Stanfield's Introduction to

Health Professions

Eighth Edition

Nanna Cross
Dana C. McWay

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World Headquarters
Jones & Bartlett Learning
25 Mall Road
Burlington, MA 01803
978-443-5000
info@jblearning.com
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29377-7

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Cover Image (Title Page, Part Opener, Chapter Opener): © kanetmark/Shutterstock.
Printing and Binding: LSC Communications

Library of Congress Cataloging-in-Publication Data
Names: Cross, Nanna, author. | McWay, Dana C., author.
Title: Stanfield's introduction to health professions / Nanna Cross, Dana C. McWay.
Other titles: Introduction to health professions
Description: Eighth edition. | Burlington, Massachusetts : Jones & Bartlett Learning, [2023] | Includes bibliographical references and index.
Identifiers: LCCN 2021034318 | ISBN 9781284219456 (paperback)
Subjects: LCSH: Medicine—Vocational guidance. | Allied health personnel—Vocational guidance.
Classification: LCC R690 .S727 2023 | DDC 610.69—dc23
LC record available at https://lccn.loc.gov/2021034318

6048

Printed in the United States of America
26 25 24 23 22 10 9 8 7 6 5 4 3 2 1

BRIEF CONTENTS

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NOTE FROM THE AUTHORS

Careers in the healthcare field are growing more rapidly than other careers because of longevity and greater numbers of the elderly needing health care as well as advanced technology with more treatment options. Within health care, there is a career for nearly everyone—from entry-level positions as home health or personal care aides, which require no prior training, to being employed as a physician, which requires 7 to 8 years of college plus an internship to enter a career.

Although the COVID-19 pandemic dramatically impacted the demand for many healthcare professionals, the authors did not attempt to predict how the pandemic might change future job opportunities for individual health professions. The pandemic increased the demand and appreciation for respiratory therapists—the health professional who manages patients on ventilators—and critical care physicians and nurses. The high number of residents in nursing homes ill from the virus demonstrated the importance of infection control in healthcare settings and the need for skilled nursing assistants. The virus also demonstrated the value of public health workers who monitored the pandemic on the local, state, and federal levels and communicated changing recommendations to prevent the public from becoming ill from the virus. It is hoped that living through the pandemic has expanded our knowledge and appreciation for the many healthcare workers who have the responsibility for protecting our health.

This text is designed so that the instructor can select individual chapters for a course. Most college texts are organized to be followed from the beginning of the book through the last chapter. By contrast, instructors using this text can select certain chapters based on their course objectives since each chapter is written to be understandable and comprehensive as a standalone. Key terms unique to health care are defined in the glossary at the end of the text and are listed at the beginning of each chapter so students can refer to the glossary as needed.

WHAT ARE THE LATEST TRENDS IN THIS MARKET?

The current trend is to require more education for entry-level health professionals. Educational programs for registered nurses are moving to a bachelor's degree, while programs for dietitians and occupational therapists are moving to a master's degree. The profession of physical therapy now requires a Doctor of Physical Therapy to practice. Educational requirements for support personnel are typically an associate's degree—for example, occupational therapy assistants and physical therapy assistants.

The health inequities in the United States were exacerbated by the COVID-19 pandemic. The health system was not prepared, and disparities in access to health care became more evident with the pandemic. Advances in healthcare treatment are not readily available to low-income communities and minorities. Historically, our healthcare system has not addressed social needs and social determinants of health (SDOH). The future of health care for all requires that the system address SDOH (safe and affordable education, housing, transportation, food, and mental health services). Unless these needs are addressed, there will continue to be disparities in access to health care and health outcomes. The entire health community—hospitals and primary care providers—will be expected to address these unmet needs of the population.

Information technology is changing the way health care is delivered as well as the way consumers manage their health. Electronic health records that are accessible by professionals regardless of physical location are cost-effective and improve the quality and safety of health care. Many patients now have access to lab values and other text results through a patient portal within the electronic health record. Technology also makes it possible for patients to do more self-monitoring and to communicate results back to their physician, nurse, or caseworker. For example, blood glucose and blood pressure can be monitored by the patient and the results transmitted to the healthcare provider.

Nanna Cross, PhD
Dana C. McWay, JD, RHIA, FAHIMA

PREFACE

The eighth edition of *Stanfield's Introduction to Health Professions* provides comprehensive coverage of all the major health professions. This product is designed for students who are interested in pursuing a health-related career but are still exploring and have not yet decided on a specific career. The eighth edition outlines more than 75 careers and touches on every major facet of the field, including a description of the profession and typical work settings; educational, licensure, and certification requirements; salary and growth projections; and internet resources on educational programs and state requirements for licensure and/or certification. In addition, this resource provides a thorough review of the U.S. healthcare delivery system, managed care, healthcare financing, reimbursement, insurance coverage, Medicare, Medicaid, and the impact of new technology on healthcare services. Information on career preparation and development is also included. All chapters are updated to reflect current demographics and new policies.

HOW IS THIS BOOK ORGANIZED?

The new edition of this text has been reorganized into five sections.

- **Part I—The Healthcare System in the United States**. This section provides an overview of the healthcare system in the United States, with separate chapters on categories of health services, financing health care, the impact of aging on demands for healthcare providers, healthcare reform, and medical and information technology.
- **Part II—Jobs and Careers**. This section focuses on career planning and career development.
- **Parts III through V** contain chapters on individual careers that are organized so that students will be able to quickly identify a particular career of interest. Each chapter is organized to follow the same general format, making it easy for students to explore many different health careers. Each chapter follows the same format with a description of the profession and typical work setting; educational, licensure and certification requirements; salary and growth projections; and internet resources on educational programs and requirements for licensure and/or certification. For example, in the chapter on dentistry, the career is described based on the education and training requirements from most education—dentist—to least education—dental assistant. For each career within the dentistry profession, the student has access to the usual responsibilities, work setting, salary, and expected demand for that career. Each chapter lists internet resources to explore educational programs as well as state requirements for licensure and certification options for advancing in the profession.
- **Part III—Health Practitioners and Technicians.** This section is the core of the product and contains 21 chapters directed at health careers that involve direct patient contact and care, ranging from diagnosis to treatment to education and counseling and medical or surgical interventions.
- **Part IV—Healthcare Support Personnel.** This section contains five chapters directed at health careers that support or supplement other health professionals in providing ongoing care for patients—medical and nursing assistants; personal, home, and psychiatric aides; medical information technology; and alternative therapies including massage, recreation, art, dance, and music therapists.
- **Part V—Health-Related Professions.** This section focuses on health-related professionals who usually do not have direct contact with human patients but often have an impact on human health—veterinary medicine and occupational health and environmental sciences.

ABOUT THE AUTHORS

Nanna Cross, PhD, has worked as a faculty member in dietetic and physician education programs teaching clinical nutrition courses and supervising dietetic interns in clinical practicums. Dr. Cross worked as a clinical dietitian at the University of Missouri Hospitals and Clinics and as a consulting dietitian for Home Care, Hospice, Head Start, and Long-Term Care facilities.

Dana C. McWay, JD, RHIA, FAHIMA, is both a lawyer and a health information management professional. She works as an adjunct faculty member at Saint Louis University in the Health Informatics and Pre-Law Studies programs. She serves as the Clerk of Court for the U.S. Bankruptcy Court for the Eastern District of Missouri, an executive position responsible for all operational, administrative, financial, and technological matters of the court. She has worked as both a director and assistant director of medical records in a large teaching hospital and a for-profit psychiatric and substance abuse facility. She is a past Director on the Board of Directors of the American Health Information Management Association and serves as a voting member of the Institutional Review Board at Washington University School of Medicine, from 1992 to the present.

NEW FEATURES

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Professional Profiles

Name: Amanda, RN
Job Title: Charge Nurse
Education: ADN; enrolled for BSN

Q: Tell us about your career progression.

