Delivering Health Care in America

A SYSTEMS APPROACH **EIGHTH EDITION**

Leiyu Shi
Douglas A. Singh

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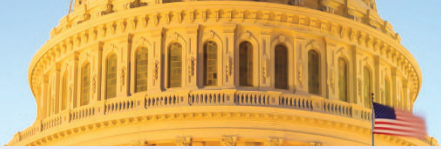

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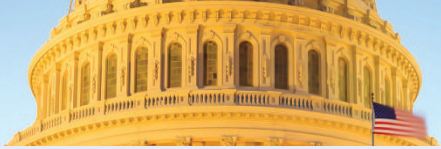

Preface

With this eighth edition of *Delivering Health Care in America: A Systems Approach*, we celebrate 23 years of serving instructors, students, policymakers, and others, both at home and overseas, with up-to-date information on the dynamic U.S. health care delivery system. Every effort has been made to update the tables and figures in this edition and to keep the readers abreast of ongoing changes in the financing and delivery of health care.

The major event in 2020–2021 that gripped the entire world—with the United States being no exception—was the pandemic caused by the novel coronavirus that caused the disease named COVID-19. This pandemic and its effects on health care are discussed in several chapters of this text. Of course, the long-term effects of this disease, of the variants and mutations of the virus, and of the massive vaccinations against the disease on people's health and longevity are as yet unknown. Also unspecified at this time are what actions the global community can take to prevent such catastrophes in the future. Hence, this topic will remain of interest to public health experts for some time to come.

Currently, both the political and cultural environments in the United States are in a state of flux; some observers even describe it as a pivotal moment. It is anyone's guess whether the breakdown of law and order, with its ensuing undesirable consequences, and the assault on the nation's long-held anthro-cultural values are merely passing phenomena or have become truly embedded in the nation's social fabric. There can be no doubt that such generational shifts will have consequences for the health and well-being of the U.S. population. For instance, riots, looting, and violence take resources away from the nation's ability to address the populace's critical needs related to physical, psychological, economic, and social health and well-being.

In the United States, it appears that we have entered an era of massive government spending of tax dollars with relatively little objective examination of the returns that such spending might bring. Hence, in 2021 and beyond, we can expect a significant overhaul of the U.S. health care delivery system. Previously, Democratic politicians had campaigned on slogans such as "Medicare for all," a euphemism for a single-payer health care system. Given the lack of specifics offered about this plan, one can only speculate about whether such a system will materialize. Regardless of which direction the U.S. health care system ultimately takes, the critical issues related to it—people's ability to access health care services when needed, the overall cost of health care and its affordability for individuals, and improvement of quality—are likely to remain. The vital test for the success of any future system-wide initiatives in health care will be the value produced for the money spent.

New to This Edition

This edition continues to reference some of the main features of the Affordable Care Act (ACA) wherever it is important to provide contextual discussions from historical and policy perspectives. Several chapters cover

the main provisions of the 21st Century Cures Act, which, after a long delay, was finally passed by Congress and signed into law by President Barack Obama in December 2016.

As in the past, this text has been updated throughout with the latest pertinent data, trends, and research findings available at the time the manuscript was prepared. Copious illustrations in the form of examples, facts, figures, tables, and exhibits continue to make the text come alive. Following is a list of the main additions and revisions:

Chapter 1

- New and emerging characteristics of the U.S. health care system, such as "accountable care," "integrated delivery," and "pay for value"
- Updated material on new trends in health care delivery, including a new paradigm shift from the hospital- and professional-centric perspective to community- and consumer-centric transformation

Chapter 2

- New concepts related to *Healthy People 2030*
- The concept of "One Health" and its relation to health care delivery
- The importance of health promotion and behavior change
- The Global Health Security (GHS) Index
- Discussion of health security and COVID-19

Chapter 3

- Update on the patchy legacy of the ACA
- Updated status of health care reform in the United States

Chapter 4

- Updated trends in the health care workforce
- The concept of the health care team and its importance in extending access and enhancing quality
- Strategies to address health care professional shortages in developing countries and underserved communities

Chapter 5

- Medical technology and the role of precision medicine
- The role of artificial intelligence in medicine
- The role and impact of government policy on the adoption of electronic health records
- Updates on the effects of electronic health records on health care delivery
- Hospital participation in health information organizations
- Status of e-visits, especially in the context of the COVID-19 pandemic
- Reasons behind the revisions of Stark Law regulations
- The Right to Try Act of 2018
- Updated coverage of drugs obtained from overseas
- Drug shortages in the United States and reasons behind the shortages
- Updated material on Certificate of Need regulations
- Use of value analysis in medical technology assessment

Chapter 6

- Effects of the ACA on insurance, access, and cost
- Private insurance under President Donald Trump's health reform

- Private insurance and the COVID-19 pandemic
- A new table (Table 6-2) on trends in health care plan premium costs for employers and employees
- The growth of Medicare Advantage plans and cost efficiencies of these plans
- Status of Medicare trust funds and the likely effects of the COVID-19 pandemic on them
- Updates on access through Medicaid expansion under the ACA
- Role of the VA MISSION Act in expanding health care access
- Quality criteria under the Medicare Shared Savings Program
- The status of value-based purchasing programs
- Payment for outpatient rehabilitation under the Healthcare Common Procedure Coding System (HCPCS)
- The new patient-driven payment model (PDPM) for skilled nursing facilities
- Payments to inpatient rehabilitation facilities
- The new patient-driven groupings model (PDGM) for home health care
- Major contributors to the growth in health care expenditures
- The effects of COVID-19 on health care financing

Chapter 7

- New roles of primary care in an integrated care system
- Introduction of the Primary Care Assessment Tools (PCAT) as a way to measure primary care performance at the patient, provider, facility, and system levels
- The role of primary care in pandemics
- Best practices examples of primary care around the world

Chapter 8

- Hospital demand, employment, expenditures, and profitability
- International cost comparisons for hospitals, based on purchasing power parity
- Quality benefits noted in physician-owned specialty hospitals

Chapter 9

- Access to mental health services under managed care
- Provider-sponsored health plans and their impacts on quality, effectiveness, and cost
- Effects of clinical care delivery in integrated delivery systems and the role of care coordination
- Impact on cost savings under the shared savings arrangements in accountable care organizations
- Coordinated care organizations

Chapter 10

- New information on the correlations between age, gender, multimorbidity, and functional limitations
- New table on comparative utilization of nursing homes versus assisted living facilities

Chapter 11

- Updated information on vulnerable subpopulations
- Updated material on disparities in health, health care, and quality across subpopulations distinguished by factors such as race/ethnicity, insurance coverage, and socioeconomic status
- Examples of strategies to address disparities across subpopulations
- Discussion of racism in health care

Chapter 12

- Updated information on state and professional measures of quality
- Accountable care organizations and their impacts on access, quality, and value
- The relationship between technology and access to health care

Chapter 13

- Critique of new health policy initiatives
- Updates on new health care reform initiatives (domestic, rural health transformation)
- A new section on World Health Organization (WHO) initiatives on health
- A new section on health care reforms around the world, including current health care reforms in selected countries

Chapter 14

- Discussion of the various options for health care reform against the backdrop of a single-payer system and nebulous "Medicare for all" proposals
- Implications for the future growth of telemedicine
- The Campaign for Action to improve nursing practice
- Proposals to address the shortage in primary care
- The four pillars of primary care that make primary care a rewarding career choice
- Innovations to improve training in geriatrics
- Failures in international cooperation and the future role of an agency such as WHO in the context of the COVID-19 pandemic
- The role of artificial intelligence in precision medicine
- Controversies surrounding evidence-based medicine and comparative effectiveness research, and what the future holds

As in the previous editions, our aim is to continue to meet the needs of both graduate and undergraduate students. We have attempted to make each chapter complete, without making it overwhelming for beginners. Instructors, of course, can choose the sections they decide are most appropriate for their courses.

As in the past, we invite comments from our readers. Communications can be directed to either or both authors:

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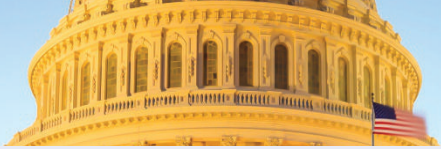
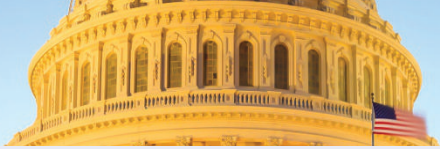
We appreciate the work of Catherine Dong in providing assistance with the preparation of selected chapters of this text.



List of Exhibits



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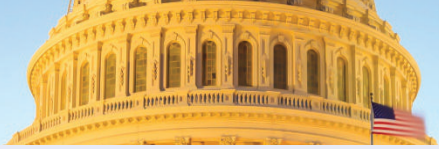

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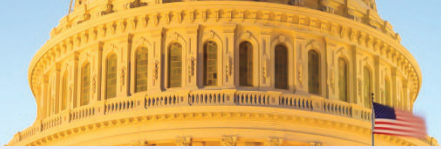


List of Abbreviations/Acronyms

A

AALL—American Association of Labor Legislation
AAMC—Association of American Medical Colleges
AA/PIs—Asian Americans and Pacific Islanders
AAs—Asian Americans
ACA—Affordable Care Act
ACNM—American College of Nurse-Midwives
ACO—accountable care organization
ACS—American College of Surgeons
ADA—American Dental Association
ADC—adult day care
ADLs—activities of daily living
ADN—associate's degree nurse
AFC—adult foster care
AHA—American Hospital Association
AHRQ—Agency for Healthcare Research and Quality
AIANs—American Indians and Alaska Natives
AIDS—acquired immunodeficiency syndrome
ALF—assisted living facility
ALOS—average length of stay
AMA—American Medical Association
AMDA—American Medical Directors Association
ANA—American Nurses Association
APCs—ambulatory payment classifications
APN—advanced practice nurse
ARRA—American Recovery and Reinvestment Act
ASPR—Assistant Secretary for Preparedness and Response

B

BBA—Balanced Budget Act
BPCI—bundled payments for care improvement
BSN—baccalaureate degree in nursing
BWC—Biological and Toxin Weapons Convention

C

CAH—critical access hospital
CAM—complementary and alternative medicine
CBO—Congressional Budget Office
CCAH—continuing care at home
CCRC—continuing care retirement center/community
CDC—Centers for Disease Control and Prevention
CDSS—clinical decision support system
CEO—chief executive officer
CEPH—Council on Education for Public Health
CER—comparative effectiveness research
CF—conversion factor
CHAMPVA—Civilian Health and Medical Program of the Department of Veterans Affairs
CHC—community health center
CHIP—Children's Health Insurance Program
CMGs—case-mix groups
C/MHCs—community and migrant health centers
CMS—Centers for Medicare and Medicaid Services
CNA—certified nursing assistant

CNM—certified nurse-midwife
CNS—clinical nurse specialist
COBRA—Consolidated Omnibus Budget Reconciliation Act
CON—certificate of need
COPC—community-oriented primary care
COTA—certified occupational therapy assistant
COTH—Council of Teaching Hospitals and Health Systems
CPI—consumer price index
CPOE—computerized provider order entry
CPT—Current Procedural Terminology
CQI—continuous quality improvement
CRNA—certified registered nurse anesthetist
CT—computed tomography

