This fully updated and revised 12th edition of the highly acclaimed textbook on health care delivery provides graduate and undergraduate students with a comprehensive survey of health care in the United States with topics ranging from the organization of care, the politics surrounding health care in the United States, to population health and vulnerable populations, health care costs and value, health care financing, and health information technology. Chapters provide thorough coverage of the rapid changes that are reshaping our system and the extent of our nation’s achievement of health care value and the Triple Aim: better health and better care at a lower cost. With an emphasis on population health and public health, this text includes a timely focus on how social and physical environments influence health outcomes. Prominent scholars, practitioners, and educators within public health, population health, health policy, health care management, medical care, and nursing present the most up-to-date evidence-based information on social and behavioral determinants of health and health equity, immigrant health, health care workforce challenges, preventive medicine, innovative approaches to control health care costs, initiatives to achieve high quality and value-based care, and much more.

Designed for graduate and advanced undergraduate students of health care management and administration, nursing, and public health, the text addresses all complex core issues surrounding our health care system and health policy, such as the challenges to health care delivery, the organization and politics of care, and comparative health systems. Organized in a readable and accessible format, contributors provide an in-depth and objective appraisal of why and how we organize health care the way we do, the enormous impact of health-related behaviors on the structure, function, and cost of the health care delivery system, and other emerging and recurrent issues in health policy, health care management, and public health. The 12th edition features the contributions of such luminaries as former editor Anthony R. Kovner, Michael K. Gusmano, Carolyn M. Clancy, Marc N. Gourevitch, Joanne Spetz, James Morone, Karen DeSalvo, and Christy Harris Lemak, among others. Chapters include audio chapter summaries with discussion of newsworthy topics, learning objectives, discussion questions, case exercises, and new charts and tables with concrete health care data. Included for instructors are an Instructor’s Manual, PowerPoint slides, Syllabus, Test Bank, Image Bank, supplemental e-chapter titled A Visual Overview of Health Care Delivery, access to an annual ACA update and health policy changes, extra cases and syllabus specifically for nurses, and a transition guide bridging the 11th and 12th editions.

New to the 12th Edition:
• Three completely revised chapters on the politics of health care, vulnerable populations, and health information technology
• Expanded coverage on population health and population health management, health equity, influences of social determinants on health behavior and outcomes, health education planning, health workforce challenges, national and regional quality improvement initiatives and more
• Revised e-Chapter providing A Visual Overview of Health Care Delivery in the United States and Image Bank for the 12th Edition
• Access to Springer Publishing Company's annual ACA update
• Audio podcasts provide summaries for each chapter with real-world context of topics featured in the news
• New appendix with overview of U.S. Government Public Health Agencies
• Access to fully searchable ebook, including extra e-chapters and student ancillaries on Springer Publishing Connect®
• Full Instructor Packet including Instructor's Manual, Test Bank, PowerPoint slides, Image Bank, and Case Exercises for Nursing Instructors
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HEALTH CARE DELIVERY IN THE UNITED STATES
James R. Knickman, PhD, is the Robert Derzon Chair in Public and Health Affairs at New York University with joint appointments at the NYU Wagner School of Public Service and at NYU Langone Medical School’s Department of Population Health. He has spent four decades splitting his time between academe and the philanthropic sector. His work focuses on health policy and he has played many roles both as a researcher and a leader in philanthropy to advance the use of public policy to improve the American health care system. He was a Vice President at the Robert Wood Johnson Foundation and President of the New York State Health Foundation. He has a PhD in Public Policy Analysis from the University of Pennsylvania and did his undergraduate work at Fordham University. He serves on the Board of Directors at three non-profit organizations, including chairing the National Council on Aging.

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### SUPPLEMENTARY MATERIAL

- The Affordable Care Act: An Update  
- The Affordable Care Act: A Brief History, Assessment, and Future Challenges  
- Provisions of the Patient Protection and Affordable Care Act of 2010  
- eChapter: A Visual Overview of Health Care Delivery in the United States  
- Case Exercises for Nurses  

indicates a podcast is available for the chapter.
FOREWORD

According to Russo and Gourevitch (Chapter 5), Americans’ chances for living long and healthy lives are not improving, despite ever-greater spending on health care itself. The United States spends more and its residents are in worse health than nearly all other developed economies. This is one of the main issues that health care leaders and managers need to address in the coming years. Can we get more value for the money we are spending on health care? Besides being a local matter, whose delivery differs in each community, health care presents national economic and political challenges to us all. Many principles of improving healthcare, such as ensuring better access to care, higher quality care, and controlling costs and spending are held by a spectrum of “tribes” within the major political parties. But there seem to be a few differing principles, such as requiring Americans to buy mandatory health insurance or pay a tax penalty, that hurt the ability to create a more stable system and provide more value to Americans.

This book provides evidence based on history and context to draw your own conclusions rather than playing to existing views and biases. For example, one part of the solution to our delivery problems may be to have health workers work more effectively in interdisciplinary teams. Insights into some of the consequences of this kind of solution can be found in a number of chapters in this book: Organization of Care (how is care organized?), Politics of Healthcare (how do political choices impact how it is governed and how care is paid for?), Comparative Health Systems (how is care organized in other countries?), The Health Workforce (who is in the workforce and what do they do?), and also in chapters about what health care costs and what value do we get for our money, how is quality health care assured, and what are the various futures of health care delivery.

Over 500,000 readers of this book in its previous editions have been introduced to the issues facing our nation in delivering health care and striving to keep people healthy. The book lays out the evidence of what has and has not worked in health care, and where the challenges lie ahead. A strength of the book is that it both helps readers become more knowledgeable about how the health system works and explains why it is so complicated to make the system work better. A few notable examples discussed in Chapter 15 of the 12th edition include the challenges of privately sharing “big data” across health care organizations to achieve secured and accurate interoperability, of addressing the high costs of prescription drugs causing financial toxicity, of creating a more vibrant culture of health, of meeting the demands of an increasing aging population, and of addressing the health care workforce shortages which impact the occupations of those who use this book, such as managers, nurses, physicians, and public health workers.

This book has been in the making for over 40 years and 12 editions. NYU Dean Sherry Glied said about the 11th edition that it demonstrates once again why this
volume has come to be so prized—it helps readers of different health care professions chart a middle course to a swinging pendulum of health system reform and prepares them to take a long view to cope with challenges that affect health care delivery in the United States. I predict the 12th edition will be equally prized. 

*Health Care Delivery in the United States* gives the reader what he or she needs to understand and form opinions about the issues, to understand which factors cause which results, and to better understand what we know about health care and what we don’t know, what we can fix in the short run, and what we can’t fix without making changes which are politically unacceptable to those who have the votes or the dollars.

*Health Care Delivery in the United States* benefits from the talents and experience of James R. Knickman and Brian Elbel who now succeed me as editors of this text. I have worked with both of these NYU faculty for many years and they are wise and good friends. Jim started his career as a faculty member at NYU, where he has returned. He is best known for his many years as a leading grantmaker supporting health services research and innovation as head of research and evaluation at the Robert Wood Johnson Foundation. He also spent 10 years building the New York State Health Foundation which, under his stewardship, has been an important contributor to health system improvements in New York State. Brian Elbel is a professor both at NYU School of Medicine and NYU Wagner’s Health Policy and Management program. His research focuses on how public policy, environmental factors, and community initiatives can influence the choices people make, particularly on food policy. Jim and Brian bring disciplinary perspectives of policy and economics to delivering a textbook that effectively introduces learners to the complex worlds of American health care.

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ACKNOWLEDGMENTS

The editors would like to express deep appreciation to the team of people who made this book possible. First, we thank our 28 authors of the 15 chapters that comprise the book. They are all noted experts in their fields, and we appreciate their willingness to translate their knowledge into chapters that introduce future leaders to the workings of the U.S. health system. Second, we wish to acknowledge the superb editorial role played by David D’Addona and Jaclyn Shultz as well as the quality control of production under Joanne Jay’s direction at Springer Publishing Company. We appreciate David’s insights about how to publish a textbook that is current to the digital landscape and have benefited from Joanne’s keeping the process moving in creating an effective and enjoyable learning experience for HCDUS readers. We thank Natalie Covill and Allison Mercurio who each provided valued assistance gathering current data to update the book. We value the sage advice and assistance of our colleague and friend, Anthony Kovner, who helped to set the bar high for this book over many years. Finally, we would like to acknowledge Steve Jonas, who originated this book 12 editions ago.
ORGANIZATION
OF THIS BOOK

This is the 12th edition of Jonas & Kovner’s Health Care Delivery in the United States, which, although its title has evolved in the last 40 years, has stayed true to its original purpose: helping instructors and students better understand the complicated, expensive, and ever-changing U.S. health care delivery system, public health system, and health policy. It is a privilege to be able to work with instructors around the world to introduce the leaders of tomorrow to the health field.

Our nation has embarked on an ambitious attempt to reshape how we go about taking care of the health concerns of our population and, with a new administration, faces scrutiny and attempts to dismantle and defund the Patient Protection and Affordable Care Act (ACA). On the one hand, there is a renewed energy to develop initiatives that focus on keeping people healthy. On the other hand, there is a great deal of experimenting with the organization of the care system that addresses the needs of people who have medical problems associated with injuries and disease. The aim of this experimentation is to improve the quality of health and medical care and to bring costs in line with what Americans can afford and want to spend on the health sector. Inefficient and inconsistent quality and value of care have led to political posturing and efforts to reduce the ACA’s influence on the health care delivery system.

This text begins by describing the current status of the U.S. health care system and explaining the complicated public policy process that has so much influence on the way health care is delivered and financed in this country (Part One). Following Part One, we address both the challenge of keeping people healthy (Part Two) and the challenge of delivering efficient medical care that helps people recover from medical conditions that do occur (Part Three). The text ends with a consideration of where the health system might be headed in the years to come and what forces will shape it over time (Part Four).

Each chapter starts with a list of the learning objectives addressed by the chapter, a list of key terms that are central to the chapter’s focus, and an outline of what is to come. Each chapter ends with a list of discussion questions and a case exercise encouraging the reader to apply the ideas of the chapter to real-life issues and challenges that face health care leaders focused on management issues and policy issues. For nursing instructors, there are additional case exercises available online that add a specific nursing context for students.