A: After graduating from nursing school, I hired on at a local hospital with 113 beds and soon after found myself a charge nurse on a 31-bed high acuity telemetry unit. Diagnoses of our patients varied from congestive heart failure, myocardial infarction, cardiomyopathy, and many chest pain rule-outs that resulted in other various outcomes.

I recently took a position on a 40-bed medical floor as a free charge nurse. My job now allows me to focus on the hospital's quality indicators and outcomes. I get to round on patients in the morning to determine the needs of my colleagues and the floor. I love the role I am currently in because I can advocate for patients by discussing the care they are receiving and learning ways to improve our delivery.

Q: What challenges you about your profession?

A: Nursing has been a very challenging yet fulfilling career for me. It has allowed me to develop a professional skill set, build relationships with patients, and learn on a daily basis from my peers. I have recently become engaged in community events while sitting on the Young Professional Advisory Board in my county. I have had many great opportunities while working as a registered nurse and look forward to many to come.

Q: How have you demonstrated professionalism in your career?

A: Over the years, my career has presented me with many opportunities to grow as a professional. The hospital has a clinical development program that allows nurses to put together a portfolio representing their work over time. There are many requirements including service in the community, continuing education, awards or recognition from patients, and participation in committees or improvement events that take place in the hospital. Developing this portfolio and committing to the work that it entails encourages me to view my job as a nurse as something much more. Nursing is a profession and has been elevated to that over time. As a nurse, I feel it's my obligation to continue to engage myself into my community and help represent what the profession of nursing is.

Q: Without disclosing protected health information, describe an ethical challenge you've faced and how you addressed it.

A: As a nurse I often am witness to ethical dilemmas within the acute care setting. When taking care of an elderly patient who had decided to go on hospice, I witnessed many family members who came in to visit who were not in agreement with the patient's decision. Over the course of a few days, the patient had become very weak and unable to communicate. Many family members began to demand that the decision to start hospice care be reversed and that [hospital staff] resume treatment for the patient's cancer. When involved in caring for large families and patients with terminal illness, it is important to advocate for the patient. At times, it can be emotionally taxing, and your own beliefs may not agree with those of the patient; however, it's important to keep your own beliefs out of it. Ultimately, in this particular situation, my patient had paperwork that reflected his wants and needs for end-of-life care. He had made a decision to die peacefully, and my job was to allow him just that. We called a chaplain in to comfort the family and help them understand that the patient was clear about his wishes. In this case, the family just needed support to accept his wishes. Death is hard for all parties involved, but as a nurse, my first priority was advocacy for my patient.

Q: Describe the continuing education requirements for your profession.

A: Continuing education is mandated each year and can be different from unit to unit. My floor must participate in a skills lab that ensures that we are proficient in a number of clinical skills. We must also obtain eight hours of continuing education hours that we can do online or take classes within the hospital. Throughout the hospital, there are multiple types of equipment to safely transfer patients who need assistance with ambulation, so every year we have to demonstrate proficiency in safe patient handling. It is also mandatory to maintain a current BLS (basic life support) card to keep up to date a BLS [basic life support] card and in some areas a ACLS [advanced cardiac life support] card.

Professional Profiles

Interviews with professionals, including frequently asked questions and answer sections.

120 CHAPTER 8 Career Development

LEARNING PORTFOLIO

Study Points

1. Career development stretches beyond what is needed initially to enter into a healthcare profession.
2. Training for healthcare students includes similarities across disciplines, referred to as a common core of knowledge.
3. Healthcare professionals who act in an accountable and ethical manner in the workplace and maintain a steady composure in the face of adversity demonstrate professionalism.
4. Codes of ethics are common across virtually every healthcare discipline.
5. Healthcare professionals who breach confidentiality not only damage their relationship with the patient, they may also violate the law and professional requirements.
6. Many healthcare practitioners contribute to the successful treatment of patients through health teams.
7. Malpractice is professional misconduct.
8. Continuing education is an integral part of career development.

Issues for Discussion

1. At one time or another, most everyone has encountered someone who has acted in a less-than-professional manner. Discuss with your instructor and classmates examples you have experienced of this phenomenon. Describe what actions you think should have been taken in these examples that could have turned the nonprofessional situation into a professional situation.
2. Math anxiety has played a role in discouraging students from pursuing entry into the health professions. Brainstorm with your classmates and instructor the reasons math anxiety exists, considering whether timed tests and the risk of public embarrassment play a role. Discuss what actions can be taken to lessen or eliminate math anxiety.

Enrichment Activities

1. Safety of healthcare professionals is an important function of the job. Research the Internet for the rates of injury to registered nurses, physicians, nurse's aides, dietitians, physical therapists, respiratory therapists, and housekeeping staff. Create a chart comparing the types and rates of injury among these healthcare professionals.
2. Codes of ethics exist in virtually every healthcare profession. Research the websites of any of the professional associations listed in subsequent chapters to see what they include in their code of ethics. Create a chart identifying the similarities and differences between the codes of ethics of various professional associations.
3. Continuing education is usually a central tenet of a professional association. Research the websites of some professional associations to see what types and how much continuing education activity are required over a specified period of time. Create a chart comparing this information for each profession chosen.
4. Educating patients about various healthcare topics is increasingly important to the quality of health care. Thinking of yourself as a future healthcare professional, brainstorm ideas of what topics you might use to educate patients so that they can play a larger role in their own health care. Discuss these ideas with your classmates and instructor.

CASE STUDY PROFESSIONALISM

Montez is a medical assistant at a physician's office whose role is to greet patients, collect information from them, make patients comfortable, and answer questions about their appointment at the physician's office. Montez is particularly fond of a video game that he plays on his phone when there is downtime in the office. One afternoon, Montez was so engrossed in the video game he was playing that he ignored a patient when the patient approached Montez's desk and only acknowledged the patient after the patient got loud and demanded Montez's attention. When he did speak with the patient, Montez acted preoccupied, as though he was still thinking of his video game instead of the patient before him. Montez failed to collect any information from the patient beyond the patient's name and asked the patient to sit in the waiting room until being called.

1. Did Montez act as a professional in this situation? Why or why not?
2. Did Montez use effective communication skills in this situation? Why or why not?
3. Did Montez act in an ethical manner? Why or why not?
4. Was any conflict of interest present? Why or why not?

Learning Portfolio

At the end of each chapter, this review section includes Study Points, Issues for Discussion, Enrichment Activities, and Case Studies.

All sections are thoroughly updated to reflect current training requirements, responsibilities, and salaries, as established in the *Occupational Outlook Handbook 2020–2021 Edition*.

FIGURE D.4 The proper sequence of putting on personal protective equipment (PPE).

New Appendix

Appendix D, "Infection Control," has been added. This appendix reviews standard precautions for all patient care to prevent the spread of infectious diseases in healthcare settings. Included is a brief overview of the key elements needed for the transmission of infections: a source of the infectious organism, a susceptible person, and a method of transmitting the infection to the susceptible person. There is a review of the proper use of personal protective equipment (PPE), hand washing, sources of viruses and bacteria in a healthcare setting, and a glossary. The appendix also includes posters and infographics that illustrate the concepts of infection control in a way that is easy to understand.

New Careers

Includes seven new careers!

- Dietary Manager (Chapter 13)
- Speech-Language Pathology and Audiology Assistants (Chapter 16)
- Kinesiotherapists (Chapter 19)
- Chiropractor (Chapter 20)
- Art Therapists (Chapter 31)
- Dance Therapists (Chapter 31)
- Music Therapists (Chapter 31)

THE LEARNING AND TEACHING PACKAGE

The Learning Package for the Student

Students can review the Learning Portfolios at the end of each chapter. For the first eight chapters of the text, the Learning Portfolio includes Study Points and a brief summary of the chapter content. All chapters also include Issues for Discussion, Enrichment Activities, and Case Studies designed to be used by the student for self-study and exploration.

