector), resource prices must also increase in the non-progressive sector (in this case to P'_{R2}). The only way for that to happen is for prices to rise in the non-progressive sector (depicted by a change in the price level P_2 to P'_2). When output prices rise, the demand for resources in the non-progressive sector increases from VMP_{R2} to VMP'_{R2} and resource price goes up. Moreover, because product demand is price inelastic in the non-progressive sector, higher output prices result in higher spending (because higher provider revenues mean higher consumer spending). Over time, spending in the non-progressive sector increases more than spending in the progressive sector and the overall economy experiences a growing share of overall spending in the non-progressive sector.

The Health Care Cost Disease Baumol (1993) refers to the phenomenon of lagging productivity in the non-progressive sector, the service sector, as the "cost disease" of personal services. Applying this reasoning to medical care provides us with two main factors that contribute to the lag in productivity. First, medical services are hard to standardize, making it difficult to automate. Before you can cure someone, it is necessary to diagnose the problem. The very nature of diagnosis and cure is case-by-case. Thus, productivity tends to lag behind the rest of the economy. Second, most patients perceive that the quality of the care they receive is positively correlated with the amount of time the physician spends with them. Thus, it is difficult to reduce the labor content of medical services. Patients often interpret less face time with their physicians as poor quality of care. Many apply the same reasoning to education, the performing arts, legal services, and insurance.

Growth in health care spending outpaces growth in the rest of the economy. Since 1975, health care spending has grown at an annual compound rate of 8.1 percent compared to GDP (less health care) that grew at only 5.8 percent per year (see Figure 2.5). Every year health care spending growth on average exceeded GDP growth by 2.3 percentage points. It is no wonder that health care represents a larger share of the economy today than in 1975. If the trend continues, the health care sector will continue to absorb an ever-increasing share of GDP in the future.

Visual inspection of the nearby figure leads one to believe that we can divide the period since 1975 into two segments with 1995 as the midpoint. Between 1975 and 1995, health care spending grew an average of 11.3 percent annually, while the rest of the economy grew an average of 7.9 percent per year, resulting in an average annual gap of 3.4 percent. Since 1995, health care spending has grown an average of 5.9 percent per year. The annual average

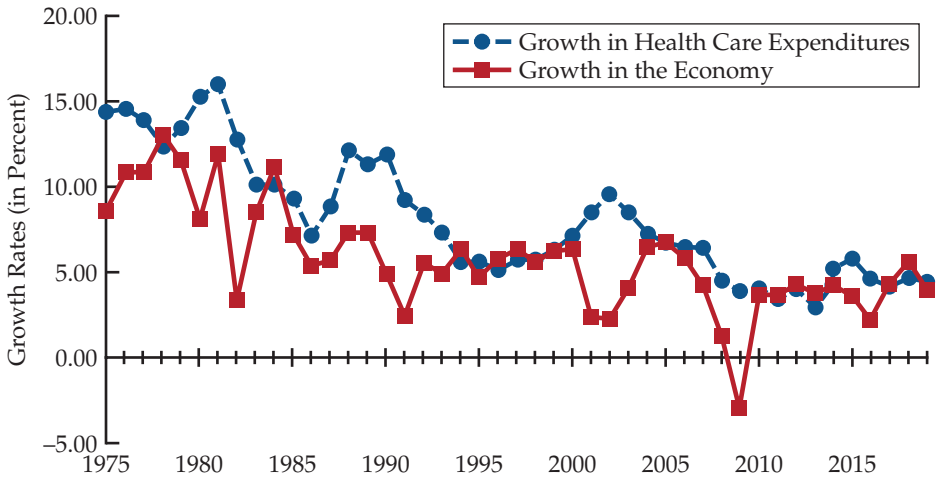


FIGURE 2.5
Growth in Health Care Expenditures versus Rest of the Economy, 1975–2019

for the rest of the economy was 4.3 percent, or a gap of 1.5 percent. Was there a significant systemic change that occurred in the mid-1990s that resulted in the narrowing of the gap?