D

DC—Doctor of Chiropractic
DD—developmental disability
DDS—Doctor of Dental Surgery
DGME—Direct Graduate Medical Education
DHHS—U.S. Department of Health and Human Services
DHS—U.S. Department of Homeland Security
DMD—Doctor of Dental Medicine
DME—durable medical equipment
DO—Doctor of Osteopathic Medicine
DoD—U.S. Department of Defense
DPM—Doctor of Podiatric Medicine
DRA—Deficit Reduction Act
DRGs—diagnosis-related groups
DSM-5—*Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*
DTP—diphtheria/tetanus/pertussis (vaccine)

E

EBM—evidence-based medicine
EBRI—Employee Benefit Research Institute
ECG—electrocardiogram
ECU—extended care unit
ED—emergency department
EHRs—electronic health records
EMT—emergency medical technician
EMTALA—Emergency Medical Treatment and Active Labor Act
ENP—Elderly Nutrition Program
ERISA—Employee Retirement Income Security Act
ESRD—end-stage renal disease

F

FD&C Act—Federal Food, Drug, and Cosmetic Act
FDA—Food and Drug Administration
FMAP—Federal Medical Assistance Percentage
FPL—federal poverty level
FTE—full-time equivalent
FY—fiscal year

G

GAO—Government Accountability Office
GDP—gross domestic product
GP—general practitioner

H

HAART—highly active antiretroviral therapy
HCBS—home- and community-based services
HCBW—home- and community-based waiver
HCH—Health Care for the Homeless
HCPCS—Healthcare Common Procedures Coding System
HDHP—high-deductible health plan
HDHP/SO—high-deductible health plan with a savings option
HEDIS—Healthcare Effectiveness Data and Information Set
HHRG—home health resource group
HI—hospital insurance

HIAA—Health Insurance Association of America
Hib—*Haemophilus influenzae* serotype b
HIO—health information organization
HIPAA—Health Insurance Portability and Accountability Act
HIT—health information technology
HITECH—Health Information Technology for Economic and Clinical Health Act
HIV—human immunodeficiency virus
HMO—health maintenance organization
HMO Act—Health Maintenance Organization Act
HPSAs—health professional shortage areas
HPV—human papillomavirus
HRA—health reimbursement arrangement
HRQL—health-related quality of life
HRSA—Health Resources and Services Administration
HSA—health savings account
HTA—health technology assessment
HUD—U.S. Department of Housing and Urban Development

I

IADLs—instrumental activities of daily living
ICF—intermediate care facility
ICF/IID—intermediate care facilities for individuals with intellectual disabilities
ICF/MR—intermediate care facilities for the mentally retarded
ID—intellectual disability
IDD—intellectual/developmental disability
IDEA—Individuals with Disabilities Education Act
IDS—integrated delivery systems
IDU—injection drug use
IHR—International Health Regulations
IHS—Indian Health Service
IME—Indirect Medical Education
IMGs—international medical graduates
IOM—Institute of Medicine
IPA—independent practice association
IRB—institutional review board
IRF—inpatient rehabilitation facility
IRMAA—Income-Related Monthly Adjustment Amount
IRS—Internal Revenue Service
IS—information systems
IT—information technology
IV—intravenous

L

LPN—licensed practical nurse
LTC—long-term care
LTCH—long-term care hospital
LVN—licensed vocational nurse

M

MA—Medicare Advantage
MACPAC—Medicaid and CHIP Payment and Access Commission
MACRA—Medicare Access and CHIP Reauthorization Act
MA-PD—Medicare Advantage Prescription Drug Plan
MA-SNP—Medicare Advantage Special Needs Plan
MBA—Master of Business Administration
MCOs—managed care organizations
MD—Doctor of Medicine
MDS—Minimum Data Set
MedPAC—Medicare Payment Advisory Com- mission
MEPS—Medical Expenditure Panel Survey
MERS—Middle East respiratory syndrome
MFP—Money Follows the Person
MHA—Master of Health Administration
MHS—multihospital system
MHSA—Master of Health Services Administration
MIPS—Merit-based Incentive Payment System
MLP—midlevel provider
MLR—medical loss ratio
MMA—Medicare Prescription Drug, Improvement, and Modernization Act
MMR—measles/mumps/rubella vaccine

MPA—Master of Public Administration/Affairs
MPFS—Medicare Physician Fee Schedule
MPH—Master of Public Health
MRHFP—Medicare Rural Hospital Flexibility Program
MRI—magnetic resonance imaging
MSA—metropolitan statistical area
MS-DRGs—Medicare severity diagnosis-related groups
MSO—management services organization
MSSP—Medicare Shared Savings Program
MUAs—medically underserved areas

N

NAB—National Association of Boards of Examiners of Long-Term Care Administrators
NAPBC—National Action Plan on Breast Cancer
NCCAM—National Center for Complementary and Alternative Medicine
NCCIH—National Center for Complementary and Integrative Health
NCHS—National Center for Health Statistics
NCQA—National Committee for Quality Assurance
NF—nursing facility
NGC—National Guideline Clearinghouse
NHC—neighborhood health center
NHE—national health expenditures
NHI—national health insurance
NHS—national health system
NHS—U.K. National Health Service
NHSC—National Health Service Corps
NICE—National Institute for Health and Clinical Excellence
NIH—National Institutes of Health
NIMH—National Institute of Mental Health
NP—nurse practitioner
NPP—nonphysician practitioner
NRP— National Response Plan

O

OAM—Office of Alternative Medicine
OBRA—Omnibus Budget Reconciliation Act
OD—Doctor of Optometry
OI—opportunistic infection
OPPS—Outpatient Prospective Payment System
OT—occupational therapist
OWH—Office on Women's Health

P

P4P—pay-for-performance
PA—physician assistant
PACE—Program of All-Inclusive Care for the Elderly
PAHPA—Pandemic and All-Hazards Preparedness Act
PASRR—Preadmission Screening and Resident Review
PBMs—pharmacy benefits managers
PCCM—primary care case management
PCMH—patient-centered medical home
PCP—primary care physician
PDP—stand-alone prescription drug plan
PERS—personal emergency response system
PET—positron emission tomography
PFFS—private fee-for-service
PharmD—Doctor of Pharmacy
PhD—Doctor of Philosophy
PHI—personal health information
PHO—physician–hospital organization
PhRMA—Pharmaceutical Research and Manufacturers of America
PMPM—per member per month
POH—physician-owned hospital
POS—point-of-service (plan)
PPD—per-patient day (rate)
PPM—physician practice management
PPO—preferred provider organization
PPS—prospective payment system
PRO—peer review organization
PSHP—provider-sponsored health plan
PSO—provider-sponsored organization

PSRO—professional standards review organization
PsyD—Doctor of Psychology
PTA—physical therapy assistant
PTCA—percutaneous transluminal coronary angioplasty
PT—physical therapist

Q

QALY—quality-adjusted life year
QI—quality indicator
QIO—quality improvement organization

R

R&D—research and development
RBRVS—resource-based relative value scales
RN—registered nurse
RUGs—resource utilization groups
RVUs—relative value units
RWJF—Robert Wood Johnson Foundation

S

SAMHSA—Substance Abuse and Mental Health Services Administration
SARS—severe acute respiratory syndrome
SAV—small area variations
SES—socioeconomic status
SGR—sustainable growth rate
SHI—socialized health insurance
SMI—supplementary medical insurance
SNF—skilled nursing facility
SPECT—single-photon emission computed tomography
SSI—Supplemental Security Income
STD—sexually transmitted disease

T

TAH—total artificial heart
TANF—Temporary Assistance for Needy Families
TCU—transitional care unit
TEFRA—Tax Equity and Fiscal Responsibility Act
TPA—third-party administrator
TQM—total quality management

U

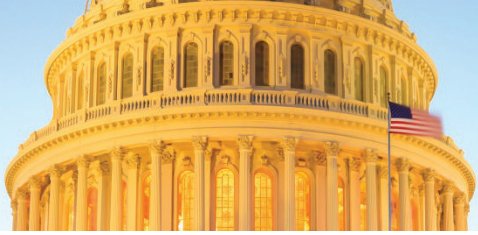
UCR—usual, customary, and reasonable
UR—utilization review

V

VA—U.S. Department of Veterans Affairs
VBP—Value-Based Purchasing/Payment
VHA—Veterans Health Administration
VISN—Veterans Integrated Service Network

W

WHO—World Health Organization
WIC—Special Supplemental Nutrition Program for Women, Infants, and Children

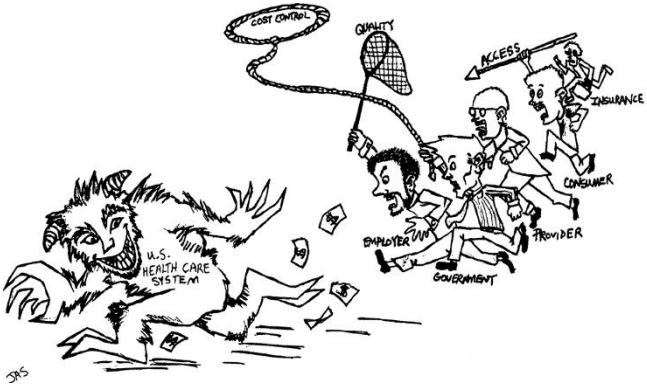


CHAPTER 1

An Overview of U.S. Health Care Delivery

LEARNING OBJECTIVES

- Understand the basic nature of the U.S. health care system.
- Outline the key functional components of a health care delivery system.
- Get a basic overview of the Affordable Care Act.
- Discuss the primary characteristics of the U.S. health care system.
- Emphasize why it is important for health care practitioners and managers to understand the intricacies of the health care delivery system.
- Get an overview of health care systems in selected countries.
- Point out global health challenges and reform efforts.
- Introduce the systems model as a framework for studying the health care system in the United States.



The U.S. health care delivery system is a behemoth that is almost impossible for any single entity to manage and control.

Introduction

The United States has a unique system of health care delivery that is unlike any other health care system in the world. Almost all other developed countries have national health insurance programs run by the government and financed through general taxes. Nearly all citizens in such countries are entitled to receive health care services. Such is not yet the case in the United States, where Americans are not automatically covered by health insurance.

Though U.S. health care is often called a "system," this term may be misleading because a true, cohesive health care system does not exist in the United States (Wolinsky, 1988). Indeed, a major feature of the U.S. health care system is its fragmented nature, as different people obtain health care through different means. The system has continued to undergo periodic changes, mainly in response to concerns regarding costs, access, and quality.

Describing health care delivery in the United States can be a daunting task. To facilitate an understanding of the structural and conceptual basis for the delivery of health care services, this text is organized according to the systems framework presented at the end of this chapter. Also, for the sake of simplicity, the mechanisms of health care delivery in the United States are collectively referred to as a system throughout this text.

The main objective of this chapter is to provide a broad understanding of how health care is delivered in the United States. Examples of how health care is delivered in other countries are also presented for the sake of comparison. The overview presented here introduces the reader to several concepts discussed more extensively in later chapters.

An Overview of the Scope and Size of the System

TABLE 1-1 demonstrates the complexity of health care delivery in the United States. Many organizations and individuals are involved in health care. To name just a few: educational and research institutions, medical suppliers, insurers, payers, and claims processors to health care providers. A multitude of providers are involved in the delivery of preventive, primary, subacute, acute, auxiliary, rehabilitative, and continuing care. A large number of managed care organizations (MCOs) and integrated networks now provide a continuum of care, covering many of the service components.