The Teaching Package for the Instructor

Teacher resources include the Learning Portfolios at the end of each chapter, which are designed to be used by both the student and instructor. In addition, the following items are part of the Instructor's Teaching Package:

- Test Bank for each chapter
- Slides in PowerPoint format for each chapter
- Instructor's Manual
- Lecture Outline

Bloom's Taxonomy

The Learning Package for the student and the Teaching Package for the instructor are designed to incorporate Bloom's levels of learning from the lowest level of knowledge to the highest level of evaluation. The learning and teaching packages that accompany the text encourage going beyond the content of the text. The text is expected to be a starting point.

REVIEWERS

Seventh Edition
Jennifer M. Hatfield, MHS
Clinical Assistant Professor
Indiana University South Bend

Rebecca Manriquez
Health Science Technology Instructor
El Paso Center for Career and Technology
Sixth Edition

Karen Bakuzonis, PhD, MSHA, RHIA
Chair Health Informatics Department
Ashford University

William Ballard, MA, MEd
Academic Advisor College of Business
Florida Atlantic University

Dr. Barry Brock
Academic Coordinator/Health Services Administration
Barry University School of PACE

Dr. Kenneth L. Campbell, MPH, MBA, MA
Adjunct Professor
Department of Health Sciences at Chicago State University
Adjunct Professor and Interim Community Health Worker (CHW) Program Director at City Colleges of Chicago
Cook County System Operations Analyst
Cook County Health and Hospitals System (CCHHS) and Cook County Department of Public Health (CCDPH)

Karen Collins Gibson, MSA, RHIA, FAHIMA
Delaware County Community College

Nicole L. Hatcher, PH.Sc, MPAS, PA-C
Assistant Professor
Howard University

Andrea Koepke, PhD, RN
Dean—College of Health Professions
The University of Findlay

Barbara Marchelletta, CMA (AAMA), CPC, RHIT, CPT
Program Director—Allied Health Beal College

Darlene Martin, MEd, ATC
Liberty University

Kristen L. McHenry, MS, RRT-ACCS
Director of Cardiopulmonary Science Program Assistants
Professor—Department of Allied Health Sciences
College of Clinical and Rehabilitative Health Sciences
East Tennessee State University

Jahangir Moini, MD, MPH
Professor of Science and Health
Eastern Florida State College

Cindy Mulder, MSN
Instructor
University of South Dakota

Amy Nelson, MS OTR/L, MT(ASCP)
University of South Dakota

Dr. Dennis Palkon, PhD, MPH, MSW
Professor and Director of Management Programs/Health Administration/Business
Florida Atlantic University

Bonita Sasnett, EdD
East Carolina University

Erin Sayer, PhD
Chief Academic Advisor—School of Biological Sciences
University of Nebraska—Lincoln

PART ONE

The Healthcare System in the United States

CHAPTER 1

U.S. Health Care

OBJECTIVES

After studying this chapter, the student should be able to:

- Discuss the changes in health problems of the population in the United States over the past 150 years.
- Discuss some of the reasons for changes in the causes of mortality and life expectancy between 2010 and 2020.
- Explain the role of social determinants of health in health outcomes.
- Identify expected future changes in the health of the population that will influence healthcare needs and career opportunities in health care.
- Explain the role of the government in the expansion of health care.

KEY TERMS

Acute infectious disease
Affordable Care Act (ACA)
American Academy of Family Physicians
American Hospital Association (AHA)
Applied behavior analysis (ABA)
Artificial intelligence (AI)
Autism spectrum disorders (ASD)
Avian (bird) influenza
Birth defects
Centers for Disease Control and Prevention (CDC)
Centers for Medicare and Medicaid (CMS) Innovation programs
Chronic disease
Clinical care
Clinical preventive services
Congenital malformation
Coronavirus (COVID-19)
Discrimination
Disparities
Doulas
Ebola virus
Electronic health records (EHRs)
Epidemics
Equality
Equity
Federal Poverty Level (FPL)
Foodborne illness
Globalization

Health information technology (health IT)
Health behaviors
Health disparities
Health equity
Health outcomes
Human Genome Project
Hygiene
Immunizations
Infant mortality
Infectious disease
Life expectancy
Lifestyle
Longevity
Low birth weight
Mortality
Medical technology
Methicillin-resistant *Staphylococcus aureus* (MRSA)
National Institutes of Health (NIH)
Opioid use disorder
Pandemic
Personal protective equipment (PPE)
Preterm birth
Sepsis
Social and economic factors
Social determinants of health (SDOH)
Spanish Flu (1918 Flu)
Sudden infant death syndrome (SIDS)
Telehealth
Value-based care
Viral gastroenteritis
Universal vaccination
World Health Organization (WHO)
Zoonotic diseases

Introduction

This chapter will review historical, current, and emerging trends that have impacted the health status of individuals and health delivery systems in the United States. Information added since the seventh edition includes the current approach of healthcare systems to address social needs as part of delivering health care and public health efforts to respond to the COVID-19 pandemic. The chapter will introduce topics that will be discussed in more detail in later chapters.

HISTORICAL EVENTS IMPACTING HEALTH CARE

Controlling healthcare costs and increasing access to health care were policy priorities for President Barack Obama with the passage of the **Affordable Care Act (ACA)** signed into law on March 23, 2010.[1] Some of the reasons for the rising costs of health care are the use of expensive **medical technology** and prescription drugs, reimbursement systems that reward the volume of medical services instead of outcomes, inadequate preventive services, the aging of the population, and the increased prevalence of **chronic disease** as well as high administrative costs.[2] Healthcare costs have been a concern of the government because growth in healthcare costs exceeded growth of the U.S. economy beginning in the 1970s with a high of 14% in 1980 followed by a decrease equal to that of inflation at 3% in 2018.[3]

Another critical issue that needs to be addressed is the inefficiencies and **disparities** in the current system. Comparisons with other countries and across states show large variations in spending without commensurate differences in **health outcomes**.[4]

The most significant change in health care in the United States in the past 10 years is the number of individuals who have gained access to health care with the implementation of the ACA. In 2008, 46.5 million individuals (17% of the population) were uninsured; by 2017, the number of uninsured dropped to 26.7 million or 10%. As a result of the ACA, Medicaid expanded health coverage to nearly all adults with incomes at or below 138% of poverty in states that adopted the expansion, and tax credits are available for people with incomes up to 400% of poverty who purchased coverage through a health insurance marketplace.[4] The ACA has narrowed racial and ethnic disparities in access to health insurance with increased access for Blacks and Hispanics primarily in states that expanded Medicaid.[5] Those who remain uninsured after the ACA are non-elderly adults with income below 200% of the **Federal Poverty Level (FPL)** who work for an employer who doesn't provide health insurance and those who are unable to buy insurance because of the cost of the premiums. Hispanic, American Indians/Alaskan Natives, and those living in the South and West—in states that did not expand Medicaid—are more likely to be uninsured.[6]

Greater access to health care increased demand for providers (physicians, nurses, and other healthcare workers), hospitals, outpatient clinics, and home-care services. The healthcare environment has become more competitive, in large part because of the requirements for hospitals to improve both the quality of care and efficiency as a result of the ACA.

The United States will need to continue to improve the efficiency and quality of health care and reduce disparities in access to health care for all Americans. With that premise, we begin this chapter with a look back at healthcare issues and treatments developed in the past 150 years. Much of the material from the seventh edition of this text is still relevant.

The succeeding chapters have been updated to reflect the anticipated changes and demographics of the twenty-first century and the changing nature of health care and opportunities for health careers.