In addition to this text, an online Instructor’s Manual, which includes a variety of background materials that teachers will find useful in guiding class discussion, is available. It also offers additional resources and class projects that are useful to students and the learning process. There are also several online supplements, including four eChapters: covering the Provisions of the Patient Protection and Affordable Care Act of 2010, A Visual Overview of Health Care Delivery in the

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United States, The Affordable Care Act: A Brief History, Assessment, and Future Challenges and an annual ACA Update. Additionally, PowerPoints, Syllabi, a Test Bank, and a Transition Guide are available to instructors via textbook@springerpub.com. New to the 12th edition are audio podcast chapter summaries that can be accessed in print, ebook, and online versions of the text by students and instructors alike.

Students and instructors are encouraged to visit Springer Publishing Connect™ for all additional materials pertaining to the text by using the access code on the inside front cover.

We encourage instructors and students to communicate with us about this edition, so that we may make the 13th edition even more useful to you. Please submit any comments or questions to us at james.knickman@nyu.edu and brian.elbel@nyulangone.org, and we will get back to you. As always, we appreciate your suggestions.

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Brian Elbel, PhD, MPH
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Committee for Quality Assurance and was also named as Honorary Fellow, American Academy of Nursing.

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Jonas & Kovner’s: Health Care Delivery in the United States, 12th Edition
Organization of Care
Amy Yarbrough Landry and Cathleen O. Erwin

LEARNING OBJECTIVES
▶ Describe the current care delivery system
▶ Define and distinguish between types of health care services along the continuum of care
▶ Identify and discuss types of organizations in the U.S. health care delivery system
▶ Increase awareness of new mechanisms for health system performance improvements
▶ Understand and discuss future trends in the health delivery system
▶ Describe innovative approaches to improving care delivery

KEY TERMS
▶ academic health center
▶ accountable care organizations (ACOs)
▶ accreditation
▶ ambulatory care
▶ average length of stay (ALOS)
▶ centers of care
▶ certification
▶ chronic care
▶ community health improvement
▶ continuing care retirement community
▶ continuity of care
▶ continuum of care

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corporate practice of medicine (CPOM)
emergency care
end-of-life care
health homes
horizontal integration
hospice care
inpatient
instrumental activities of daily living (IADLs)
long-term care
multispecialty group practice (MSGP)
outpatient
palliative care
patient-centered medical home (PCMH)
population health
prehospital care
primary care
private practice
privileges
public health agencies
quaternary care
rehabilitation clinics
same-day surgery
single specialty group practice
solo practice
specialty care
special hospitals
subacute care
tertiary care
urgent care centers
vertical integration

**TOPICAL OUTLINE**
- The current organization of the health care delivery system
- Types of health care delivery organizations
- Health system performance
- The future of the health care delivery system
- Examples of best practices in the organization of medical care
INTRODUCTION

In the United States, health care is delivered through a complex and multifaceted system of private and public institutions that operate in cooperation with, but largely independent of, each other. Unlike many other countries, the United States has no central governmental agency to control the delivery of health care, although delivery is heavily influenced through health care legislation and the government’s role as a major purchaser of health care services through Medicare, Medicaid, and other public programs. The continuum of care in the United States encompasses care from the cradle to the grave and includes services focused on both the prevention and the treatment of medical conditions and diseases as well as end-of-life care.

The individuals and organizations that provide care in the United States are faced with increasing pressure and scrutiny from the government, private insurance organizations, and the public to provide the highest quality of care while controlling costs and increasing access to underserved populations. Consequently, health care services and organizational structures are continuously being adapted to meet the demands and mandates of health care policy and to survive and thrive in this dynamic health care environment.

This chapter describes the current health care delivery system in the United States, including services, organizations, health system performance, and new innovations in care delivery.

DESCRIPTION OF THE CURRENT CARE DELIVERY SYSTEM

The World Health Organization (WHO) defines health as a “state of complete physical, mental and social ‘wellbeing’ and not merely the absence of disease or infirmity” (WHO, 2017). By definition, the health system includes all organizations, institutions, and resources that have a primary purpose of promoting, restoring, and/or maintaining health (WHO, 2015). From a broad, comprehensive perspective it includes care delivered through traditional clinical and public health settings as well as contributions to health from a variety of community organizations that have a stake in or can affect the health of individuals and communities.

The following sections provide a general discussion of the types of clinical health care services available in the United States, the types of organizations through which these services are delivered, and how these and other organizations are involved in the fields of community health, community benefit, and population health.

Health Care Services

Health care services are provided for the purpose of contributing to improved health or to the diagnosis, treatment, or rehabilitation of sick people. Health care
Health care services are provided for the purpose of contributing to improved health or to the diagnosis, treatment, or rehabilitation of sick people.

services include prevention, cure, rehabilitation, and palliation efforts oriented to either individuals or populations.

Prevention

Prevention of disease and maintenance of general good health are the focus of health promotion and preventive services. Health status is affected by a number of factors, including health policy, individual behavior, social determinants, physical determinants, biology and genetics, and availability of health services. Services associated with prevention may be focused on the health of an individual or the health of a population. Although prevention services have always been available in the United States, an even greater emphasis is placed on prevention because of its prominence in the Patient Protection and Affordable Care Act of 2010 (ACA) as an essential component of health insurance benefits. Most health plans must cover a set of preventive services at no cost to the beneficiary. Additionally, a variety of new reimbursement mechanisms used by both private and governmental payers incentivize provider organizations to keep patient populations healthy and out of the hospital.

The prevention field often distinguishes interventions delivered by a health care provider (clinical prevention services) from those delivered by non–health care providers (community-based prevention initiatives). According to the Institute of Medicine (IOM, 2012), a holistic view of community-based prevention incorporates cultural, social, and environmental changes; also, community-based prevention is often more difficult to fund and staff than clinical interventions. Certain preventive services may be offered through a clinical–community relationship that might entail a primary care provider making a connection with a community-based organization to provide specific services (such as a community-based weight-loss program) or collaboration between clinical and community-based organizations to network, coordinate, or cooperate on preventive services delivery. Additionally, the field sometimes distinguishes between prevention initiatives that focus on individuals one at a time and initiatives that are more population-based, working with larger groups of people (e.g., efforts to increase the availability of healthy food in low-income neighborhoods).

PUBLIC HEALTH, COMMUNITY HEALTH, AND POPULATION HEALTH

It’s important to distinguish between the fields of public health, community health, and population health, which are sometimes used interchangeably yet differ somewhat in definition and scope. Traditionally, public health has been viewed as a function of federal, state, and local public health departments to address health concerns affecting the public at large, such as preventing epidemics, containing environmental hazards, and promoting healthy living (IOM, 2003).

A more expansive view of public health is the concept of community health improvement or community benefit, which focuses on collaboration among a wide array of organizations (e.g., public health departments, health care delivery organizations, social service agencies, government entities) to address issues
impacting the health of a particular community. The interest in how health care and public health activities could be coordinated to improve the health of communities was accelerated in the mid-1990s, fueled by organizations such as the Robert Wood Johnson Foundation, Institute of Medicine, and U.S. Department of Health and Human Services and organized hospital groups such as the Catholic Hospitals of America and Voluntary Hospitals of America (VHA), among others. The Association for Community Health Improvement is an affiliate organization of the American Hospital Association (AHA) and serves as a national association for community health, community benefit, and population health professionals. This is one avenue through which hospitals and health systems receive educational resources, tools, networking opportunities, and professional development to assist in achieving organizational community health goals.

Although many health care organizations actively engaged in community health needs assessment and activities prior to the passage of the ACA, the ACA mandates that all nonprofit hospitals complete a community health needs assessment (CHNA) process every 3 years. CHNAs are a tool that have long been used by hospitals, public health departments, and other social service agencies (e.g., United Way) to identify and prioritize significant health needs in the community. Community health also encompasses a broad perspective on the various components or factors that affect the health of a community, such as employment, crime, education, housing, transportation, food, and medical care.

More recently, the concept of population health has become an important topic and focus for health care delivery organizations and payers. It has been defined as “the health outcomes of a group of individuals, including the distribution of such outcomes within the group” (Kindig & Stoddart, 2003). In general, population health focuses on health status indicators for a defined group of people, and the goal of population health management is to improve the health of the population and reduce inequities or disparities between population groups. Ways that organizations approach population health management will be described later in this chapter.

Clinical prevention services are often categorized as primary, secondary, or tertiary, based on the stages of the disease they target.

**PRIMARY PREVENTION SERVICES** Primary prevention services are focused on preventing or reducing the probability of the occurrence of a disease in the future. Services are provided through public and private institutions and are often focused on educating the public about the risks associated with individual behaviors that can negatively affect their short- and long-term health.

Examples of primary prevention include immunizations for prevention of childhood diseases, smoking cessation programs to reduce the risk of lung cancer and heart disease, weight loss programs, prenatal and well-baby care, programs to increase workplace safety, and the promotion of hand washing to reduce the spread of influenza or other diseases. The services are provided through a wide variety of institutions, such as public health departments, physician offices, hospitals, social service agencies, places of employment, houses of worship, and broadcast media, among others.
SECONDARY PREVENTION SERVICES These services are focused on the early detection and treatment of disease in order to cure or control its effects. The goal is to minimize the effects of the disease on the individual. Secondary services are largely focused on routine examinations and tests such as blood pressure screenings, Pap smears, routine colonoscopies, examination of suspicious moles, and mammograms. Early detection and treatment often increases the probability of a successful outcome.

TERTIARY PREVENTION SERVICES These services are targeted at individuals who already have symptoms of a disease in order to prevent damage from the disease, to slow down its progression, to prevent complications from occurring as a result of the disease, and ultimately to restore good health to the person with the disease.

Tertiary prevention includes services such as providing diabetic patients with education and counseling on wound care. It also includes institutional practices such as infection control in a hospital facility to prevent illness or injury caused in the process of providing health care.