The U.S. health care delivery system is massive, with total employment that exceeded 16.8 million people in 2018 in various health delivery settings (Kaiser Family Foundation, 2018). This number includes more than 8 million health practitioners and individuals in technical occupations, along with more than 6 million individuals in health care support occupations (U.S. Bureau of Labor Statistics, 2020b, 2020c). Approximately 4 million workers are employed in general medical and surgical hospital settings, while another 3 million are employed in physician offices (U.S. Bureau of Labor Statistics, 2020b, 2020c). The vast array of health care institutions in the United States includes approximately 13,944 hospitals, 15,600 nursing homes, and 14,500

TABLE 1-1 The Complexity of Health Care Delivery

Education/ Research	Suppliers	Insurers	Providers	Payers	Government
Medical schools Dental schools Nursing programs Physician assistant programs Nurse practitioner programs Physical therapy, occupational therapy, speech therapy programs Research organizations Private foundations U.S. Public Health Service (Agency for Healthcare Research and Quality, Agency for Toxic Substances and Disease Registry, Centers for Disease Control and Prevention, Food and Drug Administration, Health Resources and Services Administration, Indian Health Service, National Institutes of Health, Substance Abuse and Mental Health Services Administration) Professional associations Trade associations	Pharmaceutical companies Multipurpose suppliers Biotechnology companies	Managed care plans Blue Cross/ Blue Shield plans Commercial insurers Self-insured employers Medicare Medicaid Veterans Affairs Tricare	***Preventive Care*** Health departments ***Primary Care*** Physician offices Community health centers Dentists Nonphysician providers ***Subacute Care*** Subacute care facilities Ambulatory surgery centers ***Acute Care*** Hospitals ***Auxiliary Services*** Pharmacists Diagnostic clinics X-ray units Suppliers of medical equipment ***Rehabilitative Services*** Home health agencies Rehabilitation centers Skilled nursing facilities ***Continuing Care*** Nursing homes ***End-of-Life Care*** Hospices ***Integrated*** Managed care organizations Integrated networks	Blue Cross/Blue Shield plans Commercial insurers Employers Third-party administrators State agencies	Public insurance financing Health regulations Health policy Research funding Public health

substance abuse treatment facilities (Centers for Disease Control and Prevention [CDC], 2016; U.S. Bureau of Labor Statistics, 2020a; National Institute on Drug Abuse [NIDA], 2018). In 2018, 1,375 federally qualified health center grantees provided preventive and primary care services to approximately 28.4 million people living in medically underserved rural and urban areas (Health Resources and Services Administration [HRSA], 2018). Various types of health care professionals are trained in 180 medical and osteopathic schools (Association of American Medical Colleges, 2017), 66 dental schools (American Dental Association, 2017), 136 schools of pharmacy (American Association of Colleges of Pharmacy, 2017), and more than 1,500 nursing programs located throughout the country. Multitudes of government agencies are involved with the financing of health care, medical research, and regulatory oversight of the various aspects of the health care delivery system.

A Broad Description of the System

U.S. health care delivery does not function as a rational and integrated network of components designed to work together coherently. To the contrary, it is a kaleidoscope of financing, insurance, delivery, and payment mechanisms that remain loosely coordinated. Each of these basic functional components represents an amalgam of public (government) and private sources. Government-run programs finance and insure health care for select groups of people who meet each program's prescribed criteria for eligibility. To a lesser degree, government programs also deliver certain health care services directly to certain recipients, such as veterans, military personnel, American Indians/Alaska Natives, and some uninsured people. Nevertheless, financing, insurance, payment, and delivery functions largely remain in private hands.

The market-oriented economy in the United States attracts a variety of private entrepreneurs that pursue profits by facilitating the key functions of health care delivery. Employers purchase health insurance for their employees through private sources, and employees receive health care services delivered by the private sector. The government finances public insurance through Medicare, Medicaid, and the Children's Health Insurance Program (CHIP) for a significant portion of the country's low-income, elderly, disabled, and pediatric populations. However, insurance arrangements for many publicly insured people are made through private entities, such as health maintenance organizations (HMOs), and health care services are rendered by private physicians and hospitals. This blend of public and private involvement in the delivery of health care has resulted in the following characteristics of the U.S. system:

- A multiplicity of financial arrangements for health care services
- Numerous insurance agencies or MCOs that employ various mechanisms for insuring against risk
- Multiple payers that make their own determinations regarding how much to pay for each type of service
- A diverse array of settings where medical services are delivered
- Numerous consulting firms offering expertise in planning, cost containment, electronic systems, quality, and restructuring of resources

There is little standardization in a system that is functionally fragmented, and in which the various system components fit together only loosely. Because a central agency such as the government does not oversee the overall coordination of such a system, problems of duplication, overlap, inadequacy, inconsistency, and waste occur. Lack of system-wide planning, direction, and coordination leads to a complex and inefficient system. Moreover, the system as a whole does not lend itself to standard budgetary methods of cost control. Individual and corporate entities within a predominantly private entrepreneurial system seek to manipulate financial incentives to their own advantage, without regard to their impact on the system as a whole. Hence, cost containment remains an elusive goal.

In short, the U.S. health care delivery system is like a behemoth that is almost impossible for any single entity to manage or control. The United States consumes more health care services as a proportion of its total economic output than any other country in the world. The U.S. economy is the largest in the world, and compared to other nations, consumption of health care services in the United States represents a greater proportion of the country's total economic output. Although the U.S. system can be credited for delivering some of the best clinical care in the world, it falls short of delivering equitable services to every American. It certainly fails in terms of providing cost-efficient services.

An acceptable health care delivery system should have two primary objectives: (1) enable all citizens to obtain needed health care services and (2) ensure that services are cost-effective and meet certain established standards of quality. While the U.S. health care delivery system falls short of both these basic ideals, the United States leads the world in providing the latest and the best in medical technology, training, and research. It also offers some of the most sophisticated institutions, products, and processes of health care delivery.

Basic Components of a Health Care Delivery System

FIGURE 1-1 illustrates that a health care delivery system incorporates four functional components: financing, insurance, delivery, and payment. Hence, it is termed a **quad-function model**. Health care delivery systems differ depending on the arrangement of these components. The four functions generally overlap, but the degree of overlap varies between private and government-run systems, and between traditional health insurance and managed care-based systems. In a government-run system, the functions are more closely integrated and may be indistinguishable. Managed care arrangements also integrate the four functions to varying degrees.

Financing

Financing is necessary to obtain health insurance or to pay for health care services. For most privately insured Americans, health insurance is employment based; that is, employers finance health care as a fringe benefit for their employees. A dependent spouse or children may also be covered by the working spouse's or working parent's employer. Most employers purchase health insurance for their employees through an MCO or an insurance company selected by the employer.

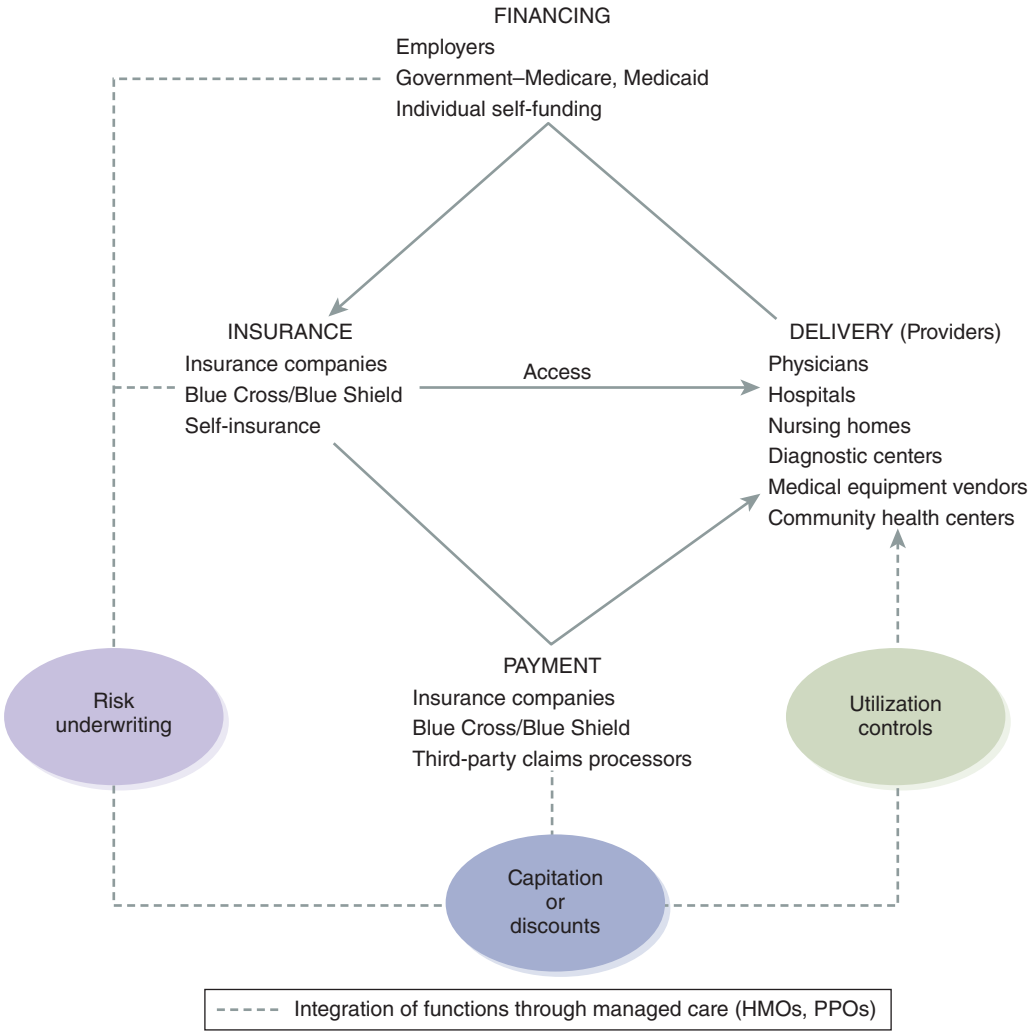


FIGURE 1-1 Basic health care delivery functions.

Small employers may or may not be in a position to afford health insurance coverage for their employees. In public programs, the government functions as the financier; the insurance function may be carved out to an HMO.

Insurance

Insurance protects the insured against financial catastrophe by providing expensive health care services when needed. The insurance function determines the package of health services that the insured individual is entitled to receive. In addition, it specifies how and where health care services may be received. The MCO or insurance company also functions as a claims processor and manages the disbursement of funds to the health care providers.

Delivery

The term "delivery" refers to the provision of health care services by various providers. The term **provider** refers to any entity that delivers health care services and either independently bills for those services or is supported through tax revenues. Common examples of providers include physicians, dentists, optometrists, and therapists in private practices, hospitals, and diagnostic and imaging clinics, and suppliers of medical equipment (e.g., wheelchairs, walkers, ostomy supplies, oxygen). With few exceptions, most providers render services to people who have health insurance, and even those covered under public insurance programs receive health care services from private providers.

Payment

The payment function deals with **reimbursement** to providers for services delivered. The insurer determines how much is paid for a certain service. Funds for actual disbursement come from the premiums paid to the MCO or insurance company. At the time of service, the patient is usually required to pay an out-of-pocket amount, such as $25 or $30, to see a physician. The remainder is covered by the MCO or insurance company. In government insurance plans, such as Medicare and Medicaid, tax revenues are used to pay providers.

Insurance and Health Care Reform

The U.S. government finances health benefits for certain special populations, including government employees, the elderly (people ages 65 years and older), people with disabilities, some people with very low incomes, and children from low-income families. The program for the elderly and certain disabled individuals, which is administered by the federal government, is called **Medicare**. The program for the indigent, which is jointly administered by the federal government and state governments, is named **Medicaid**. The program for children from low-income families, another federal–state partnership, is called the Children's Health Insurance Program.