A LOOK BACK

Since the dawn of recorded history (and undoubtedly before), human beings have suffered sudden and devastating epidemics and diseases. In the United States in the second half of the nineteenth century, the most critical health problems were related to industrialization and crowded living conditions in cities. Improper sewage disposal resulted in contaminated water, and lack of refrigeration resulted in contaminated food. Illness caused by infectious agents—pneumonia, tuberculosis, diarrhea, and diphtheria—accounted for one-third of all deaths with children under five years of age accounting for 40% of all deaths.[7]

By 1900, infectious disease **epidemics** had been brought under control as a result of the discovery of microbes as the cause for **infectious diseases** and the development of antibiotics that were effective in treating bacterial infections such as pneumonia and tuberculosis. However, the most important factor in the decline in mortality in the twentieth century was improvements in sanitation and **hygiene**, supported by home and workplace improvements and attempts to improve the environment. Cities developed systems for safeguarding the milk, food, and water supply, and health departments began to grow, applying case findings and quarantines with good results. Better personal hygiene (for example, handwashing) accounted for approximately one-fifth of the reduction in mortality or death. The major epidemics that had caused deaths had been eliminated in the United States, and the pendulum swung away from acute infectious diseases and toward chronic conditions.[7]

Another reason for the falling death rate was the improvement of nutrition, which led to an increase in the resistance to diseases. Once sanitation improved, lack of food and the resulting malnutrition were largely responsible for infectious diseases. Nutritional status is a critical factor in a person's response to infectious diseases, especially young children. According to the **World Health Organization (WHO),** the best "vaccine" against common diseases is an adequate diet.

With epidemics behind them, the scientific community began working on better surgical techniques, new treatment methods, new tests to facilitate accurate diagnoses, and the treatment of individual diseases. The number of hospitals grew rapidly, and medical schools flourished. Within a few years, medical care and patterns of disease had totally changed. The arrival of antibiotics in the 1940s and the implementation of childhood **universal vaccination** in the 1950s for measles, mumps, rubella, and polio signaled the end of the dominance of **acute infectious disease** (FIGURE 1.1).[7]

By the late 1940s, chronic illnesses such as heart disease and cancer accounted for nearly half of the deaths in the United States. By the twenty-first century, the development of

FIGURE 1.1 Universal child immunization beginning in the 1950s dramatically reduced death from infectious disease in the United States.

new drugs to control risk factors for heart disease—for example, drugs to control hypertension, cholesterol, and diabetes—reduced death from heart disease by 16% between 2007 and 2017. During this same time, deaths from cancer decreased to a greater extent (29%) due to fewer people smoking and advances in early detection and treatment.[8] The introduction of antiviral therapy in the 1990s reduced the death rate from the human immunodeficiency virus (HIV) by 80%.[9] Death rates continue to be highest for heart disease and cancer; however, rates for unintentional injuries (accidental death) and Alzheimer's disease are on the rise.[8] FIGURE 1.2 shows death rates for men and women in 2017.

RECENT TRENDS

Although the United States has made great strides in improving the health of the nation and improving access to health care, recent changes in the cause of death and **longevity** are cause for concern. Monitoring of **mortality**—the causes and rates of death—along with **life expectancy** at birth is used to describe the health of a population. Changes in mortality or life expectancy are used to evaluate and develop health policy and allocate resources. After decades of gains in longevity, life expectancy at birth plateaued at 78 years between 2013 and 2017.[8] Between 2000 and 2016, increases in mortality from four causes of death—unintentional injuries, Alzheimer's disease, suicide, and chronic liver disease—contributed to the recent decline in life expectancy.[10]

Death rates for unintentional drug overdoses—a subset of unintentional injuries—in particular—contributed to the negative change in life expectancy observed in recent years. Most unintentional drug overdoses were because of **opioid use disorders**. An increase in suicides was also seen between 2006 and 2016 with suicide being among the top five leading causes of death for persons from 1 to 44 years of age. Chronic liver disease—caused by excessive alcohol intake—also increased in men.[10] Deaths from these three causes—drug overdose, suicide, and chronic liver disease—are often described as

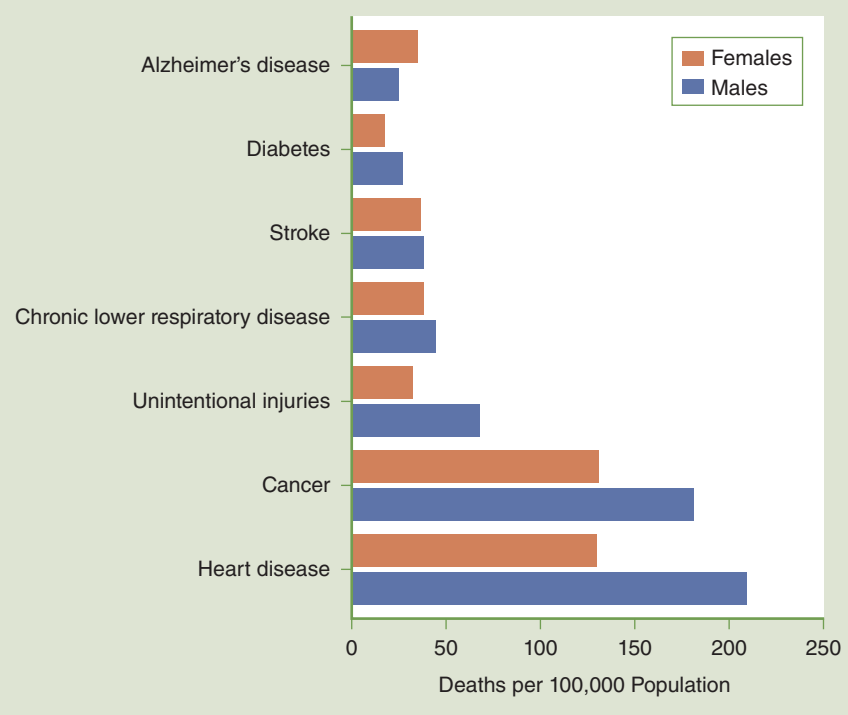

FIGURE 1.2 Causes of death by sex: United States, 2017.
Data from National Center for Health Statistics. *Health, United States, 2018*. Accessed March 2, 2021. https://www.cdc.gov/nchs/data/hus/hus18.pdf

"deaths of despair," or markers for complex socioeconomic problems manifested in behavioral health problems such as excessive use of alcohol or addiction to opioids. Communities with limited opportunities for employment and the ready availability of synthetic opioids to treat pain contributed to opioid addiction. States most impacted by the opioid crisis were West Virginia, Pennsylvania, and Ohio.[11]

The rise in opioid use disorders and overdose has been fueled by inappropriate opioid prescribing as well as aggressive trafficking of heroin, often laced with fentanyl, a highly potent synthetic opioid. Sales of prescription opioid painkillers nearly quadrupled from 1999 to 2014 in response to efforts of health professionals to treat patients more effectively with pain. States are addressing the opioid crisis by educating healthcare providers on appropriately prescribing opioids for treatment of pain and educating patients on proper disposal of unused opioids. Other strategies are increasing patient access to medication-assisted treatment (e.g., methadone treatment programs) and behavioral health treatment programs. The medication naloxone (Narcan) is now available to reverse opioid overdose and is being used by emergency medical technicians and emergency room staff to prevent death.

Reversing the upward trend in deaths from suicide, alcohol, and drug overdose will require greater cooperation across sectors, at both the state and federal level, including the public health, healthcare delivery, and criminal justice systems.[11] Health professionals who treat mental and behavioral health conditions—psychologists, clinical social workers, and behavioral disorder counselors—are needed to treat those with alcohol and opioid addictions.