Acute Care

Acute care is short-term, intense medical care providing diagnosis and treatment of communicable or noncommunicable diseases, illness, or injury. The definition of acute care varies across the scholarly literature and textbooks. Acute care is sometimes defined as primary, specialty, tertiary, or quaternary in nature, centered around the care delivered by physicians and other providers in clinical settings (such as physician offices and hospitals). Acute care services may be provided on an outpatient basis (i.e., not requiring an overnight hospital or health care facility stay) or on an inpatient basis (i.e., requiring an overnight stay).

A more comprehensive definition of acute care includes not only these services but also the emergency services provided in the community given the time-sensitive nature of the need for diagnosis and treatment. One proposed definition of acute care includes the components of the health system where acute care is delivered to treat unexpected, urgent, and emergent episodes of illness and injury that could lead to disability or death without rapid intervention (Hirshon et al., 2013). Based on this definition, acute care encompasses a range of functions including emergency care, trauma care, prehospital emergency care, acute care surgery, critical care, urgent care, and short-term inpatient stabilization (Figure 2.1). The following sections outline the types of acute care based on the framework illustrated in Figure 2.1, although not all of the domains are discussed because of obvious overlaps. The primary, specialty, tertiary, and quaternary care definitions are incorporated into the framework to show where these levels of care best fit within the acute care model and to note relationships to other forms of care.

EMERGENCY AND URGENT CARE Emergency care is designed to provide immediate care for sudden, serious illness or injury, although it is sometimes utilized for nonemergent care by individuals who are uninsured or underinsured. A medical emergency is defined by what is known as the prudent layperson standard:
[A] condition with acute symptoms of sufficient severity (including severe pain) such that a prudent layperson, who possesses average knowledge of health and medicine, could reasonably expect the absence of immediate medical attention to result in (i) placing the health of the individual (or unborn child) in serious jeopardy, (ii) serious impairment of bodily functions, or (iii) serious dysfunction of any bodily organ or part. (Social Security Act § 1867)

Emergent types of care (such as trauma) can be classified by the triage level, that is, by the emergency severity index (ESI). The ESI is a five-level triage algorithm that clinically stratifies patients into groups based on immediacy of the need to be seen, which includes the following levels:

1. Immediate (less than 1 minute)
2. Emergent (1–14 minutes)
3. Urgent (15–60 minutes)
4. Semiurgent (61–120 minutes)
5. Nonurgent (121 minutes–24 hours)

In 2015, 7% of ED visits were classified as immediate, 7.4% as emergent, and 29.8 as urgent; the remaining 61.2% were either semiurgent, nonurgent, not triaged, or unknown (Centers for Disease Control and Prevention [CDC], 2017).

The Emergency Medical Treatment & Labor Act of 1986 (EMTALA) requires that all patients who present themselves for treatment at an ED must be screened and evaluated, provided the necessary stabilizing treatment, and admitted to the hospital when necessary—regardless of ability to pay.

Urgent care is used for an illness, injury, or condition that is serious enough for a reasonable person to seek care right away but not so severe as to require ED care. It is considered ambulatory care, which means that the person in need of care can walk (or ambulate) into the facility. However, a patient in need of “ambulatory” care may need some assistance entering the facility, depending on the nature of the illness or injury (e.g., severe ankle sprain). Services are provided by physicians and advanced practice providers (such as nurse practitioners or physician assistants) typically on a walk-in basis without a previously scheduled appointment because of the immediacy of the need. Urgent care services may be provided through a traditional physician practice or an urgent care center.

Prehospital care. Prehospital care includes medical services provided in the community, such as stabilization by emergency services before or during transportation to a health care facility. It also includes evaluation and treatment provided through local, community-based providers, as in a private physician practice setting.

Primary care. Primary care is the first and most general source for routine treatment of illness and disease. Primary care providers may be physicians, physician assistants, or nurse practitioners who have trained in family medicine, internal medicine, pediatric medicine, gerontology, or other primary care specialties, such as obstetrics and gynecology. In the managed care environment,
Treatment of individuals with acute surgical needs, such as life-threatening injuries, acute appendicitis, or strangulated hernias.

Treatment of individuals with acute life- or limb-threatening medical and potentially surgical needs, such as acute myocardial infarctions or acute cerebrovascular accidents, or evaluation of patients with abdominal pain.

Ambulatory care in a facility delivering medical care outside a hospital emergency department, usually on an unscheduled, walk-in basis (e.g., evaluation of an injured ankle or fever in a child).

Treatment of individuals with acute needs before delivery of definitive treatment (e.g., administering intravenous fluids to a critically injured patient before transfer to an operating room).

Care provided in the community until the patient arrives at a formal health care facility capable of giving definitive care (e.g., delivery of care by ambulance personnel or evaluation of acute health problems by local health care providers).

Specialized care of patients whose conditions are life-threatening and who require comprehensive care and constant monitoring, usually in intensive care units (e.g., patients with severe respiratory problems requiring endotracheal intubation and patients with seizures caused by cerebral malaria).

primary care delivery plays an important role in the coordination of care to help control costs and ensure that the appropriate level of care is sought for the health concern. Primary care providers are involved in delivering both acute care and preventive care.

**Specialty care.** Specialty care refers to care delivered through providers who are trained as specialists or subspecialists in the field of medicine. This type of care sometimes requires a referral from a primary care physician. Specialists focus on a particular body system or on a specific disease or condition; they have the knowledge and expertise to handle medical conditions beyond the realm of primary care. For example, cardiologists diagnose and treat conditions involving the heart, endocrinologists focus on hormone systems and may specialize in a disease such as diabetes, and neurologists are trained to diagnose and treat disorders associated with the nervous system—brain, spinal cord, and so on. Similarly to primary care, specialty care may be utilized to address both acute and preventive care needs.

**Chronic care.** Chronic care is the continual treatment and monitoring of conditions that can be controlled but not cured; it includes both physical and behavioral conditions. Examples of chronic conditions include diabetes, hypertension, and depression. As the life expectancy of the population has increased, so have the incidence and prevalence of chronic conditions. It is estimated that more than one-fourth of all Americans and two out of three older Americans have at least two chronic conditions, and approximately 66% of the nation’s health costs are attributable to the treatment of people living with multiple chronic conditions (Agency for Healthcare Research and Quality, 2013).

The management and treatment of chronic conditions may be delivered by primary and/or specialty care providers. By definition, chronic care is not considered acute care; however, chronic conditions can cause or exacerbate acute episodes of illness. Chronic care also fits within the category of preventive services, which include services that focus on the early detection and management of chronic conditions.

**TERTIARY CARE** Tertiary care typically involves hospitalization for specialty care that requires highly specialized equipment and expertise and involves more complex therapeutic interventions, such as coronary bypass surgery, neurosurgery, advanced neonatal intensive care, or treatments for severe burns or injuries. Some tertiary care services may be provided on an outpatient basis, such as same-day surgeries. Patients are admitted to a tertiary facility through a practitioner order from a qualified provider who has been granted admitting privileges by the facility.

**QUATERNARY CARE** Quaternary care, an extension of tertiary care, entails providing the most complex medical and surgical care for highly specialized and unusual cases. It may involve experimental procedures, experimental medications, or very uncommon surgeries or procedures. Examples of quaternary care are advanced trauma care and organ transplantation. Quaternary care is not offered by every hospital or medical center; it is more likely to be found in academic medical centers.
Subacute Inpatient Care

Subacute care is a level of inpatient care needed by a patient immediately after or instead of hospitalization for an acute illness, injury, or exacerbation of a disease process. This level of care centers on providing one or more active medical conditions or administering one or more technically complex treatments. It requires more intensive skilled nursing care than is provided to the majority of patients in a skilled nursing facility (i.e., nursing home).

The term “subacute care” has been applied to a broad range of medical and rehabilitative services and settings that provide care to patients after an acute care episode. It combines rehabilitation and convalescent services for patients who typically need 10 to 100 days of treatment and is provided in settings other than in acute care hospital beds. Subacute care is delivered in facilities licensed to provide the appropriate level of care, which includes special units established by acute care hospitals and skilled nursing facilities.

Rehabilitative Care

Rehabilitative health care services are aimed at restoring a person to his or her original state of health (or as close as possible). Rehabilitation services help a person keep, regain, or improve skills and functioning for daily living that have been lost or impaired because of illness or injury. Services include physical therapy, occupational therapy, speech-language pathology, and psychiatric rehabilitation. Rehabilitative services are offered in a variety of inpatient and outpatient settings.

Long-Term Care

Long-term care encompasses a range of services and support provided to meet personal care needs on a long-term basis, most of which is not medical care. It encompasses an array of services provided in a variety of settings for people who have lost some independence because of a medical condition, injury, or chronic illness. Long-term care is often used to provide assistance with activities of daily living (ADLs), such as bathing, dressing, using the toilet, transferring to or from a bed or chair, and eating, among others. Other common services and support assist with instrumental activities of daily living (IADLs), which are everyday tasks, such as housework, taking medication, preparing meals, shopping, and responding to emergency alerts, among others.

The duration and level of long-term care needed by individuals vary and often change over time. Long-term care services may be provided in an individual’s home or in a community setting or institution.

End-of-Life Care

End-of-life care is provided in the final hours or days of an individual’s life. This type of care includes physical, mental, and emotional comfort as well as social support for people who are living with and dying of terminal illness or a condition that is advanced, progressive, and incurable. End-of-life care requires a range of decisions. These decisions may include preparing advance directives to make
end-of-life wishes clear to family and providers as well as determining the types of treatment and care that will be utilized.

**Palliative care** is the treatment for discomfort, symptoms, and stress of serious illness, providing relief from pain, fatigue, nausea, shortness of breath, loss of appetite, or problems with sleep. Palliative care can be received at any stage of an illness but is always included in hospice care.

When the focus shifts from cure to care, a patient moves to hospice care. **Hospice care** is end-of-life care utilized when a patient is expected to live 6 months or less. It is provided by a team of health care professionals and volunteers in the home, a hospice center, a hospital, or a skilled nursing facility. Hospice programs also provide services to support a patient’s family. The interdisciplinary hospice team usually consists of the patient’s personal physician; hospice physician or medical director; nurses; hospice aides; social workers; bereavement counselors; clergy or other spiritual counselors; trained volunteers; and speech, physical, and occupational therapists, if needed.