However, the predominant employment-based financing system in the United States has left some employed individuals uninsured for two main reasons. First, some small businesses simply cannot get group insurance at affordable rates and, therefore, are not able to offer health insurance as a benefit to their employees. Second, in some work settings, participation in health insurance programs is voluntary, so employees are not required to join. Some employees choose not to sign up, mainly because they cannot afford the cost of health insurance premiums. Employers rarely pay 100% of the insurance premium; instead, most require their employees to pay a portion of the cost. This is called **premium cost sharing**. Self-employed people and other individuals who are not covered by employer-based plans have to obtain health insurance on their own. Individual rates are typically higher than group rates available to employers. In the United States, working people earning low wages have been the most likely to be uninsured because most cannot afford premium cost sharing and are not eligible for public benefits.

A further vulnerability under employment-based insurance becomes evident

when a crisis slows down or even stops business, such as what occurred during the COVID-19 pandemic. As a result of economic pressures, companies may have to lay off large numbers of employees to remain solvent. Those unemployed will soon lose insurance coverage since it is tied to the employer. The disruption in insurance coverage is especially damaging because the newly uninsured face challenges in accessing needed care, including care related to the crisis itself, such as testing and treatment for the coronavirus.

In the U.S. context, **health care reform** refers to the expansion of health insurance to cover the **uninsured**—those without private or public health insurance coverage. The Patient Protection and Affordable Care Act of 2010, more commonly known as the Affordable Care Act (ACA), was the most sweeping health care reform in recent U.S. history. One of the main objectives of the ACA was to reduce the number of uninsured. The ACA was rolled out gradually starting in 2010, when insurance companies were mandated to start covering children and adults younger than age 26 under their parents' health insurance plans. Most other insurance provisions went into effect on January 1, 2014, except for a mandate for employers to provide health insurance, which was postponed until 2015. The ACA required that all U.S. citizens and legal residents must be covered by either public or private insurance. The law also relaxed standards to qualify additional numbers of people for Medicaid, although many states chose not to implement the Medicaid expansion based on a 2012 ruling by the U.S. Supreme Court.

Under the ACA, individuals without private or public insurance had to obtain health insurance from participating insurance companies through Web-based, government-run exchanges; if they failed to do so, they had to pay a tax. The exchanges—also referred to as health insurance marketplaces—would determine whether an applicant qualified for Medicaid or CHIP programs. If an applicant did not qualify for a public program, the exchange would enable the individual to purchase a government-approved health plan offered by private insurers through the exchange. Federal subsidies enabled low-income people to partially offset the cost of health insurance.

A predictive model developed by Parente and Feldman (2013) estimated that, at best, full implementation of the ACA would reduce the number of uninsured by more than 20 million. Nevertheless, by its own design, the ACA failed to achieve **universal coverage** that would enable all citizens and legal residents to have health insurance. Possible future scenarios for health care reform are discussed elsewhere in this text.

By March 2015, approximately 16.5 million uninsured Americans had gained health insurance coverage due to the Affordable Care Act ("Impact of Obamacare on Coverage," 2016). By 2016, an estimated 20 million had gained coverage (Uberoi et al., 2016), and by 2020, 36 states and the District of Columbia had expanded Medicaid through the ACA's provisions (Kaiser Family Foundation, 2020a). The uninsured rate declined among all race/ethnicity categories, with the greatest decreases seen among African Americans and Hispanics, compared to Whites (Uberoi et al., 2016). The uninsured rate declined from 22.4% to 10.6% among African Americans, from 41.8% to

30.5% among Hispanics, and from 14.3% to 7.0% among Whites (Uberoi et al., 2016). Additionally, females experienced a greater decline in their uninsured rate (49.7% decline) compared to males (37.6% decline). Specifically, the uninsured rate among females decreased from 18.9% to 9.5%, whereas the uninsured rate among males decreased from 21.8% to 13.6% (Uberoi et al., 2016). Despite these gains, however, the ACA left more than 27.3 million Americans uninsured in 2016 (Cohen et al., 2016). A full critique of the ACA is provided in the *Health Policy* chapter.

During his first week in office in January 2017, President Donald Trump signed an Executive Order to repeal and replace the ACA (commonly referred to as Obamacare) in an effort to minimize the ACA's economic and regulatory burdens and to waive any requirement imposing a fiscal burden on states or families, individuals, health care providers, insurers, or other parties. By 2019, the Trump administration was able to alter significant portions of the ACA through administrative means (Simmons-Duffin, 2019). As a result, the number of uninsured soared. From 2017 to 2018, the number of uninsured grew by almost 500,000 people for the second year in a row (Tolbert et al., 2019).

Role of Managed Care

Under traditional insurance, the four basic health delivery functions have been fragmented in the United States; with few exceptions, the financiers, insurers, providers, and payers have been different entities. However, during the 1990s, health care delivery in the country underwent a fundamental change involving a tighter integration of the basic functions through managed care.

Previously, fragmentation of the four functions meant a lack of control over utilization and payments. The quantity of health care consumed refers to **utilization** of health services. Traditionally, determination of the utilization of health services and the price charged for each service had been left up to the insured individuals and the providers of health care. However, due to rising health care costs, current delivery mechanisms have instituted some controls over both utilization and price.

Managed care is a system of health care delivery that (1) seeks to achieve efficiency by integrating the four functions of health care delivery discussed earlier, (2) employs mechanisms to control (manage) utilization of medical services, and (3) determines the price of services and, consequently, how much the providers are paid. The primary financier is still the employer or the government. Instead of purchasing health insurance through a traditional insurance company, the employer contracts with an MCO, such as an HMO or a preferred provider organization (PPO), to offer a selected health plan to its employees. In this case, the MCO functions like an insurance company and promises to provide health care services contracted under the health plan to the enrollees of the plan. The term **enrollee** (member) refers to the individual covered under the plan. The contractual arrangement between the MCO and the enrollee—including the collective array of covered health services that the enrollee is entitled to—is referred to as the **health plan** (or "plan," for short). The health plan uses selected providers from whom the enrollees can choose to receive services.

Compared with health services delivery under fee-for-service plans, managed

care was successful in accomplishing cost control and greater integration of health care delivery. By ensuring access to needed health services, emphasizing preventive care, and maintaining a broad provider network, managed care can implement effective cost-saving measures without compromising access and quality, thereby achieving a health care budget predictability unattainable by other kinds of health care delivery.

Major Characteristics of the U.S. Health Care System

In any country, certain external influences shape the basic character of the health services delivery system. These forces consist of the national political climate, economic development, technological progress, social and cultural values, physical environment, population characteristics (i.e., demographic and health trends), and global influences (**FIGURE 1-2**). The combined interactions of these environmental forces influence the course of health care delivery.

Ten basic characteristics differentiate the U.S. health care delivery system from most other countries:

1. No central agency governs the system.
2. Access to health care services is selectively based on insurance coverage.
3. Health care is delivered under imperfect market conditions.
4. Insurers from a **third party** act as intermediaries between the financing and delivery functions.
5. The existence of multiple payers makes the system cumbersome.
6. The balance of power among various players prevents any single entity from dominating the system.
7. Legal risks influence the practice behavior of physicians.
8. Development of new technology creates an automatic demand for its use.
9. New service settings have evolved along a continuum.
10. Quality and value are fast becoming the hallmarks of care delivery.

No Central Agency

Unlike health care systems in most developed nations, the U.S. health care system is not administratively controlled by a department or agency. Most other developed nations have a national health care program in which citizens are entitled to receive a defined set of health care services. To control costs, these systems use **global budgets** that determine total health care expenditures on a national scale and allocate resources within budgetary limits. As a consequence, both availability of services and payments to providers are subject to budgetary constraints. The governments of these nations also control the proliferation of health care services, especially costly medical technology. System-wide controls over the allocation of resources determine the extent to which government-sponsored health care services are made available to citizens. For instance, the availability of specialized services is restricted.

By contrast, the United States has a highly private system of financing and delivery. Private health insurance, predominantly through employers, accounts

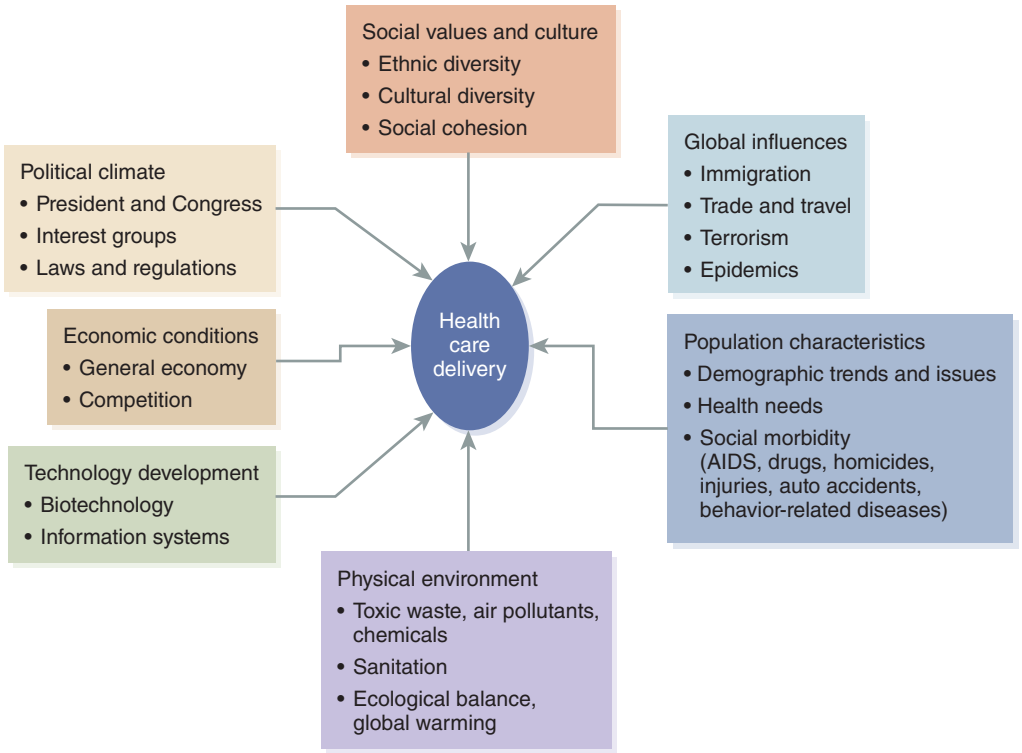


FIGURE 1-2 External forces affecting health care delivery.

for approximately 34% of total health care expenditures; the government finances another 37% (Centers for Medicare and Medicaid, 2020). Private delivery of health care means that the majority of hospitals and physician clinics are private businesses, which operate independently of the government. No central agency monitors total expenditures through global budgets or controls the availability and utilization of services. Nevertheless, federal and state governments play important roles in health care delivery. They determine public-sector expenditures and reimbursement rates for services provided to Medicare, Medicaid, and CHIP beneficiaries. The federal government also formulates **standards of participation** through health policy and regulation, meaning providers must comply with the standards established by the government to be certified to provide services to Medicare, Medicaid, and CHIP beneficiaries. Certification standards are regarded as minimum standards of quality in most sectors of the health care industry.