Some analysts point to the introduction of managed care with its strong emphasis on cost-saving measures that affected both patients and providers. Selective contracting was introduced where providers accepted lower prices, utilization guidelines, and in some cases risk sharing in the form of capitated payment. In return, they would become part of a network of providers that served enrollees, providing all necessary services. Patients who strayed from network providers faced penalties in the form of greater cost sharing. The gap in growth between health care spending and the rest of the economy virtually disappeared during the late 1990s, but a severe backlash against the harsh practices of managed care saw health care spending growth rebound in the early 2000s, even while a recession affected the rest of the economy. Since passage of the ACA in 2010, the average gap has narrowed further to 0.5 percent.

correlation A simple association between two variables. The actions are related to one another without either one causing the other.

There is a strong **correlation** between the growth in national health expenditures and the growth in the rest of the economy. This slowing in the growth of health care spending relative to the rest of the economy is not a recent phenomenon. It began in the 1990s and experienced two disruptions corresponding to the two recessions in the 2000s. Whether these trends will continue is anybody's guess. One thing is certain, downturns in the overall economy tend to widen the gap and make it even more difficult to address the relative spending problem experienced by modern developed economies.

Summary and Conclusions

The medical care industry in the United States is large and growing in relative size. Medical care is one of the largest industries in the vast U.S. economy. At more than $4 trillion, it was four-and-one-half times larger than the domestic auto industry and four times larger than the total defense budget in 2020. In addition, medical care employed more people and exported more goods and services than either defense or automobiles. It may be difficult to imagine, but the economic output of the U.S. medical care industry was larger than the entire French economy.

We should also be aware that one person's spending is another person's income. Not everyone has the same perspective on high and rising spending. The high cost of medical care serves as an incentive for innovative strategies to expand treatment options that patients enjoy. There are costs and benefits to the new treatments that encourage high spending. In no way does this mean we should ignore high spending. We simply need to maintain a balanced perspective on what we are getting for the money we spend, knowing that every dollar we spend on medical has an opportunity cost. One dollar spent on medical care means one fewer to address other priorities.

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APPENDIX 2A

Using Indexes to Adjust Medical Spending for Inflation

When examining medical care spending over time, there are two different ways to report the data: in nominal terms or in real terms. The choice of nominal or real depends on the purpose of your inquiry. If you are examining the share of medical care expenditures as a percentage of gross domestic product (GDP), the appropriate measure is nominal spending. In a situation where you are comparing spending in one year with spending in another year, you may want to report real (inflation adjusted) spending. When reporting real spending, you must decide on the measure of inflation. Should you use an economy-wide measure for general inflation or a more specific measure targeting price changes in the medical care sector?

When considering resource allocation across different sectors of the economy (health and non-health) where the value from a societal perspective is important, a general price index such as the consumer price index (CPI) is the most useful. If your goal is to compare health care spending in one year in terms of the value of money in some other year, an inflation index using medical prices is appropriate. The purpose of this brief appendix is to provide guidance for the choice of index to use when adjusting medical care spending for inflation.

Measuring Price Changes with Index Numbers

There are two major types of indexes: Laspeyres and Fisher. The Laspeyres index is a fixed-weight index that measures arithmetic mean of the price changes for a market basket of items defined for a base period. A Fisher index is the result of calculating the geometric mean of the Laspeyres index (using the base period basket of goods) and the Paasche index (using the current year basket of goods).[3] Using the Fisher index has two advantages: It continuously adjusts the market basket for changes in spending behavior over time, and it takes into account the time value of money that changes from period to period.

The principal measure of inflation used by business and government policymakers is the year-to-year change in the CPI-U (U indicates *all urban consumers*). The index plays an important role in determining cost of living adjustments (COLAs) for wages and benefits. This fixed-weight Laspeyres index has become the index of choice used to measure inflation.

Another important refinement is chain weighting the index. A chain-weighted index adjusts for changes in consumer behavior by changing the weights of the items in the market basket regularly. The Bureau of Labor Statistics (BLS) redefines the base year basket every two years (with a three-year lag).

The Bureau of Economic Analysis (BEA) publishes an alternate measure of inflation, the personal consumption expenditure (PCE) price index. There are two major differences between the two measures. The CPI is based on a survey of what consumers are buying and the PCE on what firms are selling. Another difference is the scope of the spending covered in the indexes. The CPI measures what consumers are spending out of pocket, excluding spending on behalf of consumers such as employer-provided insurance, Medicare, and Medicaid (over 75 percent of overall spending). The PCE price index includes spending from all sources.

[3]The GDP price deflator is a Paasche index, comparing the prices of a bundle defined by current period consumption with the prices of that basket during a previous period. The composition of the market basket changes every year to reflect different spending patterns.