**Health Care Delivery Organizations**

This section discusses the wide range of organizations that exist to deliver health care services, including hospitals, health systems, physician offices, specialty hospitals, long-term care facilities, rehabilitation hospitals, home health agencies, and other health-related organizations.

**Hospitals**

By definition, a hospital (other than psychiatric) is an institution primarily engaged in providing, by or under the supervision of physicians, to *inpatients*, diagnostic and therapeutic services for medical diagnosis, treatment, and care of injured, disabled, or sick persons; or rehabilitation services for injured, disabled, or sick persons. *Outpatient* services are optional but have been growing in importance over time as more and more medical interventions can be done in an outpatient setting and as the field sees growing importance to integrating primary care, specialty care, and inpatient care for reasons of both quality and efficiency.

According to the AHA (2018), the United States has approximately 5,534 registered hospitals, which include all community, federal, psychiatric, and long-term care hospitals and hospital units located in institutions (such as prison hospitals, college infirmaries, and so on). Hospitals can be categorized in a number of ways, such as by purpose, size, ownership, location (urban or rural), teaching status, or system affiliation. Most hospitals in the United States provide general medical and surgical services on a short-term basis. The four primary categories for hospitals according to the AHA are (a) *community*, (b) *special*, (c) *rehabilitative* and *chronic disease*, and (d) *psychiatric*.

Hospitals are subject to federal and state regulations. A hospital must be *licensed* to operate; licensing is handled at the state level by the agency or entity designated with such authority for the state. Licensure focuses on physical plant
requirements, sanitation, personnel, and equipment. To receive reimbursement for services provided to Medicare and Medicaid patients, hospitals must receive **certification** from the federal government. Hospitals may choose to pursue **accreditation** by The Joint Commission, an independent, nonprofit organization that accredits hospitals and other types of health care institutions. This voluntary participation in accreditation is a symbol of quality that indicates the organization has met certain performance standards. The Centers for Medicare & Medicaid Services (CMS) recognize accreditation as suitable proof that a hospital has met the minimum requirements to receive certification.

Patients are referred to the hospital for services on the authority of a member of the medical staff (i.e., a physician) who has been granted admitting **privileges** in accordance with state law and criteria for standards of medical care established by the facility. Hospitals provide both **inpatient** (requiring an overnight stay) and **outpatient** services (not requiring an overnight stay). Outpatient services are sometimes referred to as **ambulatory care**, which means the patient is able to walk (ambulate) into the facility to receive diagnostic or therapeutic treatment. However, in actuality not all patients who receive outpatient services can ambulate (e.g., patients brought to the ED by ambulance).

**COMMUNITY HOSPITALS** By AHA definition, community hospitals are all nonfederal, short-term **general**, and other **special** hospitals accessible by the general public. General hospitals provide patient services, diagnostic and therapeutic, for a variety of medical conditions; the **average length of stay (ALOS)** is less than 25 days. Hospitals also provide diagnostic x-ray services, clinical laboratory services, and operating room services with facilities and staff for a variety of procedures. Services are provided on both an **inpatient** and an **outpatient** basis. Traditionally, hospitals primarily have delivered care on an inpatient basis, but over the past three decades more services have been moved to an outpatient, or **ambulatory**, basis to contain costs. In addition to cost containment, medical practices have advanced enabling many procedures that previously required an overnight stay to become less invasive and therefore require a shorter recovery period that can be achieved at a patient’s home without nursing care.

**Special hospitals** provide diagnostic and treatment services for patients who have specified medical conditions, both surgical and nonsurgical. These hospitals must provide the services deemed appropriate for the specified medical conditions for which services are provided.

Community hospitals are grouped by ownership in three categories:

- Voluntary, not-for-profit (nonprofit)
- Investor-owned (for-profit, proprietary)
- Public (state or local government owned and managed)

Some community hospitals operate as free-standing single hospital entities, whereas others are part of a health system. A system is defined as either a multihospital or diversified single hospital system. Community hospitals may also be classified as
participating in a network, which is defined as a group of hospitals, physicians, other providers, insurers, and/or community agencies that work together to coordinate and deliver a broad spectrum of services to the community (AHA, 2018).

Hospitals may also be classified by teaching status—teaching hospitals are affiliated with medical schools and provide clinical education, residencies, and internships for medical and dental students. These teaching hospitals (along with other hospitals not affiliated with a medical school) also provide clinical education and training for nursing and allied health professions students. Teaching hospitals are typically voluntary, not-for-profit or public, government-sponsored hospitals. Some teaching hospitals operate as part of an **academic health center**, which comprises an allopathic or osteopathic medical school, one or more health professions schools (e.g., allied health, dentistry, nursing, pharmacy, public health, veterinary medicine), and one or more owned or affiliated teaching hospitals or health systems. Academic health centers are heavily involved in clinical research and high-level tertiary and quaternary care, in addition to providing advanced training and education for clinicians in primary and specialty care.

**REHABILITATION HOSPITALS** Rehabilitation hospitals specialize in providing therapeutic interventions to help patients regain functional ability to the highest possible level after an injury or illness that has caused some loss of ability. By Medicare definition, 75% of a rehabilitation hospital’s patients must require intensive (at least 3 hours per day) rehabilitative services to treat conditions related to stroke, spinal cord injury, major trauma, brain injury, or other debilitating disease or injury. Rehabilitative services provided within these facilities include physical therapy, occupational therapy, and speech-language therapy. Other services may also be provided to assist patients with psychological, vocational, or social needs related to their condition.

**PSYCHIATRIC HOSPITALS** The primary function of a psychiatric hospital is to provide diagnostic and treatment services for patients who have a psychiatric-related illness. Some facilities specialize in short-term or outpatient therapy, whereas others may specialize in temporary or permanent care of residents who require routine assistance, treatment, or a specialized and controlled environment as a result of a psychological disorder. General hospitals may also operate psychiatric units within their organizations.

Psychiatric hospitals are required to provide clinical laboratory and diagnostic x-ray services in addition to psychiatric, psychological, and social work services. Psychiatric hospitals have written agreements with general hospitals for the transfer of patients in need of medical or surgical services not available at the psychiatric institution (AHA, 2018).

**OTHER HOSPITALS** The federal government operates approximately 209 hospitals that are not accessible to the general public. Included among these hospitals are those operated by the Veterans Administration (VA) for the nation’s military veterans, the Department of Defense (DOD) for active duty military personnel, and the Indian Health Service (IHS) for American Indians and Alaska Natives.
Physician Organizations

In the United States, physicians have traditionally been self-employed, working in private medical practices that they own either solely or in partnership with other physicians. Hospitals establish relationships with physicians by granting them admitting privileges to provide inpatient and outpatient procedures and services to their patients that cannot be delivered within the physician practice setting. In recent years, however, there has been a trend toward the employment of physicians by hospitals and other health care organizations and toward larger practice sizes. This trend has been attributed to a number of reasons, including stagnant reimbursement rates, a desire for better work-life balance for physicians, and efforts by hospitals to increase market share. The results of a physician practice benchmark survey in 2016 conducted by the AMA indicate that only 47.1% of physicians have an ownership stake in their practices, and an equal amount (47.1%) are employees of either a medical practice or hospital organization. This marks the first year that the majority of physicians are not practice owners, with a 6% decrease observed from a prior study conducted in 2012. Additional trends indicate that having an ownership stake is less common among women physicians than men and less common among younger physicians than older physicians (Kane, 2017).

As mentioned, physicians may be employed by others (e.g., hospitals, government, medical schools) or be self-employed (i.e., in private practice). A variety of physician practice settings are utilized in the United States, which include solo practice, single specialty group practice, multispecialty group practice (MSGP), corporate medical practice, and urgent care centers, among others.

SOLO PRACTICES  A physician practice operated by one physician is known as a solo practice. Approximately 20% of physician practicing in the United States are in solo practices, compared with 40.5% in 1983 (AMA, 2013). According to the AMA (2013), a majority of physicians in solo practices own their practice.

SINGLE SPECIALTY GROUP PRACTICES  The most common type of physician practice is the single specialty group practice: a practice with two or more physicians who have the same medical specialty, such as internal medicine or cardiology. Forty-two percent of the physicians in the United States are in a single specialty group practice (Kane, 2017).

MULTISPECIALTY GROUP PRACTICES  A multispecialty group practice consists of two or more physicians who practice different medical specialties. Approximately 25% of physicians in the United States are in a multispecialty group practice (Kane, 2017).

CORPORATE MEDICAL PRACTICES  Corporate medical practices are physician practices owned by business corporations or entities. This is commonly known as the corporate practice of medicine (CPOM). CPOM is prohibited in some states: The types of prohibitions vary by state and may be found in various laws, regulations, or court rulings. A typical exception allows hospitals and health maintenance organizations (HMOs) to employ physicians because these businesses were established for the purpose of providing treatment to patients and are licensed entities. Most states allow physicians to provide services through a
professional service corporation (P.C.), a business entity formed for the purpose of providing professional services, such as medical services. Some states have CPOM laws but do not enforce them. Such laws were established in an earlier era when concern about the commercialization of medicine led to great efforts to ensure that medicine would be practiced only by licensed professionals.

URGENT CARE CENTERS Urgent care centers offer walk-in, extended-hour access to individuals with acute illness and injuries that are not bona fide emergencies. In addition to services found in the typical physician's office, urgent care centers usually can treat minor fractures and provide intravenous fluids as well as perform on-site x-ray and laboratory test processing. These centers are typically staffed by physicians and other providers and operate 7 days a week, including holidays, from 8 or 9 a.m. until 7 or 9 p.m. This is a growth area in the health care delivery system, with more than 9,000 centers operating nationwide and approximately 300 new centers opening each year.