Partial Access

Access means the ability of an individual to obtain health care services when needed, which is not the same as having health insurance. Americans can access health care services if they (1) have health insurance through their employers, (2) are covered under a government health care program, (3) can afford to buy insurance with their own private funds, (4) are

able to pay for services privately, or (5) can obtain charity or subsidized care. Health insurance is the primary means for ensuring access. Although the uninsured can access certain types of services, they often encounter barriers to obtaining needed health care. For example, while federally supported health centers provide physician services to anyone regardless of ability to pay, such centers and free clinics are located only in certain geographic areas and provide limited specialized services. However, under U.S. law, hospital emergency departments (EDs) are required to evaluate a patient's condition and render medically needed services for which the hospital does not receive any direct payments unless the patient is able to pay. Therefore, even uninsured individuals are able to obtain medical care for acute illness. While one can say that the United States does have a form of universal catastrophic health insurance, it does not guarantee the uninsured access to continual basic and routine care, commonly referred to as **primary care** (Altman and Reinhardt, 1996).

Countries with national health care programs provide universal coverage. However, even in these countries, access to services may be restricted because no health care system has the capacity to deliver every type of service on demand. Hence, **universal access**—the ability of all citizens to obtain health care when needed—remains mostly an aspirational concept.

As previously mentioned, having coverage does not necessarily equate to having access. The cost of insurance and care and availability of services have continued to present barriers to receiving health care services in a timely manner.

Imperfect Market

Though the U.S. health care delivery system is largely in private hands, this system is only partially governed by free-market forces. The delivery and consumption of health care in the United States do not quite pass the basic test of a **free market**, so the system is best described as a quasi-market or an imperfect market.

In a free market, patients (buyers) and providers (sellers) act independently, with patients able to choose services from any provider. Providers do not collude to fix prices, and prices are not fixed by an external agency. Rather, prices are governed by the free and unencumbered interaction of the forces of supply and demand (**FIGURE 1-3**). **Demand**—the quantity of health care purchased—is driven by the prices prevailing in the free market. Under free-market conditions, the quantity demanded will increase as the price for a given product or service declines. Conversely, the quantity demanded will decrease as the price increases.

At first glance, it might appear that multiple patients and providers do exist. Most patients in the United States, however, are now enrolled in either a private health plan or one or more government-sponsored programs. These plans act as intermediaries for the patients, and the enrollment of patients into health plans has the effect of shifting power from the patients to the administrators of the plans. The result is that the health plans—not the patients—are the real buyers in the health care services market. Private health plans,

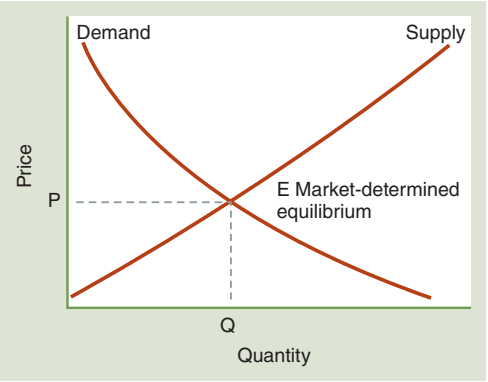


FIGURE 1-3 Relationship between price, supply, and demand under free-market conditions.

Note: Under free-market conditions, there is an inverse relationship between the quantity of medical services demanded and the price of medical services. That is, quantity demanded goes up when the prices go down, and vice versa. In contrast, there is a direct relationship between price and the quantity supplied by the providers of care. In other words, providers are willing to supply higher quantities at higher prices, and vice versa. In a free market, the quantity of medical care that patients are willing to purchase, the quantity of medical care that providers are willing to supply, and the price reach a state of equilibrium. This equilibrium is achieved without the interference of any nonmarket forces. However, these conditions exist only under free-market conditions, which are not characteristic of the U.S. health care market.

in many instances, offer their enrollees a limited choice of providers rather than an open choice.

Theoretically, prices are negotiated between the payers and providers. In practice, prices are determined by payers, such as MCOs, Medicare, and Medicaid. Because prices are set by agencies external to the market, they are not governed by the unencumbered forces of supply and demand.

For the health care market to be free, unrestrained competition must occur among providers based on price and quality. However, the consolidation of buying power in the hands of private health plans has forced many providers to form alliances and integrated delivery systems on the supply side. In certain geographic sectors of the country, a single giant medical system has taken over as the sole provider of major health care services, restricting competition. As the overall U.S. health care system continues to move in this direction, it appears that only in large metropolitan areas will there be more than one large integrated system competing to get the business of the health plans.

A free market requires that patients have information about the appropriateness of various services to their needs. Such information is difficult to obtain because technology-driven medical care has become highly sophisticated. Knowledge about new diagnostic methods, intervention techniques, and more effective drugs is part of the domain of the professional physician, not the patient. Moreover, because medical interventions are commonly required in a state of urgency, patients have neither the skills nor the time and resources to obtain accurate information when needed. Channeling all health care needs through a primary care provider can reduce this information gap when the primary care provider acts as the patient's advocate or agent. In recent years, consumers have been seizing some measure of control over the flow of information: the Internet is becoming a prominent source of medical information for patients, and medical advertising is influencing consumer expectations.

In a free market, patients must directly bear the cost of services received. The purpose of insurance is to protect against the

risk of unforeseen catastrophic events. Since the fundamental purpose of insurance is to reimburse major expenses when unlikely events occur, having insurance for basic and routine health care undermines the principle of insurance. When you buy home insurance to protect your property against the unlikely event of a fire, you do not anticipate the occurrence of a loss. The probability that you will suffer a loss by fire is very small. If a fire does occur and causes major damage, insurance will cover the loss—but insurance does not cover routine wear and tear on the house, such as chipped paint or a leaky faucet. However, unlike other types of insurance, health insurance generally covers basic and routine services that are predictable. Coverage for minor services, such as colds and coughs, earaches, and so forth, amounts to prepayment for such services. In this sense, health insurance has the effect of insulating patients from the full cost of health care. This situation may also create a **moral hazard** in that, once enrollees have purchased health insurance, they may use more health care services than if they were to pay for these services on an out-of-pocket basis.

At least two additional factors limit patients' ability to make decisions in the health care system. First, decisions about the utilization of health care are often determined by need rather than by price-based demand. **Need** has been defined as the amount of medical care that medical experts believe a person should have to remain or become healthy (Feldstein, 1993). Second, the delivery of health care can itself create demand. This follows from self-assessed need, which, coupled with moral hazard, leads to greater utilization, producing an artificial demand because prices are not taken into consideration. Practitioners who have a financial interest in additional treatments may also create artificial demand (Hemenway and Fallon, 1985), a scenario referred to as **provider-induced demand**, or supplier-induced demand. Functioning as patients' agents, physicians exert enormous influence on the demand for health care services (Altman and Wallack, 1996). Demand creation occurs when physicians prescribe medical care beyond what is clinically necessary—for example, by making more frequent follow-up appointments than necessary, prescribing excessive medical tests, or performing unnecessary surgery (Santerre and Neun, 1996).

In a free market, patients have information on the price and quality of each provider. The current system, however, has drawbacks that obstruct information-seeking efforts. Item-based pricing is one such hurdle. Surgery is a good example that illustrates item-based (also known as fee-for-service) pricing. Patients can generally find information on the fees the surgeon would charge for a particular operation. But the final bill, after the surgery has been performed, is likely to include charges for supplies, use of the hospital's facilities, and services performed by other providers, such as anesthesiologists, nurse anesthetists, and pathologists. These providers, sometimes referred to as **phantom providers**, function in an adjunct capacity and bill for their services separately. Item billing for such additional services, which sometimes cannot be anticipated, makes it extremely difficult to ascertain the total price before services have actually been received.

Package pricing can help overcome these drawbacks, but it has made relatively little headway as a means of pricing medical procedures. **Package pricing** refers to a bundled fee charged for a package of related services. In the surgery example, this would mean one all-inclusive price for the surgeon's fees, hospital facilities, supplies, diagnostics, pathology, anesthesia, and postsurgical follow-up.

Third-Party Insurers and Payers

Insurance often functions as the intermediary among those who finance, deliver, and receive health care. The insurance intermediary does not have an incentive to be the patient's advocate on either price or quality. At best, employees can air their dissatisfactions with the plan to their employer, which has the power to discontinue the current plan and choose another company. In reality, however, employers may be reluctant to change plans if the current plan offers lower premiums than a different plan.

Multiple Payers

A national health care system is sometimes referred to as a **single-payer system** because it features one primary payer, the government. When delivering services, providers send the bill to a government agency, which subsequently sends payments to each provider. By contrast, the United States has a multiplicity of health plans. Multiple payers often represent a billing and collection nightmare for the providers of services, and they make the system more cumbersome in several ways:

- It is extremely difficult for providers to keep tabs on numerous health plans. It is challenging for providers to keep up with which services are covered under each plan and how much each plan will pay for those services.
- Providers must hire claims processors to bill for services and monitor receipt of payments. Billing practices are not standardized, and each payer establishes its own format.
- Payments can be denied for not precisely following the requirements set by each payer.
- Denied claims necessitate rebilling.
- When only partial payment is received, some health plans may allow the provider to **balance bill** the patient for the amount the health plan did not pay—that is, the difference between provider charges and insurance payment. Other plans prohibit balance billing. Even when the balance billing option is available to the provider, it triggers a new cycle of billings and collection efforts.
- Providers must sometimes engage in lengthy collection efforts, including writing collection letters, turning delinquent accounts over to collection agencies, and finally writing off as bad debt amounts that cannot be collected.
- Government programs have complex regulations for determining whether payment is made for services actually delivered. Medicare, for example, requires that each provider maintain lengthy documentation on services provided. Medicaid is known for lengthy delays in paying providers.

It is generally believed that the United States spends far more on **administrative costs**—costs associated with billing,

collections, bad debts, and maintaining medical records—than do the national health care systems in other countries (Himmelstein, 2014; Himmelstein et al., 2020).

Power Balancing

The U.S. health care system involves multiple players, not just multiple payers. The key players in the system have traditionally been physicians, administrators of health service institutions, insurance companies, large employers, and the government. Big business, labor, insurance companies, physicians, and hospitals make up the powerful and politically active special-interest groups represented before lawmakers by high-priced lobbyists. Each set of players has its own economic interests to protect. Physicians, for instance, want to maintain their incomes and have minimum interference with the way they practice medicine; institutional administrators seek to maximize reimbursement from private and public insurers; insurance companies and MCOs are interested in maintaining their share of the health insurance market; large employers want to contain the costs they incur providing health insurance to their employees; the government tries to maintain or enhance existing benefits for those covered under public insurance programs and simultaneously contain the cost of providing these benefits. The problem is that the self-interests of different players are often at odds. For example, providers seek to increase government reimbursement for services delivered to Medicare, Medicaid, and CHIP beneficiaries, but the government wants to contain cost increases. Employers dislike rising health insurance premiums. Health plans, under pressure from the employers, may limit fees for the providers, who then resent these cuts.

The fragmented self-interests of the various players produce competing forces within the system. In an environment that is rife with motivations to protect conflicting self-interests, achieving comprehensive system-wide reform has proved next to impossible, and cost containment has remained a major challenge. Consequently, the approach to health care reform in the United States has been characterized as incremental or piecemeal, and the focus of reform initiatives has been confined to health insurance coverage and payment cuts to providers, rather than focusing on better provision of health care.

Litigation Risks

The United States is a litigious society. Motivated by the prospects of enormous jury awards, many Americans are quick to drag an alleged offender into a courtroom at the slightest perception of incurred harm. Private health care providers, too, have become increasingly susceptible to litigation, and the risk of malpractice lawsuits is a real consideration in the practice of medicine. To protect themselves against the possibility of litigation, practitioners may engage in **defensive medicine**, the practice of prescribing additional diagnostic tests, scheduling return checkup visits, and maintaining copious documentation. Many of these additional efforts may be unnecessary, costly, and inefficient.