Infant mortality—the death of a baby before their first birthday—is an indicator of maternal health and the availability and use of appropriate health care by pregnant women and their infants. The overall infant mortality rate in the United States has decreased over the past seven decades, yet there are disparities in infant mortality by race, geography, and socioeconomic status. For example, in 2017, infants of non-Hispanic Black mothers and American Indians/Alaskan Natives had the highest infant mortality rate, nearly twice the rate of Asians. The death rates for Hispanic and White infants were similar between 2007 and 2017 (**FIGURE 1.3**).[8]

Leading causes of infant deaths in 2017 were **congenital malformations**, **preterm birth** and **low birth weight**, **sudden infant death syndrome (SIDS)**, maternal complications of pregnancy, and unintentional injuries or accidents.[8] Many causes of preterm birth and low birth weight are preventable with appropriate prenatal care. The disparities in infant death by race suggest disparities in access to health care (health insurance, primary care providers) and lack of opportunities to obtain necessary resources such as healthy food, prenatal vitamins, and safe housing (**FIGURE 1.4**).[8]

Living in a rural area limits access to health care because of the growing shortage of providers in rural communities. Many rural hospitals are closing, and fewer than half of all rural counties have physicians that specialize in pregnancy and postpartum care. This lack of prenatal care increases the likelihood that women will die a pregnancy-related death and contributes to higher rates of infant mortality.[13] Data indicate that the first 100 days after delivery are critical for follow-up by healthcare personnel to identify and treat complications. Women who are on Medicaid during pregnancy

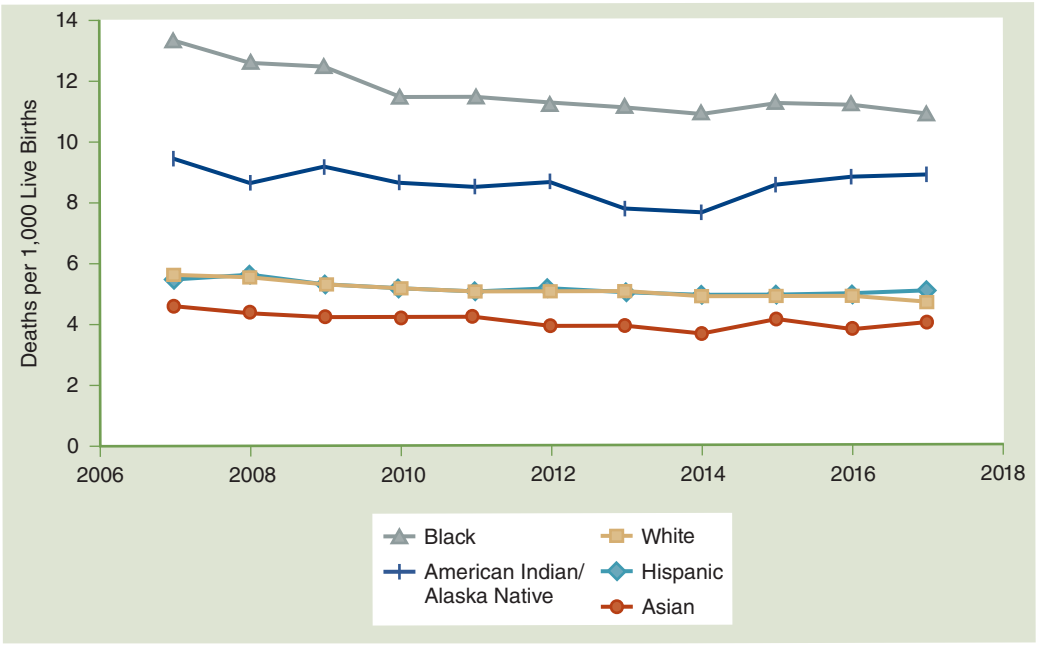

FIGURE 1.3 Infant mortality rates by race: United States, 2007–2017.
Data from National Center for Health Statistics. *Health, United States, 2018*. Accessed March 2, 2021. https://www.cdc.gov/nchs/data/hus/hus18.pdf

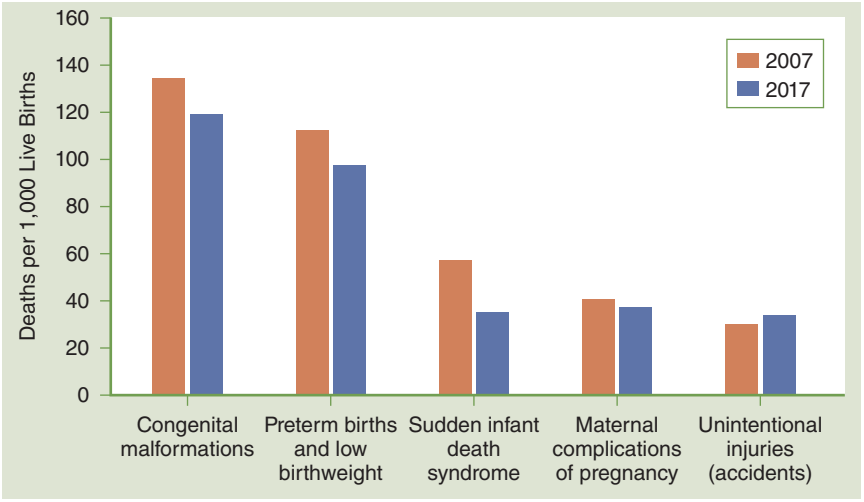

FIGURE 1.4 Leading causes of infant deaths: United States, 2007 and 2017.
Modified from National Center for Health Statistics. *Health, United States, 2018*. Accessed March 2, 2021. https://www.cdc.gov/nchs/data/hus/hus18.pdf

often lose their benefits six months after delivery of the baby. Current recommendations are a follow-up visit at 12 weeks postpartum to improve the mortality rate for both infants and mothers.[14]

Programs that provide prenatal support that address racial, socioeconomic, and structural barriers to optimum care improve health outcomes. Examples are programs that utilize **doulas** to support the mother and programs that offer classes on possible medical complications during pregnancy as well as what to expect during labor and delivery. Addressing structural barriers to care—lack of health insurance, child care, and transportation—is needed to reduce disparities for low-income and other marginalized groups. Women often need assistance with transportation and child care in order to keep clinic appointments.[15] Many health professionals—nurse-midwives, advanced practice nurses, community health workers, and social workers—can support women and their babies to reduce infant and maternal mortality. Nurse-midwives and advanced practice nurses can serve as primary care providers in communities that lack primary care physicians.

A LOOK FORWARD

Longevity and greater numbers of the elderly have increased the prevalence of chronic and degenerative diseases associated with aging. Chronic diseases are defined as conditions that last one year or more and require ongoing medical

attention, limit activities of daily living, or both. Chronic diseases such as heart disease, cancer, and diabetes are the leading causes of death and disability in the United States. The downside to improved health care and longevity is that those above 65 years of age often have multiple chronic conditions. In 2016, nearly half of people above 65 years of age had two to three chronic health conditions, and 15% had four or more chronic conditions.[16] Also, the frailest or chronically ill patients account for the majority of healthcare spending, both by the government and by individuals in out-of-pocket spending. In the future, physical and cognitive decline associated with aging will require personal assistance from family or paid caregivers and health services from a variety of health professionals. In addition, by 2050 the population will be more ethnically and racially diverse, with one-third each of Hispanic non-White, African American, and White.[17] These changes will influence the environment for new healthcare workers and the diversity of those needing care.