COMMUNITY HEALTH CENTERS Community health centers (CHCs) provide health care services, focusing on primary and preventive care, to medically underserved and indigent populations. Approximately 27 million people are served by CHCs in 10,400 communities in the United States (National Association of Community Health Centers, n.d.). To receive care at a CHC, an individual must be a resident of the state in which the center is located, be uninsured, and be poor as defined by federal poverty guidelines. CHCs contract with the state or local health department to provide services to eligible individuals; they also help to provide linkages to social services and government-sponsored health insurance programs, such as Medicaid and the Children's Health Insurance Program (CHIP). CHCs may be organized as part of a public health department or another health service organization, or as a nonprofit organization.

Ambulatory Surgery Centers
Ambulatory surgery centers (ASCs) are facilities that provide surgical services for procedures that are done on an outpatient basis. This is sometimes referred to as same-day surgery. ASCs are not physician offices, although physicians have taken the lead in their development.

The first ASC was established in 1970 by two physicians. Today, more than 5,400 ASCs are in operation across the United States. Physicians have some ownership in approximately 90% of the licensed ASCs in the United States. Community hospitals have also partnered with physicians to open and operate ASCs, and a small percentage of ASCs are entirely hospital owned.

Patients treated at an ASC have already been diagnosed by a physician and have elected to have an outpatient surgical procedure. All ASCs must have at least one dedicated operating room and the appropriate equipment to perform surgery safely and provide quality patient care. The most prevalent specialties served by ASCs are ophthalmology, orthopedics, gastrointestinal, pain management, plastic surgery, and urology (Ambulatory Surgical Center Association, 2018).
Long-Term Care Organizations

Long-term care organizations operate facilities for individuals who are not able to manage independently in the community. The services provided in these facilities vary depending on the level of assistance needed; services may range from custodial care and chronic care management to short-term rehabilitative services. Long-term care facilities (LTCFs) may be owned by government entities, nonprofit organizations (including churches), or investor-owned corporations. LTCFs may be independent facilities that are either freestanding or operated within a continuing care retirement community. LTCFs may be part of a multifacility organization (that is, a chain) or may be hospital-owned as either an attached or a freestanding facility.

INDEPENDENT LIVING FACILITIES

Independent living facilities are multiunit housing developments that may provide support services such as meals, transportation, housekeeping, and social activities. These facilities are typically utilized by active senior adults who do not require assistance with ADLs.

Independent living facilities are sometimes operated as part of a continuing care retirement community, which provides a full range of LTCFs and other services—an assisted living facility and a skilled nursing facility. This arrangement enables seniors to make a transition into a residence that meets their physical needs as they begin to require more medical assistance. Independent living facilities that do not provide many services beyond a residence are sometimes referred to as senior apartments.

ASSISTED LIVING FACILITIES

Assisted living facilities are available for individuals who are basically able to care for themselves but may need some assistance with some daily activities. Assisted living facilities are residential facilities that provide services that may include meals, laundry, housekeeping, medication reminders, and assistance with ADLs and IADLs.

Most states require licensure for assisted living facilities, and the exact definition of what constitutes an assisted living facility varies among states. Approximately 90% of assisted living services in the United States are paid through private funds, although a few states allow payment for assisted living through Medicaid waivers.

SKILLED NURSING FACILITIES

A skilled nursing facility (or nursing home) is licensed by the state in which it operates to provide 24-hour nursing care, room and board, and activities for convalescent residents and residents with chronic or long-term illnesses or conditions. Special populations served by skilled nursing facilities include physically or mentally challenged children and adults, and children and adults with debilitating diseases and/or conditions. Regular medical supervision and rehabilitation services must be available. The facilities are staffed by health care professionals including a physician as medical director, registered nurses (RNs), licensed practical nurses (LPNs), and trained nursing assistants. Skilled nursing facilities are reimbursed through a variety of mechanisms, including private funds, long-term care insurance, Medicare (for short-term rehabilitation or subacute care), and Medicaid. Medicaid is the source of payment for 6 out of 10 residents in skilled nursing facilities.
Rehabilitation Organizations

Rehabilitative services are provided in a variety of inpatient and outpatient settings, including inpatient rehabilitation hospitals, rehabilitation units in acute care hospitals, skilled nursing facilities, outpatient rehabilitation centers and units, and other medical rehabilitation providers.

INPATIENT REHABILITATION FACILITIES An inpatient rehabilitation facility is either a freestanding inpatient rehabilitation hospital or a unit of an acute care hospital. Intensive acute rehabilitation services are provided and generally include at least 3 hours of therapy per day for 5 to 7 days each week. Therapy may include physical, occupational, speech, or recreation therapy.

Patients who cannot tolerate intensive therapy in an acute rehabilitation setting may be transferred to a transitional care, long-term care, or subacute care facility, where less intensive rehabilitation services are provided along with other medical services (e.g., 24-hour skilled nursing care) needed for convalescence and recovery.

OUTPATIENT REHABILITATION PROVIDERS Rehabilitation services may be provided on an outpatient basis—that is, the patient lives at home and visits the facility for therapy. Therapy plans are developed on an individual basis and typically include 2 to 3 days of treatment per week. Nursing services are usually not included in the outpatient setting. Centers of care are facilities that provide outpatient rehabilitative services for patients with a particular specific illness, such as multiple sclerosis, Parkinson’s disease, or stroke.

Three types of providers may qualify for reimbursement for outpatient rehabilitation services by Medicare:

- Rehabilitation agencies are organizations that provide integrated, multidisciplinary programs designed to upgrade the physical functions of handicapped and disabled individuals through a specialized team of rehabilitation personnel.
- Rehabilitation clinics are facilities established primarily to provide outpatient rehabilitative services by physicians. To meet the definition of a clinic, medical services must be provided by a group of three or more physicians practicing rehabilitation medicine together, and a physician must be present in the facility at all times during the hours of operation to perform medical services.
- Public health agencies are official agencies established by state or local government that provide environmental health services, preventive medical services, and, sometimes, therapeutic services.

Integrated Delivery Systems

An integrated delivery system (IDS) is a collaborative network of providers who work together in a coordinated fashion to provide a continuum of care to a particular patient population or community. Within an IDS, providers work together through information sharing, shared responsibility, and collaborative resource utilization (Enthoven, 2016). Many believe integrated delivery systems can help to address some of the problems associated with the fragmented delivery system.
in the United States and move toward the goals of improving the quality and accessibility of care while containing or reducing costs.

Integrated delivery systems have existed since the early 1900s, but interest in the IDS concept began to spread in the 1990s when hospitals and physician practices consolidated through mergers and acquisitions in the face of changing reimbursement methodologies from public and private insurers. Interest in IDSs has surged in recent years during the national health reform debate as experts have suggested that the IDS approach to health care delivery can improve quality and reduce costs. Research has shown that IDSs have a positive effect on quality, but there is little evidence of an effect on costs or health care utilization (Hwang, Chang, LaClair, & Paz, 2013).

Two types of integration—horizontal and vertical—are used to create an IDS. **Horizontal integration** involves linking organizations that provide the same level of care, such as a multispecialty group practice. **Vertical integration** involves linking organizations that provide different levels of care, for example, preventive, primary, secondary, tertiary, and long-term care. One of the goals of an IDS is to provide **continuity of care** for the patient, which includes continuity of information (e.g., shared medical records), continuity across primary and secondary care (e.g., discharge planning from specialist to generalist care), and provider continuity (e.g., seeing the same provider each time).

**Emergency Medical Services**

An emergency medical service (EMS) provides acute care for medical emergencies that take place outside the hospital setting. EMS is utilized within a community to treat those in need of urgent medical care or to stabilize and transport patients with illness or injuries who are unable to transport themselves to the appropriate medical facility. It is a system of coordinated response and emergency medical care involving multiple people and agencies.

EMS is regulated by federal and state governments and may be provided by paid professionals or, in some communities, by volunteers. The organization of EMS varies from community to community, based on state regulation, population density, and topography, and may be provided via public institutions, private institutions, or a public–private configuration. Prehospital EMS can be based in a fire department, a hospital, an independent government agency (such as a public health agency), or a nonprofit corporation (such as a rescue squad); EMS may also be provided by commercial for-profit companies. The essential components of an EMS system are the same regardless of the provider.

**Home Health Care Organizations**

Home health agencies and organizations provide medical services in a patient’s home. Services are typically provided for elderly or disabled patients, or for patients who are unable to visit a hospital or physician’s office because of weakness after surgery or other reasons. Care provided in the home may be acute,
long-term, or end-of-life. Home health primarily involves the provision of skilled nursing services and therapeutic services (e.g., physical, occupational, and/or speech and hearing). A home health agency may be a public, nonprofit, or proprietary agency and may be a subdivision of a larger organization. The agency must be licensed by the state in which it operates or receive approval that it has met all standards and requirements to operate. These agencies are also subject to certification requirements by CMS and may also seek accreditation from an independent accrediting organization. Home health agencies and organizations must have policies established by a governing body that must include at least one physician and one RN, and the services it provides must be overseen by a physician or a registered professional nurse.

Hospice and Palliative Care Organizations
Palliative care services are available for anyone with a serious illness as well as for patients who are terminally ill. Palliative care may be provided in a hospital, outpatient clinic, long-term care facility, or hospice facility. It is delivered by a team of specialists, including physicians, nurses, and social workers, and may include other professionals, such as massage therapists, pharmacists, and nutritionists. Each facility where palliative care is provided typically has its own palliative care team; these professionals work in partnership with a patient's primary physician and others involved in treating the individual.

Hospice care is provided to terminally ill patients either in their homes (hospice residential care) or in a health care facility (hospice inpatient care) owned and operated by a hospice organization or health system. According to the National Hospice and Palliative Care Organization (2018), hospice care programs were first established in 1974 and have grown in number to more than 4,199 Medicare certified programs, including both primary locations and satellite offices, as of 2015. The majority of hospice programs are offered by freestanding, independent agencies (72.2%), and the remainder are part of a hospital system (14.2%), home health agency (12.9%), or nursing home (0.6%). Hospice programs range in size from small organizations serving fewer than 50 patients on an annual basis to large, corporate chains operating programs on a national basis and caring for thousands of patients each year. In 2015, 32% of hospice programs registered with Medicare were nonprofit organizations, 63% were for-profit organizations, and about 5% were government owned and operated.