High Technology

The United States has long been a hotbed of research and innovation in new medical technology. The resulting growth in science and technology often creates demand for

new services despite shrinking resources to finance sophisticated care. People generally equate high-tech care with high-quality care. They want "the latest and the best," especially when health insurance will pay for new treatments. Physicians and technicians want to try the latest gadgets. Hospitals compete on the basis of having the most modern equipment and facilities. Once capital investments in these new services are made, those costs must be recouped through utilization. Legal risks for providers and health plans may also play a role in discouraging denial of new technology. Thus, several factors promote the use of costly new technology once it is developed.

Continuum of Services

Medical care services are classified into three broad categories: curative (i.e., drugs, treatments, and surgeries), restorative (i.e., physical, occupational, and speech therapies), and preventive (i.e., prenatal care, mammograms, and immunizations). Health care settings are no longer confined to the hospital and the physician's office. Additional settings, such as home health, subacute care units, and outpatient surgery centers, have emerged in response to the changing configuration of economic incentives. **TABLE 1-2** describes the continuum of health care services. The health care continuum in the United States remains lopsided, with a heavier emphasis on specialized services than on preventive services, primary care, and management of chronic conditions.

Quest for Quality and Value

Even though the definition and measurement of quality in health care are not as clear-cut as they are in other industries, the delivery sector of health care has come under increased pressure to develop quality standards and demonstrate compliance with those standards. There are higher expectations for improved health outcomes at the individual and community levels. The concept of continual quality improvement has also received much emphasis in managing health care institutions.

As an example, the accountable care organization (ACO) model advocated by the Center for Medicare and Medicaid Services (CMS) and the Center for Medicare and Medicaid Innovation (CMMI) aims at improving the quality of patient care while maintaining or reducing expenditures for Medicare services. This model rewards ACOs that can lower their health care spending growth while fulfilling quality of care performance standards with additional Medicare payments; conversely, it penalizes those that overspend their expected limit.

Another example of the quest for quality and value is value-based health care (VBHC), which provides financial incentives for achieving specified health outcomes. Bundled-payment models and pay-for-performance (P4P) models are two applications of VBHC. Bundled-payment models, such as the Bundled Payment for Care Improvement Initiative under Medicare, target specific treatments or conditions. P4P models provide incentives for measurable value, as is the case with the Hospital Value-Based Purchasing Program. To achieve high-value care, VBHC not only needs to incentivize high-quality care in conditions or treatments that can be measured, but also stimulate cost-conscious behavior, well-coordinated care, and preventive aspects (Cattel and Eijkenaar, 2019).

TABLE 1-2 The Continuum of Health Care Services

Types of Health Services	Delivery Settings
Preventive care	Public health programs Community programs Personal lifestyles Primary care settings
Primary care	Physician's office or clinic Community health centers Self-care Alternative medicine
Specialized care	Specialist provider clinics
Chronic care	Primary care settings Specialist provider clinics Home health Long-term care facilities Self-care Alternative medicine
Long-term care	Long-term care facilities Home health
Subacute care	Special subacute units (hospitals, long-term care facilities) Home health Outpatient surgical centers
Acute care	Hospitals
Rehabilitative care	Rehabilitation departments (hospitals, long-term care facilities) Home health Outpatient rehabilitation centers
End-of-life care	Hospice services provided in a variety of settings

Trends and Directions

Since the 1980s, the U.S. health care delivery system has continued to undergo fundamental shifts in emphasis, summarized in **FIGURE 1-4**. Other chapters discuss these transformations in greater detail and focus on the factors driving them.

One major shift in emphasis has been toward the implementation of integrated delivery systems (IDS). In a health care system plagued by fragmentation and lack of coordination, patients and providers alike

FIGURE 1-4 Trends and directions in health care delivery.

seek to coordinate care more efficiently, create smoother transitions, reduce overlap, and control costs. Integrated delivery has emerged as an important component of health care delivery, particularly for patients with comorbidities. It has proven to have positive effects on cost and quality and is gradually being incorporated into various health care systems across the country.

Examples of integration include single-specialty group practices, where physicians with a common specialty (e.g., cardiology) come together to form an alliance; multispecialty group practices, where primary and specialty care physicians share common administrative oversight and resources as they make referrals to patients to receive other services within the organization; virtual physician networks, where the Internet is used to facilitate access to physicians remotely particularly for rural and underserved communities; physician–hospital organizations, where hospitals and their affiliated physicians form a partnership to contract health plans; management services organizations, where administrative and infrastructure support services are provided to contracted physicians; and clinically integrated networks, where physicians, hospitals, and providers form a joint venture and provide integrated services (Heeringa et al., 2020). The core functions of IDS are to provide comprehensive health care services, be accountable for the cost of the services and outcomes for patients, and improve health care coordination and integration. Well-known integrated delivery systems include Kaiser Permanente, Mayo Clinic, and Cleveland Clinic.

Another shift in trends has been toward the concept of pay-for-value. Pay-for-value, as the name implies, is a method of payment in which providers are reimbursed based on the quality of health care they deliver. A few studies indicate that pay-for-value systems have, on average, reduced hospital readmissions and improved emergency department use. However, other strategies that have been used to implement such a system have generated mixed results (Cross et al., 2017; Cross et al., 2019; Rosenthal et al., 2016). Many of these mixed results can be attributed to the fact that pay-for-value systems are as various and diverse in their approaches as the settings in which they have been implemented, and this heterogeneity in turn leads to heterogeneous results.

Value-driven programs developed by CMS have demonstrated these mixed impacts in recent years (Figueroa et al., 2016; Gupta et al., 2018; Ody and Cutler, 2019; Ody et al., 2019; Papanicolas et al., 2017). Nevertheless, in 2019, CMS rolled out a plan for a new value-based program targeting primary care, called CMS Primary Cares. The hope is that by targeting a provider group that often acts as a first point of contact and strongly influences the trajectory of how patients' illnesses

progress thereafter, CMS can significantly reduce costs by incentivizing primary care physicians to provide higher-quality care from the outset (CMS, 2019). Time and research are necessary to determine the long-term implications of this strategy.

ACOs incorporate aspects of both integrated delivery and pay-for-value (Gold, 2015). They exist in both the public and private sectors of the health care industry, although the most well known and heavily scrutinized are those in the Medicare ACO program created under the ACA. The value of ACOs has been contested through the years, with some studies claiming decent impact and cost reductions, and others showing inconsistent results (Lam et al., 2018; Markowitz et al., 2019; Trombley et al., 2019; Zhang et al., 2019). Organizations of higher quality prior to entry tend to have more success when instituting such a program (Diana et al., 2019; Parasrampuria et al., 2018).

In 2018, CMS announced an overhaul of its primary ACO program, the Medicare Shared Savings Program (MSSP), in response to initial results from the previous six years. Titled "Pathways to Success," the overhaul advances five goals: accountability, competition, engagement, integrity, and quality. Previous research done by CMS indicates that ACOs that took on higher risk showed better outcomes. Therefore, the new rule reduces the amount of time that ACOs can remain in the program without assuming higher levels of risk, but also increases flexibility by expanding access to telehealth services. As of July 2019, the first cycle of ACOs had begun participating in the updated program (CMS, 2018; Verma, 2018, 2019).

The shift toward IDS, pay-for-value, and ACOs has been primarily driven by the desire to promote health while reducing costs. Another driving factor is a fundamental shift in the concept of health itself. Health is now increasingly seen as the presence of wellness, rather than solely as the absence of illness. Such a change requires new methods for wellness promotion, although the treatment of illness remains the primary goal of the health care delivery system. The ACA has partially shifted the focus from disease treatment to disease prevention, better health outcomes for individuals and communities, and lower health care costs.

At present, the greatest challenge to the U.S. health care system is the quest to control costs while still meeting the increasing health care demands of an aging population—a population with more chronic diseases and comorbidities. Patients with multiple chronic conditions use the most health services (Sporinova et al., 2019). Managing chronic diseases has been a major focus of efforts to control health care costs. In particular, the patient-centered care approach founded on the chronic care model and continuous care is being implemented as a means to improve health care delivery performance, quality, and patient health outcomes. It represents a paradigm shift from the traditional hospital- and professional-centric approach to health care to an increasingly community- and consumer-centric approach (Donaldson, 2018; Miller and Baumgartner, 2016).

Traditionally, the complexity and various access points from which patients come into contact with the system have made it difficult to transition between providers, specialties, and locations of care. Chronically ill individuals with comorbidities who require treatment from

various providers may, therefore, experience fragmentation and uncoordinated care. As a result, treatments may overlap, duplications may occur, and health outcomes may worsen (Frandsen et al., 2015; Juo et al., 2019; World Health Organization [WHO], 2018a).

The patient-centered care approach, however, strives to overhaul this pattern. As an example, patient-centered medical homes (PCMHs) and ambulatory intensive care units (A-ICUs) are being incorporated into ACOs. The main objective in establishing these programs is to better manage chronic conditions exclusively within a "clinically integrated, financially accountable primary care practice" (DeVore, 2014). Ultimately, providers hope these measures can address behavioral health needs, lower hospital utilization rates, decrease inpatient bed-days, shorten lengths of stay, limit admissions and readmissions, and minimize ED visits.

Mid-level health care professionals and health coaches are important for managing chronic conditions and reducing costs. Health coaches, for example, complement medical professionals by getting to know patients through one-on-one contact and can keep the clinical staff apprised of financial struggles, issues with housing, family concerns, or other obstacles that may stand in the way of the patient following a prescribed care plan (DeVore, 2014). Health coaches do not need a medical degree, can be recruited from various professional backgrounds, and help improve the effectiveness and efficiency of care.

The advancement of health information technology (HIT) has also helped improve access (Deloitte, 2017). The market for telemedicine and remote monitoring applications was estimated to double from $11.6 billion in 2011 to $27.3 billion in 2016 (DeVore, 2014). During the COVID-19 pandemic, telemedicine received an even greater boost in growth. After Medicare expanded coverage of telehealth during the pandemic, utilization rates surged over 2000% from January to June (Patel et al., 2020). This growth, while partially borne out of necessity during the pandemic, is also in part driven by the increased demands for care owing to expansion of insurance coverage through the ACA; the health system may not have the capacity to treat each individual in person. For example, the Johns Hopkins Hospital at Home program delivers acute care services at the homes of patients with chronic illnesses who might otherwise need inpatient care. In this way, HIT increases access to care, particularly for patients living in rural areas where distance to the closest hospital is a major barrier.

Electronic health records (EHRs) have helped provide clinical measures and decision support tools, enabled providers to automate processes to reduce redundancy, and captured more clinical data (DeVore, 2014). Trends toward greater interoperability of health information systems, along with open-source interfaces, will allow for greater transparency, increased availability of data, and more creative use of data.

With the advancement in HIT and widespread Internet access, patients are becoming increasingly independent in making health care decisions and are more capable of communicating and interacting with health providers (Deloitte, 2020). HIT also helps streamline clinical processes and manage patients' health and payment information (Kelly, 2015). This

technology can be used to monitor clinical quality and utilization measures to identify where improvements can be made (Kraschnewski and Gabbay, 2013). It has also demonstrated success in improving health outcomes and patient safety (Furukawa et al., 2017). On a community level, HIT provides a way for health professionals to keep track of population-level data and observe broader community trends. In all of these ways, it is further promoting the shift toward consumer- and community-centered care.