Chronic diseases of today are associated with personal **lifestyle**. Individuals can take responsibility for most lifestyle factors such as physical activity, eating habits, smoking, drinking alcoholic beverages, using illicit drugs, and personal hygiene. Two lifestyle factors associated with a high risk for heart disease and cancer that can be changed are smoking and obesity.[18] The good news is that the rate of smoking has dropped by more than half since 1965, when 42% of adults over 18 years of age smoked compared to only 14% in 2017. However, the number of teens who use tobacco products remained high at 27% in 2018, with the majority using electronic cigarettes (e-cigarettes) introduced in the United States in 2007. Concerns about teen smoking are possible harm to the developing teen brain and increased likelihood of lifelong addiction.[18] Smoking during pregnancy increases the risk of an infant being born too early or too small as well as **birth defects** including cleft lip and cleft palate.[19]

Obesity rates continue to rise. Between 2015 and 2016, nearly 40% of adults 20 years of age and older were obese, and nearly 20% of children and teens 2 to 19 years of age were obese. Children who are obese are more likely to develop chronic health problems (e.g., asthma, sleep apnea, joint problems, and type 2 diabetes). These conditions often continue through adulthood with greater risk for heart disease.[8]

As a result of requirements to include preventive services by insurance plans purchased through health exchanges under the ACA and coverage by Medicare, **clinical preventive services** are being utilized by more Americans. For example, **immunizations** and cancer screening—mammography and colonoscopy—are the most common preventive services. However, utilization remains suboptimal for some services. In 2016, only 70% of children 19 to 35 months of age received a combined vaccination series protecting them against seven infectious diseases. Also, only 42% of adults 18 years and older received the influenza vaccine, and only 67% of adults over 65 years of age received a vaccine against pneumonia.[10]

Medicine must now confront the diseases and health problems that are greatly influenced by the local and international environment. **Globalization** and ease in international travel increase the risk for infectious diseases. In the United States, **viral gastroenteritis**—caused by the norovirus—is the most common viral infection, and salmonellosis is the most common bacterial infection—both organisms cause **foodborne illness** with symptoms of vomiting and diarrhea.[20] Although most infectious diseases are now prevented with vaccines and improved methods of infection control, new organisms continue to appear from mutations and transmission from wild animals or insects to domesticated animals and sometimes to humans, known as **zoonotic diseases**. Harmful organisms can be viruses, bacteria, parasites, and fungi.[21] An example of zoonotic disease is the outbreak of a new **coronavirus (COVID-19)** first identified as an epidemic in China in late 2019 and initially linked to a large seafood and animal market.[22] The disease was then classified as a **pandemic** because it spread across several countries and affected large numbers of people.[23] The COVID-19 virus is a respiratory illness with symptoms similar to the flu; however, the virus is different than viruses that cause the flu. Not since the flu pandemic (the **Spanish Flu** or **1918 Flu**) over 100 years ago has the world experienced a similar pandemic that spread around the world with the loss of many lives. During the Spanish Flu outbreak, less was known about the spread of infectious diseases. The only way to prevent the spread of the disease was for everyone to wear a mask and to remain socially isolated.[24] Since then there have been outbreaks of viral infections. However, none infected as many people or caused as many deaths as the Spanish Flu; an estimated 500 million became infected and 50 million died from the flu.[25] In the first year of the COVID-19 pandemic, the numbers had not yet reached those of the 1918 Flu pandemic. Worldwide there were 82 million cases and 1.8 million deaths,[26] with approximately 20 million cases and 345,00 deaths in the United States during 2020.[27] The pandemic was slowed because of the rapid development of vaccines with the first vaccinations of healthcare professionals given in December 2020.[28]

Although scientists had predicted the possibility of a pandemic similar to the Spanish Flu as early as 2000, the world was unprepared to respond to COVID-19. The coronavirus of 2020 was deadly because the virus is easily transmitted from person to person through aerosol droplets spread by coughing, sneezing, and talking and because the virus is unlike other influenza viruses for which there are vaccines. By the time the United States acknowledged the presence of the virus, there were already thousands of people infected, and many had died. Ways that the country was unprepared for the pandemic were the lack of needed **personal protective equipment (PPE)** masks, gloves, and gowns for healthcare workers and the lack of a quick and reliable test to identify those infected with the virus. One of the reasons for the slow response to the pandemic was growing public skepticism of science and scientists at the

National Institutes of Health (NIH) and the **Centers for Disease Control and Prevention (CDC).** Politics interfered with a rapid response to the pandemic because even though infectious disease experts were aware of the impending pandemic, they had difficulty being heard by those in government, and there was a lack of a centralized coordinated response from the federal government.[29] The impact of the COVID-19 pandemic on the world and the economy resulted in closed businesses, schools, and colleges; unemployment; and restricted local and international travel. The response and recovery times in some countries were much quicker than in the United States, and the numbers of cases and deaths were also lower. Scientists around the world worked quickly to develop a vaccine for COVID-19 to prevent the rapid spread of the virus. Without a vaccine, precautions to control the disease were to wear protective masks, self-isolation, proper handwashing, and sanitizing common areas in public buildings, for example, the insides of elevators and doors. **Telehealth** became a common way to deliver health care during this period of social isolation to prevent spread of the virus.

Other examples of zoonotic diseases caused by viruses are the **Ebola** and avian viruses. Between 2014 and 2016, Ebola, a deadly viral infection, was localized primarily to West Africa. Ebola can be transmitted to humans by an infected animal (bat or nonhuman primate) or a sick or dead person infected with the virus. The 2014 Ebola epidemic in West Africa was spread to the United States by healthcare workers employed in West Africa.[30] The CDC—the U.S. government agency that monitors infectious diseases—developed infection-control measures for hospitals treating infected patients in the United States. WHO and the CDC also deployed teams of experts to West Africa to implement infection-control measures to prevent further spread of the disease in Africa.[31]

In 2015, cases of the **avian (bird) influenza** were identified in Europe and China; in the United States, entire commercial poultry flocks required culling or removal of infected turkeys and chickens—and sometimes an entire flock was destroyed to prevent further spread of the disease, at great financial cost to the poultry business.[32] The avian virus occurs naturally in wild aquatic birds and is easily transmitted to domestic birds; however, transmission from birds to humans is rare.

A particularly virulent or antibiotic-resistant bacterial strain—**methicillin-resistant *Staphylococcus aureus* (MRSA)**—is present in hospitals and nursing homes but also in the community: in child-care facilities, schools, and athletic programs.[33] MSRA can cause skin infections after a cut or abrasion and increases the risk for surgical infections, pneumonia, and **sepsis** in hospitalized patients. Preventing MSRA infection requires stringent infection-control measures to prevent spread of the bacteria causing the infection from patient to patient and among healthcare workers because the *Staphylococcus aureus* organism has become resistant to antibiotic treatment (**FIGURE 1.5**).[33]

FIGURE 1.5 Methicillin-resistant *Staphylococcus aureus* (MRSA) is a common cause of skin infection.

Preventing the spread of infectious disease requires a team of public health experts to track and contain diseases to prevent epidemics in both humans and animals. Physicians, nurses, veterinarians, medical laboratory technologists, epidemiologists, and public health officials at the local, state, and federal level are examples of healthcare workers involved in preventing the spread of infectious disease. Pandemics require cooperation and ongoing communication among scientists, epidemiologists, and healthcare workers in countries around the world to control the spread of the infectious agent causing the infection. The CDC is responsible for coordinating the team of healthcare workers at the city and state levels across the United States during an epidemic. WHO is the international governmental agency responsible for coordination of this effort. One of the important components of public health work is communication with the public about the disease—how it is transmitted and treated and recommendations for preventing the spread of disease (e.g., proper handwashing and self-isolation for those who are infected). All healthcare workers need to be knowledgeable about the transmission of infectious diseases and the proper procedures for preventing the spread of the disease.