Pharmacies
Medication is an integral part of health care delivery, and pharmacists play a significant role in ensuring the safe and effective use of medication to achieve desired health outcomes. The role of the pharmacist has traditionally been to dispense medication; that role is now expanding into the direct care of patients as the use of medication has grown and new technologies are employed in the medication dispensing and utilization processes.
Licensed pharmacies include retail pharmacies in the community setting and hospital or other institutional pharmacies. Community pharmacies include chain pharmacy organizations (e.g., CVS, Walgreens); pharmacies located within other large retail organizations (e.g., Walmart, Kroger); and independent, locally owned and operated pharmacies. The community pharmacy provides the public with access to medication, including administering flu shots, and serves as a source of advice on health issues. Approximately 6 out of 10 licensed pharmacists work in the community setting. Institutional pharmacies control drug distribution within a health care facility and help to ensure each patient receives the appropriate drug and dosage. Institutional pharmacies are involved in highly specialized areas, including nuclear medicine, intravenous therapy, and drug and poison information. A hospital or health system may also operate a retail pharmacy within its facilities in addition to its clinical pharmacy operation.

Pharmaceutical Companies and Medical Device Manufacturers
Another integral part of the health care delivery system are the pharmaceutical companies and medical device manufacturers that develop and supply medications, medical supplies, durable medical equipment, and medical devices to health care organizations and sometimes directly to the public. Not only do these organizations supply materials needed for the direct care of patients, but they also play an important role in helping ensure safe and effective care.

Medical device manufacturers provide essential products for modern medical care, including devices that range from CT scanners and surgical robotic devices to blood pressure cuffs and thermometers. These products also constitute a significant portion of the national health expenditure. The CMS estimates retail spending on durable medical equipment in the amount of $51 billion and spending for other nondurable medical products at approximately $62.2 billion in 2016. The biopharmaceutical industry comprises the pharmaceutical and biotechnology industries. Biopharmaceutical companies develop, manufacture, market, and distribute drugs and vaccines used to prevent and treat diseases. It is made up of four sectors: pharmaceutical and medicine manufacturers, pharmacy wholesalers, research and development services, and management of companies and enterprises. Biopharmaceutical companies spend up to $135 billion annually on research and development, and it is estimated that it takes up to 15 years to develop a medicine or vaccine. The biopharmaceutical industry accounts for nearly 20% of all research and development investment in the United States, where new drugs must be approved by the Food and Drug Administration (FDA) as safe and effective.

The industry is sometimes referred to as “Big Pharma” because of its size, its influence over health care legislation, and its effect on the cost of health care delivery. Thirty-six of the largest pharmaceutical companies make up the membership of the industry’s professional association, the Pharmaceutical Research and Manufacturers of America (PhRMA), and invest more money in lobbying than any other industry in the United States.
Other Delivery Organizations

TELEMEDICINE  Telemedicine uses electronic communications to exchange medical information between sites to improve a patient’s clinical health status. Telemedicine services may include primary care and specialist referral services, remote patient monitoring, consumer medical and health information, and medical education. Hospitals, specialty clinics, home health agencies, and physicians’ offices all use telemedicine. The services may be offered within a single health care organization or between health care organizations.

According to the American Telemedicine Organization (2018), more than half of U.S. hospitals are participating in some form of telemedicine, and more than 200 telemedicine networks with 3,500 service sites exist in the United States. Emerging models of telemedicine delivery include offering specialty consultation services through membership associations that match people in need of services with providers, and independent businesses that are organized to provide telemedicine consultation services but are not health care providers. These independent businesses recruit appropriately licensed specialists to provide telemedicine services and then market these services and handle contract negotiations and all legal and technical aspects of delivery.

Retail Clinics

Retail clinics are medical clinics located in pharmacies, grocery stores, and “big box” stores such as Target. These clinics provide routine care for acute conditions (e.g., bronchitis) as well as preventive care. Retail clinics began emerging in 2000, and more than 2,000 clinics were operating in the United States by 2016. Retail clinics are often open extended hours and on weekends, offering a convenient alternative for routine care, particularly when conventional physician offices are closed. A study by the Rand Corporation indicated that young adults (ages 18–44) account for 43% of patient visits, although the utilization of retail clinics by seniors is increasing (Rand Health, 2016). In 2016, three-quarters of the retail clinics in the United States were operated by two companies—CVS and Walgreens (Rand Health, 2016). Retail clinics are also operated by hospital chains and physician groups, accounting for about 11% of the market. Although some critics of retail clinics voiced concern about the quality of care provided, research suggests that these facilities provide equivalent quality of care to care offered in other provider settings for a select group of conditions. Most commonly, patients seek care at retail clinics for acute conditions including respiratory infections and sore throats. However, these clinics are viewed as promising settings for vaccinations and chronic care management.

Health System Performance

Although the United States spends more money per capita on health care than any other nation in the world, we are lagging behind other countries on a variety of quality indicators, including average life expectancy and infant mortality.
rates. The Institute of Medicine (IOM) estimates that more Americans are killed every year by medical errors than in automobile accidents. As a response to these staggering statistics, the IOM released *Crossing the Quality Chasm* (2001), a landmark report that issued a mandate for improvement in U.S. health system performance. Additionally, a portion of the ACA is dedicated to improving quality and health system performance through funding research, aligning financial incentives with performance outcomes, and identifying a national quality strategy. Although marginal improvements in quality and performance have been observed in the past decade, we still have a long way to go to achieve a high-performing health system.

Organizations such as IOM, the Institute for Healthcare Improvement (IHI), and the National Committee for Quality Assurance (NCQA) are leading the health system improvement movement through initiatives including patient centeredness, the Triple Aim, and the patient-centered medical home (PCMH). The CMS is financially incentivizing the “meaningful use” of electronic health records (EHRs) by health care providers to promote quality improvement in health care. Quality improvement efforts of this type promote collaboration among health care providers, payers, the government, and other stakeholders with the goal of achieving real health system change. In the next section of this chapter, we provide an overview of some of the quality improvement initiatives that demonstrate the most promise in improving U.S. health system performance.

**The Triple Aim**

The IHI is a not-for-profit organization that is dedicated to improving health and health care worldwide. The IHI (2018) promotes a learning initiative and a framework called the Triple Aim for health care organizations and communities. The idea behind the Triple Aim is that to improve the delivery of health care in the United States, organizations must simultaneously pursue three dimensions: (a) improve the patient experience of care, (b) improve the health of populations, and (c) reduce the per-capita cost of health care.

Achieving this triple aim is difficult because one organization is rarely accountable for all three dimensions. However, the IHI has identified five system components necessary for fulfillment of the Triple Aim:

- **Focus on individuals and families**: Care should be customized at an individual level utilizing families and caregivers as partners.
- **Redesign primary care services/structures**: A team of professionals must be established that can deliver the majority of necessary care.
Population health management: Partnerships within the community are necessary to promote prevention and wellness.  

Cost control platform: Cooperative relationships with provider groups must be in place to control costs.  

System integration and execution: Services across the continuum of care must be coordinated.

Although the Triple Aim initiative is ambitious, a few health systems have taken on the challenge and have succeeded. A strong focus on primary care, coupled with community alignment, is necessary to achieve positive patient experiences and improvement in population health. Additionally, active physician participation is crucial to reduce costs. A model of care utilizing a multidisciplinary approach is one way to approach the Triple Aim. Signature Healthcare achieved success with this approach by initiating a Complex Care Clinic focused on high-risk Medicare Managed Care patients.

Signature Healthcare, located in eastern Massachusetts, provides services to approximately 10,000 residents over the age of 65. Their most vulnerable patient population includes elderly with multiple chronic illnesses, social challenges, and functional limitations. Signature decided to develop a process focused on providing quality care for this population, and they used the principles of the Triple Aim for guidance.

1. Signature created a Complex Care Clinic led by nurse practitioners to facilitate the management of chronic diseases among this patient population. Appointments were lengthened from 15 minutes to 40 minutes per visit to accommodate patient needs. Nurse practitioners, in consultation with physician partners and a care coordination team, took over care management for these patients.

2. Signature engaged community stakeholders in patient care. For example, many elderly patients needed assistance with transportation, finances, and meals. Signature engaged local organizations, including the Alzheimer’s Association and the Visiting Nurse Association, as partners in care. Additionally, they worked with the local public transportation system to facilitate subsidized transport for these patients.

3. Signature updated its infrastructure to best serve this patient population. Internal roles were reassessed, guidelines specific to geriatric conditions were put into place, and screening protocols to help identify seniors at risk for falls were implemented and integrated into the health record.

Signature’s initiative aimed at managing elderly patients with complex conditions was successful on a variety of fronts. Patients participating in the Complex Care Clinic had decreased ED utilization and decreased hospital admissions. Billing and coding practices improved as a result of the coordinated approach to providing care. Finally, patient feedback on the new approach to care was extremely positive, and approximately 98% of patients rated their care as “very good” (IHI, 2015).
Patient Centeredness

The IOM identified patient centeredness as one of six domains that define quality care. Patient-centered care is “care that is respectful of and responsive to individual patient preferences, needs, and values and ensures that patient values guide all clinical decisions” (IOM, 2001). Six dimensions to patient-centered care have been identified (Gerteis, Edgman-Levitan, & Daley, 1993):

- Respect for patients’ values, preferences, and expressed needs
- Coordination and integration of care
- Information, communication, and education
- Physical comfort
- Emotional support
- Involvement of family and friends

Providing patient-centered care means giving patients the information they need to participate actively in decision making about their care with the goal of obtaining the most desirable outcome. If a patient is incapacitated or unable to participate in decision making regarding his or her care, then a family member or caregiver should be engaged. When a health care intervention cannot provide a cure, it should aim to alleviate the patient’s suffering. The likelihood that an outcome desired by a patient can be achieved is increased by actively involving patients and family members in decision making regarding the provision of care.

Although we are making progress in this direction, research suggests that certain patient-centered practices are still rare. Movements toward the PCMH and patient-centered research are continuing to shift the momentum in the right direction; however, there is still a long way to go. The achievement of a truly patient-centered health system will require the participation of patients, family members, physicians, nurses, and other health care providers involved in the provision of care.