Significance for Health Care Practitioners

An understanding of the intricacies within the health services system would be beneficial to all those who come in contact with the system. In their respective training programs, health professionals, such as physicians, nurses, technicians, therapists, dietitians, and pharmacists, may understand their own individual clinical roles but remain ignorant of the forces outside their profession that could significantly impact both current and future clinical practices. An understanding of the health care delivery system can attune health professionals to their relationship with the rest of the health care environment. It can help them understand changes and the impact of those changes on their own practice. Adaptation and relearning are strategies that can prepare health professionals to cope with an environment that will see ongoing change long into the future, particularly as the U.S. health care system is expected to further evolve under subsequent efforts to reform the system.

Significance for Health Care Managers

An understanding of the health care system has specific implications for both private and public health services managers, who must understand the macro environment in which they make critical planning and management decisions. Such decisions will ultimately affect the efficiency and quality of services delivered. The interactions between the system's key components and the implications of these interactions must be well understood because the operations of health care institutions are strongly influenced, either directly or indirectly, by the financing of health services, reimbursement rates, insurance mechanisms, delivery modes, new statutes and legal opinions, and government regulations.

For the foreseeable future, the environment of health care delivery will remain fluid and dynamic. The viability of delivery and the success of health care managers often depend on how the managers react to the system dynamics. Timeliness of action is often a critical factor that can make the difference between failure and success. Following are some more specific reasons why understanding the health care delivery system is indispensable for health care managers.

Positioning the Organization

Managers need to understand their own organizational position within the macro environment of the health care system. Senior managers, such as chief executive officers, must constantly gauge the nature and impact of the fundamental shifts illustrated in **FIGURE 1-4**. Managers

need to consider which changes in the current configuration of financing, insurance, payment, and delivery might affect their organization's long-term stability. Middle and first-line managers also need to understand their roles in the current configuration and how these roles might change in the future.

How should resources be realigned to effectively respond to those changes? As an example, managers need to evaluate whether certain functions in their departments must be eliminated, modified, or added. Would the changes involve further training? Which processes are likely to change, and how? Which steps do the managers need to take to maintain the integrity of their institution's mission, the goodwill of the patients they serve, and the quality of care? Well-thought-out and appropriately planned changes are likely to cause less turbulence for both the providers and the recipients of care.

Handling Threats and Opportunities

Changes in any of the functions of financing, insurance, payment, and delivery can present new threats or opportunities in the health care market. Health care managers will be more effective if they proactively deal with any threats to their institution's profitability and viability. Managers need to find ways to transform certain threats into new opportunities.

Evaluating Implications

Managers are better able to evaluate the implications of health policy and new reform proposals when they understand the relevant issues and appreciate how such issues link to the delivery of health services in the establishments they manage. Health care reform has brought more individuals into the U.S. health care system, creating greater demand for health services. Planning and staffing to ensure that the right mix of health care workers are available to meet this anticipated surge in demand are critical.

Planning

Senior managers are often responsible for strategic planning regarding which services should be added or discontinued, which resources should be committed to facility expansion, and what should be done with excess capacity. Any long-range planning must take into consideration the current makeup of health services delivery, the evolving trends, and the potential impact of these trends.

Capturing New Markets

Health care managers will be in a better position to capture new health services markets if they understand emerging trends in the financing, insurance, payment, and delivery functions. New opportunities must be explored before any newly evolving segments of the market become crowded with competition. An understanding of the dynamics within the system is essential to forging new marketing strategies that will let the institution stay ahead of the competition and, in some cases, find a new service niche.

Complying with Regulations

Delivery of health care services is heavily regulated. Health care managers must comply with numerous government regulations, such as standards of participation in government programs, licensing rules,

and security and privacy laws regarding patient information, and they must operate within the constraints of reimbursement rates. On a periodic basis, the Medicare and Medicaid programs have made drastic changes to their reimbursement methodologies that have triggered the need for operational changes in the way services are organized and delivered. Private agencies, such as the Joint Commission, also play an indirect regulatory role, mainly in monitoring the quality of services. Health care managers have no choice but to play by the rules set by the various public and private agencies that regulate the health care marketplace. Hence, it is paramount that health care managers acquaint themselves with the rules and regulations governing their areas of operation.

Following the Organizational Mission

Knowledge of the health care system and its development is essential for effective management of health care organizations. By keeping up-to-date on community needs, technological progress, consumer demand, and economic prospects, managers will be in a better position to fulfill their organizational missions to enhance access, improve service quality, and achieve efficiency in the delivery of services.

Health Care Systems of Other Countries

Except for the United States, the 25 wealthiest nations in the world all have some form of universal health care coverage (Rodin and de Ferranti, 2012). Canada and Western European nations have used three basic models for structuring their national health care systems:

- In a system based on **national health insurance (NHI)**, such as that found in Canada, the government finances health care through general taxes, but the actual care is delivered by private providers. In the context of the quad-function model, NHI requires a tighter consolidation of the financing, insurance, and payment functions coordinated by the government. Delivery is characterized by detached private arrangements.
- In a **national health system (NHS)**, such as that found in the United Kingdom, in addition to financing a tax-supported NHI program, the government manages the infrastructure for the delivery of medical care. Thus, the government operates most of the country's medical institutions. Most health care providers, such as physicians, either are government employees or are tightly organized in a publicly managed infrastructure. In the context of the quad-function model, NHS requires a tighter consolidation of all four functions.
- In a **socialized health insurance (SHI)** system, such as that found in Germany, government-mandated contributions from employers and employees finance health care. Private providers deliver health care services. Private, not-for-profit insurance companies, called sickness funds, are responsible for collecting the contributions and paying physicians and hospitals (Santerre and Neun, 1996). The insurance and payment functions are closely integrated in a SHI system, and the financing function is better coordinated with

the insurance and payment functions than in the United States. Delivery is characterized by independent private arrangements, but the government exercises overall control of the system.

In this text, the terms "national health care program" and "national health insurance" are used generically and interchangeably to refer to any type of government-supported universal health insurance program. Following is a brief discussion of health care delivery in selected countries from various parts of the world to illustrate the application of the three models discussed and to provide examples of the variety of health care systems in the world.

Australia

In the past, Australia had switched from a universal national health care program to a privately financed system. In 1984, it returned to a national program—called Medicare—financed by income taxes and an income-based Medicare levy. This system is built on the philosophy that everyone should contribute to the cost of health care according to his or her capacity to pay. In addition to being insured by Medicare, approximately 55% of Australians carry private health insurance (Australian Government, Department of Health, 2019) to cover gaps in public coverage, such as dental services and care received in private hospitals (Willcox, 2001). Although private health insurance is voluntary, it is strongly encouraged by the Australian government through tax subsidies for purchasers and tax penalties for nonpurchasers (Healy, 2002). Public hospital spending is funded by the government, but private hospitals offer better choices. Costs incurred by patients receiving private medical services, whether in or out of the hospital, are reimbursed in whole or in part by Medicare. Private patients are free to choose and change their doctors. The medical profession in Australia is composed mainly of private practitioners, who provide care predominantly on a fee-for-service basis (Hall, 1999; Podger, 1999).

In 2011, the Council of Australian Governments (COAG) signed the National Health Reform Agreement, which established the architecture for national health insurance reform. In particular, the Agreement provides for more sustainable funding arrangements for Australia's health system. In the same year, the National Health Reform Act 2011 established a new Independent Hospital Pricing Authority and a National Health Performance Authority. The Pricing Authority determines and publishes the national price for services provided by public hospitals. The Commonwealth Government determines its contribution to funding public hospitals on the basis of these prices. The Performance Authority is charged with monitoring and reporting on the performance of local hospital networks, public and private hospitals, primary health care organizations, and other bodies or organizations that provide health care services. The 2011 act also provides a new statutory framework for the Australian Commission on Safety and Quality in Health Care (Australian Government, 2011).

Australia focuses on developing various health service delivery models to contain costs and provide quality and accessible care (Brownie et al., 2014). Notably, this country has encouraged interprofessional practice as a means to enhance socioeconomic development

and improve health outcomes (Brownie et al., 2014). COAG defined new Australian Health Care Agreements (AHCAs), under which each state and territory funds a portion of the public hospital operation costs, commits to providing equitable access to free public hospital services based on clinical need, and agrees to match the rate of growth in the Australian government's hospital funding (Australian Institute of Health and Welfare, 2017). Australia has also developed a National Primary Health Care Strategy to better incentivize prevention, promote evidence-based management of chronic disease, support the role of general practitioners in health care teams, encourage a focus on interprofessional team-based care, and address the increased need for access to various health professionals such as practice nurses and allied health professionals. Other health reforms seek to achieve continuity of care, provide high-quality education and training for existing and incoming health care workers, and embed a culture of interprofessional practice (Brownie et al., 2014).

Canada

Canada implemented its national health insurance system—referred to as Medicare—under the Medical Care Act of 1966. Medicare consists of 13 provincial and territorial health insurance plans, sharing basic standards of coverage, as defined by the Canada Health Act (Health Canada, 2013). The bulk of financing for Medicare comes from general provincial tax revenues; the federal government provides a fixed amount that is independent of actual expenditures. Public-sector health expenditures account for 70% of the total Canadian health care expenditures. The remaining 30% consists of private-sector expenditures, which include household out-of-pocket expenditures, commercial and not-for-profit insurance expenditures, and nonconsumption expenditures (Canadian Institute for Health Information, 2012). Many employers also offer private insurance that gives their employees supplemental coverage.

Provincial and territorial departments of health have the responsibility to administer medical insurance plans, determine reimbursement for providers, and deliver certain public health services. Provinces are required by law to provide reasonable access to all medically necessary services and to provide portability of benefits from province to province. Patients are free to select their providers (Akaho et al., 1998). According to Canada's Fraser Institute, specialist physicians surveyed across 12 specialties and 10 Canadian provinces reported a total waiting time of 20.0 weeks between referral from a general practitioner and delivery of treatment in 2016—an increase from 18.3 weeks in 2015. Patients had to wait the longest to undergo neurosurgery, which had a wait time of 46.9 weeks (Barua et al., 2016).

Nearly all Canadian provinces—Ontario is one of the exceptions—have resorted to regionalization of health care services, through the creation of administrative districts within each province. The objective of regionalization is to decentralize authority and responsibility so as to more efficiently address local needs and promote citizen participation in health care decision making (Church and Barker, 1998). The majority of Canadian hospitals operate as private nonprofit entities run by community boards

of trustees, voluntary organizations, or municipalities, and most physicians are in private practice. Most provinces use global budgets and allocate set reimbursement amounts for each hospital. Physicians are paid at fee-for-service rates, which are negotiated between each provincial government and medical association (MacPhee, 1996; Naylor, 1999).

In 2004, Canada created the 10-Year Plan to Strengthen Health Care, which focuses on problems with wait times, health human resources, pharmaceutical management, EHRs, health innovation, accountability and reporting, public health, and Aboriginal health. Overall, progress has been made in these areas, but the goals have not yet been fully achieved (Health Council of Canada, 2013).

Although most Canadians are quite satisfied with their health care system, sustaining the current health care delivery and financing remains a challenge. Spending on health care has increased dramatically in recent decades, from approximately 7% of program spending at the provincial level in the 1970s to almost 41% in 2015 (Barua et al., 2016). It is expected to continue growing at a rate of about 5.3% annually through 2031 (Barua et al., 2017).

In line with global pressure for health reforms, Canada is also transitioning to patient-centered care (Dickson, 2016), but has not implemented major country-wide health reform since 2005 (Health Systems and Policy Monitor [HSPM], 2012). In addition to leadership challenges, two reasons that Canada has been reluctant to reform its health system are (1) resistance from long-standing professional associations and (2) a lack of follow-through from provincial governments (Dickson, 2016).