IMPACT OF TECHNOLOGY ON HEALTHCARE SERVICES

Technology has made many new procedures and methods of diagnosis and treatment possible. Advances in medical technology have improved the survival rates of trauma victims and the severely ill. Clinical developments, such as infection

control, less invasive surgical techniques, and advances in reproductive technology, improve the quality of life. Drug therapy for managing chronic conditions—cancer, heart disease, and diabetes—has extended life for many Americans. For example, between 2015 and 2016, 40% of those 65 years or older took one or more prescription drugs.[8] More prescription drugs are being used because of the development of new drugs to treat chronic disease and the growth of drug coverage by private and government health insurance.[9]

Two forms of computer technology that have improved the efficiency of health care are augmented intelligence—sometimes referred to as **artificial intelligence (AI)**—and **health information technology (health IT)**. AI is the use of computers and technology to simulate intelligent behavior and critical thinking comparable to a human being. AI can sort through data in public health settings to predict the spread of infectious diseases or to assist a healthcare provider in making decisions about the best medication to use for a specific patient based on symptoms, chronic health problems, and other medications.

Health IT is the use of computers to store health data to support health information management across computerized systems and the secure exchange of health information among providers, consumers, and payers. AI in medicine can be separated into two subtypes: virtual and physical. Virtual AI applications are **electronic health record (EHR)** systems or computer-assisted analysis used by radiologists to identify abnormal X-rays or magnetic resonance images. An example of physical AI is the use of robots to assist in performing surgeries using 3D images and magnification. Other examples of physical AI are the use of multiple sensors to track the movements of patients in smart intensive care units (ICUs) and monitoring movements of an elderly person who lives alone. Remote monitoring of patient clinical data—for example, blood pressure, blood glucose, or heart monitoring—allows healthcare workers to provide care after the patient returns home.[34]

EHRs make it possible for multiple team members to schedule a patient-team conference regardless of physical location. Sharing of EHRs among different providers for the same patient—hospital, emergency room, and outpatient clinic—has the potential to improve patient safety by preventing drug interactions and reducing costs by avoiding duplicate laboratory tests.[22] Patients are able to access their EHR to review lab results, schedule appointments, and receive appointment reminders. Hospitals use EHR to monitor hospital-acquired infections. The federal government uses data to monitor outcomes such as hospital readmission rates and surgical complications as well as healthcare costs.

The continuing surge of technological advances is not without problems. Medical technology can also prolong life for the critically ill, unresponsive patient who has little or no chance of recovery. Services such as mechanical ventilation, kidney dialysis, parenteral (tube) feeding, and other means can keep even comatose patients alive. For the healthcare system, dying can be extremely expensive. The use of EHR by hospitals, clinics, and providers raises ethical concerns for patient privacy and security to prevent data breaches. Issues yet to be addressed with the use of AI are meeting state and federal regulatory laws and determining policies related to payment and coverage of AI services.[35] The use of technology can increase the efficiency of health delivery; however, start-up costs may be prohibitive for small group practices. The high cost of technology affects the financial structure of the entire healthcare system. These increased costs are visible in the form of higher health insurance costs, higher costs for hospital stays, government payments to the system, and total medical bills. This advanced technology has not only increased medical costs but also created a social and ethical problem. Because of limits in funding, advanced treatment is not available to all people. The poor, who may need it desperately, have no access to it.

The incredible growth of technology has affected all the health professions. Students entering the health field today recognize that they must excel academically and master technical skills. Less time is spent learning personal, nontechnical aspects of care. This value system is reinforced by professionals, peers, and administrators and by the public as well. Excellent technical performance has become a standard at the cost of the personal, human touch.

The federal government plays an increasingly powerful role in the direction of health care. It dominates the healthcare system by virtue of its expanding monetary support of technology and services and because it sets the rules for the provision of health care. As health services enter the twenty-first century, it becomes apparent that the social philosophy of the twentieth century is obsolete and is moving toward a philosophy that holds society, through the government, responsible for organizing and maintaining adequate health care for all people. Health care was once considered an individual matter, but it is now considered a right to which everyone should have access.

TRENDS THAT WILL IMPACT HEALTH SERVICES AND HEALTH CAREERS

Changes in disease patterns and methods of diagnosis and treatment impact the demand for health services and healthcare workers. The **Human Genome Project** has identified gene mutations that increase the risk for disease and modify response to drugs used to treat disease. The lower cost of genetic testing and coverage by health insurance have made it possible for this technology to be available for more people. This new information allows a physician to ask patients for a family disease history and order DNA testing to target preventive measures specific to the disease. Genetic counselors play an important role in counseling patients about DNA testing to identify risk for disease as well as treatment interventions.[36]

Public health research shows that more and more children are being diagnosed with **autism spectrum disorders (ASD)**, with 1 in 59 children in the United States receiving this diagnosis. Children with ASD are often treated by a team of health professionals, including occupational therapists, speech therapists, and **applied behavior analysis (ABA)** therapists[37] (**FIGURE 1.6**).

FIGURE 1.6 Autism spectrum disorders (ASD) affects 1 in 59 children in the United States.

Many diseases of the brain cause disabilities that impact productivity and quality of life and contribute to high healthcare costs. New technology makes it possible to identify genes for these brain diseases—Alzheimer's disease, Parkinson's disease, epilepsy, ASD, and psychiatric disorders such as schizophrenia and depression—and to capture images of the brain to develop treatment for such diseases.[38] Awareness of the need for pain control and freedom to make choices about treatment for those with life-limiting illnesses is beginning to shift the focus of both patients and physicians from curative therapy to quality of life and greater use of palliative and hospice services.[39]

As hospitals and health systems work to improve health outcomes and reduce healthcare costs, they are recognizing the necessity of addressing nonmedical factors that affect health. An individual's ability to achieve good health is influenced by more than access to high-quality medical services. Historically, identifying and addressing patients' social needs has not been part of medical practice in the United States. However, tying health outcomes of patients to reimbursement payments to hospitals has demonstrated that high-quality medical care alone cannot ensure optimal health outcomes. Though many other industrialized nations spend less on medical services for each person than the United States, they spend more on social services relative to medical services, and their residents have better health and lead longer lives. For example, as a nation the United States spends about 16% on medical services but only 9% on social services; this compares to equal amounts (10%) for each in Canada.[40]

There is increasing interest in the role of the healthcare sector in addressing adverse **social determinants of health (SDOH)**—the conditions in which people are born, grow, work, live, and age.[41] Examples of SDOH are a lack of access to stable housing, nutritious food, employment, education, personal safety, or reliable transportation. Considering SDOH is critical to improving both primary prevention and the treatment of acute and chronic illness because SDOH influence the delivery and outcome of health care as well as the cost of health care.

A model that describes factors that contribute to health outcomes is the County Health Rankings and Roadmaps Model. The model is helpful in examining the health of a community and the impact of the community on the health of individuals living in the community (**FIGURE 1.7**).[42]

When evaluating health care, we often think of the care provided by a primary care provider, hospital, or clinic to be the most important factor. However, as shown by the model in Figure 1.7, only 20% of health outcomes—length of life and quality of life—are determined by **clinical care** or access to high-quality health care. **Health behaviors** account for 30% of health outcomes—for example, individual behaviors that contribute to risk for disease: tobacco use, diet and exercise, alcohol use, and sexual activity. The greatest influence—40% of health outcomes—is attributed to **social and economic factors**: lack of access to stable housing, nutritious food, employment, education, personal safety, or personal and family support. The physical environment—air and water quality and housing and transportation—accounts for 10% of health outcomes.[42]

The need to address unmet social determinants of health became evident with the implementation of the **Centers for Medicare and Medicaid (CMS) Innovation programs** designed to improve the quality of health care while controlling costs. Payment to hospitals is based on **value-based care**—paying for the quality of care rather than quantity (number of procedures) for Medicare patients. Medicare reduces payments to hospitals if the readmission rate of these patients is excessive.[43] Often the reasons for high hospital readmission rates are unmet social needs (social determinants)—for example, homelessness, food insecurity, or access to transportation. Data collected by the **American Hospital Association (AHA)** has demonstrated that patients with the following characteristics had higher readmission rates: racial and ethnic minority, limited English proficiency, low health literacy, disability, and lack of primary care provider. Hospitals are identifying unmet needs of patients before hospitalization and using a team approach to address unmet needs before hospital discharge to prevent frequent readmissions to the hospital.[44] In 2016, the Innovation Center at CMS introduced the Accountable Health Communities model to support communities in addressing health-related social needs of patients obtaining health care through Medicare and Medicaid by connecting clinical and community service providers. Medicaid funds the cost of some social needs—for example, money for transportation or food.[45]