Population Health Management

In terms of the organization of care, there is a growing interest among the payer community (insurance companies, Medicare, etc.) for providers to engage in population health management of definable patient populations for which they provide coverage. Provider organizations are engaging in a variety of population health management activities that involve managing a patient’s care across provider settings. First, effectively managing the network of providers that patients see can help ensure they are receiving the most efficient and effective care for their conditions. Helping patients navigate physician and specialty care visits can facilitate information sharing among providers and led to better care outcomes. Providers are also making efforts to manage patient transitions of care. A transition in care occurs when a patient moves from one health care delivery setting to another. For example, a patient might be discharged from an acute care hospital and require home health services to facilitate recovery. A hospital can manage
this transition of care by proactively planning for the discharge with the patient, family, and home health service.

Provider organizations are also beginning to invest in providing care within the home for seriously ill patients. Hospitals are trying new ways to embed resources within the homes of high-risk patients to ensure they remain compliant with medication protocols and remain healthy. Outreach may involve phone calls, telemedicine services, or simply deploying a practitioner to the patient’s home. Finally, provider organizations understand that chronic diseases are the primary drivers of death and disability in the United States. Using data analytics can help organizations identify chronically ill patients so that their conditions can be carefully managed (Optum, 2014).

**THE FUTURE OF THE DELIVERY SYSTEM**

Recent years have seen the introduction of several innovative new models of care that have potential to realign incentives and improve overall health system performance in terms of cost, quality, and access. The ACA encouraged the adoption of these new models, and a variety of new organizational forms have emerged from the private sector. Renewed interest in physician employment models also demonstrates potential for increased integration and more closely aligned clinical and financial incentives between physicians and other providers.

**Innovative Models of Care Delivery**

**Patient-Centered Medical Homes**

The *PCMH* model of primary care emphasizes communication and care coordination. Patient centeredness is an important goal of PCMHs. Physician practices must meet certain standards to be designated as PCMHs. The NCQA released revised standards for PCMHs in 2017 focused around six concepts which represent the overall themes for PCMH (see Table 2.1). Evidence suggests that the PCMH is effective at improving health care quality and reducing costs.

*Group Health Cooperative* (GHC) in Seattle, Washington, provides an example of a successful PCMH model. GHC is a nonprofit health system that consists of physician groups, medical facilities, and health plans that serve Washington and northern Idaho. In 2006, the system decided to pilot test a PCMH practice. GHC’s pilot practice expanded staffing and emphasized the use of care teams. The ratio of patients to primary care providers was reduced for the pilot practice, and their enhanced staffing model included physicians, medical assistants, LPNs, physician assistants/nurse practitioners, RNs, and pharmacists. The idea behind this increased staffing was to facilitate
patient relationships and to allow for comprehensive coordinated care. Additionally, patient encounters with clinical staff increased from approximately 20 minutes to 30 minutes in duration, and time was set aside each day for teams to create coordinated care plans (Reid et al., 2010). The pilot clinic was so successful that HGC spread implementation of the PCMH model across 25 additional clinics. The clinics that implemented PCMH practices experienced better health outcomes, increased access to care, and improved physician and staff satisfaction (Reid, 2015).

Health Homes

Health homes were created by the ACA to give states an option for providing patient-centered, medical home–type services to Medicaid beneficiaries suffering from severe or multiple chronic conditions. The purpose of health homes is to create a system of care that facilitates and coordinates access to primary care, acute care, behavioral care, and long-term community-based services. Medicaid beneficiaries with (a) at least two chronic conditions, (b) one chronic condition and high risk for another, or (c) a serious mental health condition are eligible for health home services.

Health home services are offered by designated providers, teams of health professionals that link to a designated provider, or a health team. Physicians, group practices, community health centers, home health agencies, or any other provider deemed

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**TABLE 2.1 STANDARDS FOR PATIENT-CENTERED MEDICAL HOMES**

<table>
<thead>
<tr>
<th>CONCEPT AREAS</th>
<th>CONTENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team-Based Care and Practice Organization</td>
<td>Helps structure a practice’s leadership, care team responsibilities, and how the practice partners with patients, families, and caregivers</td>
</tr>
<tr>
<td>Knowing and Managing Your Patients</td>
<td>Sets standards for data collection, medication reconciliation, evidence-based clinical decision support, and other activities</td>
</tr>
<tr>
<td>Patient-Centered Access and Continuity</td>
<td>Guides practices to provide patients with convenient access to clinical advice and helps ensure continuity of care</td>
</tr>
<tr>
<td>Care Management and Support</td>
<td>Helps clinicians set up care management protocols to identify patients who need more closely managed care</td>
</tr>
<tr>
<td>Care Coordination and Care Transitions</td>
<td>Ensures that primary and specialty care clinicians are effectively sharing information and managing patient referrals to minimize cost, confusion, and inappropriate care</td>
</tr>
<tr>
<td>Performance Measurement and Quality Improvement</td>
<td>Improvement helps practices develop ways to measure performance, set goals, and develop activities that will improve performance</td>
</tr>
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Promoting care for the whole person, care that is individually tailored to each patient and family, is a goal of health homes.
appropriate by the state is considered a designated provider. Health teams consist of a physician and other health care professionals such as nurses, social workers, and other appropriate professionals. Health homes provide care management, care coordination, health promotion, transitional care from inpatient to other settings, individual and family support, follow-up care, and referral to community social support services. Additionally, health homes use health information technology (IT) to coordinate such services. Health homes must provide quality-driven, cost-effective, culturally appropriate care. Promoting care for the whole person, care that is individually tailored to each patient and family, is a goal of health homes.

**Accountable Care Organizations**

Accountable care organizations (ACOs) are groups of providers that share responsibility and financial accountability for providing high-quality, coordinated care to Medicare patients. The goal of ACOs is to ensure that patients get the right care at the right time in the most efficient way. ACOs are organized around primary care providers, and the high level of care coordination provided by ACOs is particularly important for the chronically ill. If ACOs are successful at meeting quality and cost savings targets, these organizations qualify for financial incentives or shared savings from the Medicare program.

The ACA facilitated the creation of ACOs for the Medicare program. Some ACO models allow for sharing of financial risk and reward for a defined population of patients, while other ACOs allow for shared savings based on financial and quality targets (Kaiser Family Foundation, 2018). In 2018, more than 550 Medicare ACOs represented approximately 12 million Medicare beneficiaries. Additionally, provider groups are creating "ACO-like" organizations that strive to facilitate comprehensive care coordination for patient populations beyond Medicare beneficiaries.

Medicare ACOs have demonstrated moderate success in reducing costs and improving quality for patient populations. In 2016, all ACO types generated significant net savings and demonstrated lower spending on Medicare services. In terms of quality, all ACO models had equivalent or better quality than traditional Medicare providers (Kaiser Family Foundation, 2018). Although early indicators of success are limited, ACOs remain a promising model for improving care coordination and lowering the cost of care for particular populations of patients.

Beth Israel Deaconess Care Organization (BIDCO) achieved success as one of the early Medicare “Pioneer” ACOs. It is currently participating with the Medicare program as a “Next Generation” ACO, a program designed for organizations with experience coordinating care for Medicare beneficiaries. BIDCO includes more than 2,500 physicians, a variety of community hospitals, and a network of providers allowing it to function as an IDS. They support providers with a robust population health program that facilitates regular provider meeting and
information sharing among network participants. BIDCO attributes its success as an ACO to several factors:

1. First, BIDCO created an IT infrastructure that allows information sharing among providers. This gives providers the information needed to make evidence-based care decisions.
2. Second, BIDCO worked with a variety of stakeholders from within and outside the health care industry to redesign processes and find a fresh approach to providing care.
3. Third, BIDCO increased transparency surrounding quality indicators and this approach resulted in collaboration and competition among providers. This ultimately led to improved outcomes.
4. Fourth, BIDCO began to look at data in different ways that factored in the role that social determinants of health can play in predicting someone’s utilization of services.
5. Finally, BIDCO created an incentive model to motivate physicians to increase individual and system level performance. (Hulbert, 2017)

BIDCO is currently aligned with more than 30,000 Medicare beneficiaries. The organization was able to achieve significant cost savings and perform well on quality indicators as a Pioneer ACO. After its first year of participation as a “Next Generation” ACO, BIDCO again demonstrated cost savings and produced high-quality outcomes (CMS, 2018).

Community-Based Solutions

Social needs of individuals play an important role in contributing to health. These needs include issues such as housing conditions, access to healthy food, crime in the community, and poverty. In the current health care environment, the emphasis on population health and prevention has facilitated the interests of provider organizations in addressing social issues to keep community members healthy and out of hospitals. Keeping patients healthy is not only the right thing to do, it is also financially beneficial under new payment methodologies that incentivize health. Although the linkage between social factors and health has long been recognized, more collaboration between community resources and provider organizations to provide social services has emerged in recent years.

One example of such a collaborative is the Staten Island Performing Provider System (PPS). In 2015, Staten Island University Hospital and Richmond Hill Hospital received funding through the state of New York to form the Staten Island PPS. The PPS engaged community-based organizations that provide social services for citizens such as homeless shelters, food banks, community health centers, and physicians serving large numbers of uninsured and Medicaid patients. The provider organizations and social services organizations are working collaboratively on a variety of projects aimed at improving the health status of the community and reducing avoidable hospital admissions. Projects include efforts to better coordinate care and social services for people with serious conditions, improve
health literacy, and implement substance abuse initiatives for at-risk youth (Sparer, Muennig, & Brown, 2016). Although the PPS is still in its early stages, this type of collaboration shows promise in improving the health of communities.

Provider organizations are also developing community-based programs aimed at reducing avoidable hospital readmissions. According to CMS, almost one of every five Medicare patients is likely to be readmitted to the hospital within 30 days of discharge. These readmissions may occur because of inadequate care management resulting from a bumpy transition in care from one setting to another. Unnecessary readmissions are extremely costly to the Medicare system, and acute care hospitals face financial penalties if their readmission rates are too high. Most importantly, inappropriate readmissions are bad for patient care. In an effort to better coordinate transitions of care, health care providers have found success in reducing readmission rates by seeking community-based solutions.