The 2014 version of the Canada Health Act expanded services such as nursing home intermediate care, adult residential care, home care services, and ambulatory care services (Canada Minister and Attorney General, 2016). Other initiatives include a collaboration between provincial and territorial governments to purchase drugs in bulk and cut costs in an effort to make drugs more affordable to patients, as well as a program to improve access to high-quality mental health services, particularly for veterans and first responders (Granovsky, 2016).

China

Since the economic reforms initiated in the late 1970s, health care in the People's Republic of China has undergone significant changes. In urban China, health insurance has evolved from a predominantly public insurance (either government or public enterprise) system to a multipayer system. Government employees are covered under government insurance as a part of their benefits. Employees of public enterprises are largely covered through public enterprise insurance, but their actual benefits and payments vary according to the financial well-being of those enterprises. Employees of foreign businesses or joint ventures are typically well insured through private insurance arrangements. Almost all of these plans attempt to contain costs through a variety of means, such as experience-based premiums, deductibles, copayments, and health benefit dollars (i.e., pre-allocated benefit dollars for health care that can be converted into income if not fully used). The unemployed, self-employed, and employees working for small enterprises (public

or private) are largely uninsured. They can purchase individual or family plans in the private market or pay for services out of pocket. In rural China, the New Cooperative Medical Scheme (NCMS), discussed later, has become widespread; it relies on funds pooled from national and local governments, as well as private citizens. Although the insurance coverage rate is high (more than 90%) in China, the actual benefits provided to insureds are still very limited.

Similar to the United States, China has been facing growing problems owing to its large uninsured population and health care cost inflation. Although health care funding was increased by 87% in 2006 and 2007, the country has yet to reform its health care system into an efficient and effective scheme. Employment-based insurance in China does not cover dependents, nor does it cover migrant workers, leading to high out-of-pocket cost-sharing as part of total health spending. Rural areas in China are most vulnerable to poor access to health care because of a lack of true insurance plans and accompanying comprehensive coverage. Medical costs are also increasing at an average annual rate of 10%, which is more than four times the rate of local consumer price inflation (Anderson, 2018).

In recent years, health care delivery in China has undergone significant changes. The former three-tier referral system (primary, second, tertiary) has been largely abolished. Patients can now go to any hospital of their choice as long as they are insured or can pay out of pocket. As a result, large (tertiary) hospitals are typically overutilized, whereas smaller (primary and secondary) hospitals are underutilized. Use of large hospitals contributes to both escalation of medical costs and greater medical specialization.

Major changes in health insurance and delivery have made access to medical care more difficult for the poor, uninsured, and underinsured. Consequently, wide and growing disparities in access, quality, and outcomes are becoming apparent between rural and urban areas, and between the rich and the poor. After the severe acute respiratory syndrome (SARS) epidemic in 2003, the Chinese government created an electronic disease-reporting system at the district level. Each district in China now has a hospital dedicated to infectious diseases. However, there are still flaws in this system, particularly in monitoring infectious diseases in remote localities (Blumenthal and Hsiao, 2005), and public reporting is also subject to political and administrative supervision.

To fix some of its problems, the Chinese government has pushed through health reform initiatives in five major areas: health insurance, pharmaceuticals, primary care, public health, and public/community hospitals. In terms of health insurance expansion, it created the New Cooperative Medical Scheme to provide rural areas with a government-run voluntary insurance program. This program is intended to prevent individuals living in these areas from becoming impoverished due to illness or catastrophic health expenses (Yip and Hsiao, 2008). In 2008, a similar program was established in urban areas, called the Urban Resident Basic Medical Insurance scheme. It targets uninsured children, elderly persons, and other nonworking urban residents, enrolling them into the program at the household level rather than at the individual level (Wagstaff et al., 2009).

The Chinese government has also increased its health care funding. In the past decade, government subsidies to public hospitals have more than tripled (Lyu et al., 2019). From 2008 to 2017, the government quadrupled its health expenditures from 359 billion RMB to 1.52 trillion RMB. Thanks to the increased health care funding, the rate of health insurance coverage hit a record high of 95% in 2013 and has remained stable ever since. However, due to the country's enormous population and significant disparities in regional economic development, insurance benefits still vary widely across China, with the majority of rural residents being unable to afford medical care should they become catastrophically ill.

To improve access to primary care, China has reestablished community health centers (CHCs) that provide preventive and primary care services so patients no longer need to seek expensive outpatient services at hospitals. The goal is to reduce hospital utilization and increase the number of CHCs that can provide prevention, home care, and rehabilitative services (Yip and Hsiao, 2008; Yip and Mahal, 2008). To date, the CHCs have not proved very popular among the public because of their perceived lack of quality and, consequently, their poor reputation (Wu et al., 2017). Although different models have been set up to showcase "success" stories from the tiered referral system, so far no sustainable approach has been identified due to systematic limitations in payment arrangement, personnel makeup, and administrative structure (Tam et al., 2018; Xu and Zhang, 2018; Yip et al., 2019).

Another major component of Chinese health reform has been the establishment of an essential drug system that aims to enhance access to, and reduce out-of-pocket spending for, essential medicines since most of hospital revenue comes from drug markups. The reform policies specified a comprehensive system including selection, procurement, pricing, prescription, and quality and safety standards (Barber et al., 2013). To reduce overprescribing, the government mandated the Zero-Markup Drug policy starting from county-level hospitals in 2012, and then expanding to city-level hospitals in 2015. A fee-schedule adjustment was implemented to compensate for revenue losses from the Zero-Markup policy. Under the fee-schedule change, fees for labor-intensive health services were increased, though they remain lower than the market price. However, though the Zero-Markup policy reduced drug expenditures, the country's total health expenditures did not change. Notably, hospitals have sought to recoup revenue losses from drug markups by increasing utilization of their basic health services and diagnostic tests.

In terms of public hospital reform, China's National Health and Family Planning Commission (previously the Ministry of Health) and State Council have detailed several health reform objectives, including cost containment (e.g., constraining drug prices), quality (e.g., improving staff performance), efficiency, and development of a hospital governance structure (Hsu, 2015). In an effort to control increasing health care expenditures, the central government has encouraged local governments to experiment with alternative payment methods, including global budgeting, diagnostic-related groups (DRGs), case-based payments, and capitation, to replace the fee-for-service payment system. Numerous pilot reforms have been

launched in various cities in China, but no national implementation plan has been formulated (Yip et al., 2012). The public hospital reform is widely considered to be the least successful effort, since the role hospitals will play in the post-industrial era is not yet fully conceptualized.

In 2012, China lifted restrictions on foreign investments in private hospitals in an effort to increase the number of hospitals and improve access to care (Hsu, 2015). By 2015, the State Council aimed to increase use of private health services by 20%. Health insurance reform is also being developed. The Chinese government plans to give tax breaks to private health insurance policyholders in an attempt to increase insurance coverage. Some of these tax breaks include allowing privately insured individuals to deduct 2,400 RMB per year from their assessable income for health insurance premiums (Hsu, 2015).

In 2015, China announced a 5-year plan for the health system, which outlined key areas for development by 2020 (Zhu, 2015). Despite broad reforms, the Chinese health care system continues to be plagued by resource shortages and underdevelopment in rural areas. Thus, the latest reform targets three main areas: infrastructure development, reduction of costs and expansion of insurance coverage, and investment in novel technologies. Importantly, these reforms will open up new opportunities for foreign investments.

Germany

Health insurance has been mandatory for all citizens and permanent residents in Germany since 2009 (Blumel and Busse, 2016). As mentioned earlier, the German health care system is based on the SHI model, and voluntary substitutive private health insurance is available. "About 86 percent of the population receive their primary coverage through SHI and 11 percent through substitutive PHI" (Blumel and Busse, 2016), while special programs cover the rest of the population. Sickness funds act as purchasing entities by negotiating contracts with hospitals. However, paying for the increasing costs of medical care has proved challenging in Germany because of the country's aging population, fewer people in the workforce, and stagnant wage growth during recessions.

During the 1990s, Germany adopted legislation to promote competition among sickness funds (Brown and Amelung, 1999). To further control costs, its national system employs global budgets for the hospital sector and places annual limits on spending for physician services. Inpatient care is paid per admission based on DRGs—a system that was made obligatory in 2004 (Blumel and Busse, 2016).

Health reforms in Germany have focused on improving the efficiency and appropriateness of care. In 2011, the Pharmaceutical Market Reform Act introduced an assessment scheme for all new pharmaceuticals, under which only those drugs that offer additional benefits relative to existing alternatives can be reimbursed at a higher rate (WHO, 2014). The Hospital Financing Reform Act of 2009 requires performance-based flat-rate grants for investments in hospitals, rather than non-performance-based flat-rate grants on a case-by-case basis, as of 2012 (WHO, 2014).

One of Germany's biggest challenges is the division between SHI and private health insurance. The differences in risk pools, financing structures, access, and

provisions in these alternative insurance plans contribute to inequalities in care (WHO, 2014). Additionally, more work is needed to improve the quality of medical services, patient satisfaction, and accessibility of health services in rural communities (WHO, 2014).

More recent reforms in Germany have focused on improving services for SHI-covered patients and enhancing hospital quality. In June 2015, the Act to Strengthen SHI Health Care Provision gave municipalities the right to establish medical treatment centers, gave patients the right to see a specialist within 4 weeks, and promoted innovative forms of care in an effort to strengthen services for SHI-covered patients (HSPM, 2016). This act improves prevention services and health promotion through investments in schools, the workplace, and long-term care facilities. In addition, the 2016 Hospital Care Structure Reform Act introduced quality aspects in the regulation of hospital volume and payments (Blumel and Busse, 2016). Substantial funds will be invested to improve the hospital care structure in Germany.

United Kingdom

The United Kingdom follows the national health system model. Its health delivery system, called the National Health Service (NHS), is founded on the principles of primary care and has a strong focus on community health services. The system owns its hospitals and employs its hospital-based specialists and other staff on a salaried basis. The primary care physicians, referred to as general practitioners (GPs), are mostly private practitioners. All NHS-insured patients are required to register with a local GP. In 2014, there were, on average, 7,171 patients per practice and 1,530 patients per GP (Thorlby and Arora, 2016).

The NHS emphasizes free points of access and equal access to all (HSPM, 2015). In England, the Health and Social Care Act abolished the Primary Care Trust and Strategic Health Authority in 2012, replacing them with the Clinical Commissioning Group. In 2013, the Better Care Fund was enacted to improve integration of health and social care. In 2014, the Care Act was introduced to cap out-of-pocket expenditures (HSPM, 2015).

Delivery of primary care occurs through primary care trusts (PCTs) in England, local health groups in Wales, health boards in Scotland, and primary care partnerships in Northern Ireland. PCTs have geographically assigned responsibility for community health services; each person living in a given geographic area is assigned to a particular PCT. A typical PCT is responsible for approximately 50,000 to 250,000 patients (Dixon and Robinson, 2002). PCTs function independently of the local health authorities and are governed by a consumer-dominated board. A fully developed PCT has its own budget allocations, used for both primary care and hospital-based services. In this respect, PCTs function like MCOs in the United States.

Approximately 83% of U.K. health expenditures in 2013 went to the public sector (Office of National Statistics, 2015). Private expenditures involve mainly drugs and other medical products as well as private hospital care. Despite having a national health care system, 10.9% of the British population maintains private health insurance (Arora et al., 2013). Approximately 79% of total health care spending