The Care Transition Choices (CTC) program presented by the Partners in Care Foundation is one example of a successful community-based program aimed at improving transitions of care for high-risk patients. The CTC started as a pilot program established through CMS under the Community Care Transition Program. The program has been so successful that private health plans and physician groups have adopted the program and kept it in operation. The CTC program works by assigning care transition coaches to work with high-risk patients on cultivating health self-management skills, review appropriate medication use, and recognize warning signs of a worsening condition. Coaches visit patients in the hospital and in their homes. In addition to clinical monitoring, coaches link patients with community resources, including meal delivery and wheelchair-accessible transportation. The program has been successful in significantly reducing hospital readmissions among Medicare patients and reducing costs (Partners in Care Foundation, 2018).

Clinical Integration

Physician–Hospital Alignment

The alignment of physician and hospital goals and incentives is a critical success factor in the era of health reform. Traditionally, both types of provider have been reimbursed based on volume or productivity. However, reimbursement mechanisms are becoming more focused on quality and efficiency. Identifying ways to align the incentives of physicians and hospitals is vitally important to maximize the clinical quality of care while minimizing costs.

Different economic levels and approaches to physician–hospital alignment involve a variety of organizational arrangements. Loosely aligned physician-hospital arrangements involve a traditional independent practice model, in which
physicians are still “volunteer” members of a hospital’s medical staff and alignment is sought through contractual arrangements to secure medical directors and physician administrators. In this traditional alignment model, economic integration is not achieved. Closer alignment might be achieved through more strategic approaches, such as joint ventures or co-management agreements between physicians and hospitals with some level of shared economic interests. The ultimate level of physician–hospital alignment is achieved through employment relationships with full economic integration. With this level of alignment, physicians are truly employees and are required to comply with hospital policies and share goals (Sowers, Newman, & Langdon, 2013).

A well-regarded example of an integrated health system is Scripps Health (www.scripps.org), which includes acute care hospitals, outpatient centers, and home health and hospice services in the San Diego, California, area. Scripps employs more than 15,000 workers, and approximately 3,000 affiliated physicians provide care at Scripps facilities. Scripps Health is a success story in the area of physician–hospital alignment. In 1999, Scripps was losing millions of dollars a year and physician and employee confidence was at an all-time low. A new CEO created an organizational turnaround by aligning physician and hospital interests more closely through a co-management approach. Although California law makes direct physician employment difficult, closer alignment was achieved through an integrated foundation model that emphasizes transparency and open communication between physician and administrative leadership. The CEO was able to regain physician trust and leverage close alignment with physicians to achieve financial and quality improvements. Since the turnaround, Scripps Health has been well positioned for growth, and the system has received numerous awards and accolades, including becoming one of Fortune magazine’s “100 Best Companies to Work For” (Scripps Health San Diego, n.d.). In 2017, Scripps announced the implementation of a new dyad leadership model that pairs hospital administrators with physician leaders to further align mutual interests.

**Physician Employment Models**

More complex reimbursement systems are emerging from health reform and the quality movement. Physician payment is moving from a primarily fee-for-service or volume-based methodology to a model more dependent on quality and clinical outcomes. As a result of this shift, many physicians are no longer interested in private practice models. Instead, they are seeking affiliation and employment opportunities with health systems and hospitals. Physician employment models free up clinician time so they can focus on providing patient care rather than the business of running a practice. Employment can be advantageous for hospitals and health systems by increasing their level of alignment with physician providers. Physician employment models often tie compensation to quality and productivity metrics.

The Mayo Clinic (www.mayoclinic.org) is one successful model of physician employment. Physicians work together with other clinic staff to care for patients, and their work is centered on the philosophy that “the needs of the patient come...
first” (Mayo Clinic, n.d.). The culture of Mayo is unique, rooted in the values of its founders: teamwork, collegiality, professionalism, mutual respect, and commitment to progress for the organization and individuals. Care is provided by integrated teams of physicians, health care professionals, and scientists. The Mayo culture emphasizes team success over individual success. Although physician employees are provided with a vast array of resources and support, they are compensated with a salary. This salary structure eliminates any incentives to perform tests or procedures for financial gain. Treatment is purely focused on what is best for the patient (Mayo Clinic, n.d.).

BEST PRACTICES
Innovative Approaches to Improving Care Delivery

So far in this chapter, we have described several organizations that use innovative approaches to deliver high-quality health care. Health care delivery organizations must continue to innovate if they hope to deliver high-quality care while controlling costs. This section highlights two organizations that have strong reputations as long-term innovators.

Intermountain Healthcare—Salt Lake City, Utah

Intermountain Healthcare (www.intermountainhealthcare.org) fosters a culture of innovation. Intermountain is a nonprofit health care system comprising 22 hospitals, more than 185 physician clinics, and an affiliated insurance company. The system has more than 33,000 employees who serve patients in Utah and southeastern Idaho. The mission of Intermountain Healthcare is “helping people live the healthiest lives possible” (Intermountain Healthcare, n.d.). In addition to pursuing the typical health care delivery activities of an integrated health system, Intermountain has several programs that nurture a learning environment and culture of innovation.

Intermountain has several initiatives centered around using technology and innovation to provide high-quality care at a sustainable cost. Intermountain Innovations is an effort to develop new revenue streams by commercializing proven clinical and technological innovations. The Intermountain Simulation Center capitalizes on technology to provide training for clinicians and employees that will help promote safety and reduce medical errors among its health team. Intermountain hosts the Homer Warner Center, a research facility dedicated to the discovery and implementation of technology through medical informatics.

Of particular prominence is the Intermountain Transformation Lab. The purpose of this lab is to bring innovation and technology to the patient’s bedside at a rapid pace. In addition to working with external technology partners, Intermountain’s Healthcare Transformation Lab also provides opportunities for Intermountain employees to develop ideas into new technology. The lab provides a place for
clinicians to work with technology experts in developing innovative ideas that will improve the delivery of health care. Examples of projects targeted by the lab include designing the patient room of the future, creating a hand-washing sensor for providers, 3D printing of medical devices for clinical purposes, and creating a “Life Detector” to notify caregivers of changes in vital signs of patients.

Intermountain hopes to affect change in the delivery of health care through providing educational opportunities and conducting research throughout the system. Its culture of innovation capitalizes on the knowledge of caregivers and employees to improve quality and reduce costs (Intermountain Healthcare, n.d.).

The Cleveland Clinic—Cleveland, Ohio

The Cleveland Clinic (www.clevelandclinic.org) is a multispecialty academic medical center with a focus on clinical care and research. It houses more than 1,400 hospital beds at its main campus and works with more than 3,000 physicians and scientists. The Cleveland Clinic’s mission is “to provide better care of the sick, investigation into their problems, and further education of those who serve” (Cleveland Clinic, 2018). Quality and innovation are among its core values, and the clinic is consistently named in U.S. News and World Report’s “America’s Best Hospitals” survey.

Cleveland Clinic is innovating care delivery by negotiating directly with self-insured employers as part of its Program for Advanced Medical Care (PAMC). The idea behind PAMC programs is to allow employers to provide their employees with access to world-class health care at a reasonable price. Bundled payment programs and transparency in quality outcomes make the Cleveland Clinic a natural choice for large employers interested in securing greater value in their health care purchases. PAMC’s first agreement of this kind began with Lowe’s Companies in 2010 to provide heart care for its more than 200,000 employees. The clinic recently expanded its cardiac program by contracting with Walmart and is now focusing on marketing packages of orthopedic procedures to large employers. Promoting this form of “domestic medical tourism” may change the way care is delivered, or at least promote transparency among health care providers in terms of quality and pricing (Cleveland Clinic, 2018).

CONCLUSION

The U.S. health care delivery system can look forward to many changes on the horizon. Uncertainty surrounding the ACA continues to push providers to continually improve quality and manage costs. Innovative new forms of delivering health care will continue to emerge to meet the demands of both patients and purchasers of health care. Health care delivery organizations that fail to evolve and learn will face a difficult road. Those organizations that focus on innovation and knowledge creation will be well positioned for the future.
CASE EXERCISE—INNOVATIVE IDEAS

You have just been promoted to work as the assistant to the CEO of a large, partially integrated health care delivery system. Your first assignment is to identify several innovative ways to improve health system quality, control costs, and maximize access to care for citizens in your community. Opportunities exist to improve physician-hospital alignment and to provide more integrated care across health system entities. Draft a memo to your CEO that answers the following questions:

1. What are five innovative ideas your health system could implement to meet improvement goals around cost, quality, and access?
2. What innovation or innovative idea is the most critical to ensure the health system achieves its goals?
3. What innovation will be the most difficult to achieve? Why?
4. Why will the implementation of these innovative ideas improve health system performance?

DISCUSSION QUESTIONS

1. The U.S. health system is shifting its focus to wellness and prevention. Give an example of the three forms of prevention. How should emphasis on prevention alter the delivery of health services in a particular community?
2. The baby boomer generation, which represents a significant portion of the U.S. population, is reaching an age when its utilization of health services will most likely increase. Additionally, life expectancy continues to improve with advancements in medicine and community health. Discuss how this aging of such a large segment of the population will affect specific health care delivery services and organizations.
3. Most health care in the United States is delivered in traditional settings such as hospitals, physician organizations, and long-term care organizations. However, access to new delivery settings is becoming more readily available, and demand for care delivery through telemedicine and retail clinics is increasing. Give an example of an application for telemedicine. Discuss how the utilization of telemedicine might affect cost, quality, and access to care in the U.S. health care system.
4. Although the United States spends more money per capita on health care than any other country in the world, its performance has much room for improvement. How can ideas such as the Triple Aim initiative or patient centeredness help to improve performance in the U.S. health system?
5. Discuss why coordinated care delivery approaches, such as PCMHs or ACOs, might improve care for patients. Discuss barriers and opportunities for implementation of such coordinated care delivery approaches.
REFERENCES


Enthoven, A. C. (2016). What is an integrated health care financing and delivery system (IDS)? and what must would-be IDS accomplish to become competitive with them? Health Economics & Outcome Research, 2(2), 1–9. doi:10.4172/2471-268X.1000115


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