Hospitals have developed strategies to reduce hospital readmission rates. A strategy used by a hospital in Camden, New Jersey, was to identify barriers that prevented patients from making clinic appointments as well as providing financial incentives for the hospital staff to schedule follow-up clinic visits. Patients were provided transportation to clinic visits and a $20 gift card after the visit while the hospital was reimbursed an additional $150 for each follow-up clinic visit made within seven days of hospital discharge.[46] The University of Illinois Hospital in Chicago was able to reduce emergency department (ED) utilization by 57% and reduce

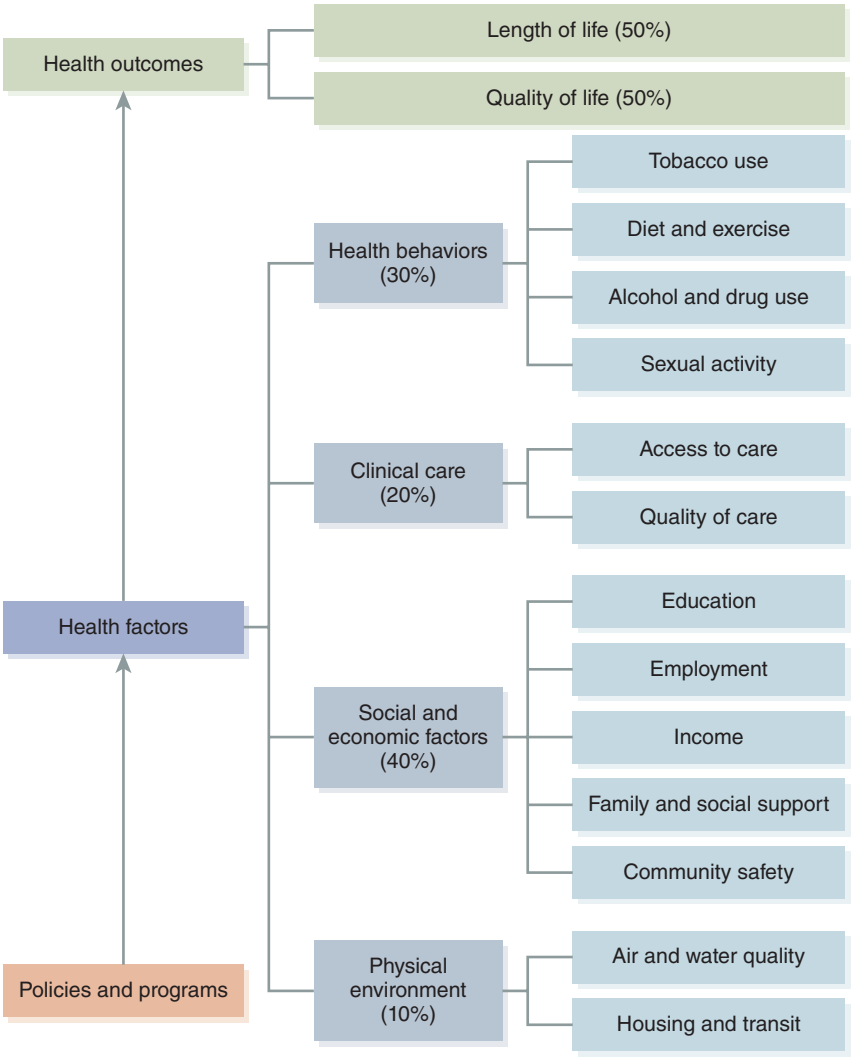

FIGURE 1.7 The County Health Rankings Model for Health Outcomes.
Reproduced from The University of Wisconsin Population Health Institute. *County Health Rankings & Roadmaps, 2021*. www.countyhealthrankings.org

healthcare costs by 21% through the Better Health Through Housing program that provided supportive housing for chronically homeless patients that frequented the ED. The program was successful because the hospital partnered with community organizations and patients were assigned to a housing caseworker who worked with them to find permanent housing.[47]

The American Hospital Association (AHA) and the **American Academy of Family Physicians** have developed screening programs to assess patients for unmet social needs. Both programs include documentation of social needs in the patients' medical records as well as referring patients to community resources for needed services such as emergency food or permanent housing. Both groups have developed materials to assist in developing a screening program and training hospital and clinic staff to carry out the screening. Patients are screened for core social needs: housing, food, transportation, child care, employment, education, finances, utilities, and personal safety. Many different health professionals can be used for screening patients to identify unmet social needs. For example, receptionists and medical assistants can administer the screening tool; nurses, physician assistants, or health educators can review the completed screening tool to determine patient needs, identify community resources, and develop an action plan; the primary care provider can review the action plan and refer the patient to other team members for education or follow-up; social workers or community health workers can identify community resources and make necessary referrals and provide ongoing case management; and administrators can ensure adequate human and financial resources and provide training on the screening program.[48,49]

Unmet social needs result in **health disparities** or differences in health outcomes. For example, there are disparities in infant mortality in the United States with greater numbers of Black and American Indian/Alaskan Native infant deaths during the first year of life compared to White, Hispanic, and Asian infants. These statistics prompt us to ask why there are differences in health outcomes based on race even when women give birth in the same hospital and receive prenatal care from the same healthcare provider. In this example of

disparities in infant mortality, we assume that the women and their infants received equal healthcare services. However, those living in Black and American Indian/Alaskan Native communities often have unmet social needs and experience **discrimination** that impacts their ability to obtain safe housing, healthy food, good-paying jobs, and health care. Others who experience discrimination include marginalized groups from different cultural or socioeconomic backgrounds, ethnicities, or gender identities or sexual orientations and those with physical or mental disabilities.[50]

Equality and **equity** are terms used to describe opportunities for best health outcomes. Equality means treating everyone the same even though not everyone starts at the same place. The Robert Wood Johnson Foundation's definition states, "**Health equity** means that everyone has a fair and just opportunity to be as healthy as possible. This requires removing obstacles to health such as poverty, discrimination, and their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care."[50] Fairness or equity aims to overcome such obstacles so that everyone has the same opportunities.[50]

Equality is giving everyone the same opportunities or the same bicycle. However, not everyone is able to ride the same bicycle because of their size or physical ability. Equity is when people are given a bicycle based on their needs. The same is true for achieving health outcomes. **FIGURE 1.8** illustrates the difference between equality and equity.[51]

Addressing inequities in health care requires that each community examine the underlying causes and barriers to equal opportunity for all citizens, including poverty, high unemployment, low educational achievement, high crime rates, and availability of affordable health care. Policies at the national and state levels can remove some of these barriers. For example, CMS has allowed Medicaid health plans to cover the cost of nonmedical services such as food or transportation. The County Health Rankings and Roadmap model includes resources to examine communities and develop action plans for changing the local environment to reduce barriers. Structural changes will require legislation and policies at the local, state, and national levels that provide economic opportunities for all.

SUMMARY

To improve the health of all Americans, it is critical to continue collecting data on all components of health; documenting trends in risk factors, health status, and access to and utilization of healthcare services; and disseminating reliable and accurate information about the health of our population. Equally important is gaining an understanding of the healthcare needs and utilization patterns of population subgroups. Such insights will enable policy makers to set program priorities and allocate target resources most effectively. Healthcare and population trends and healthcare reform will affect all health professionals in every career and will change the practice of medicine as we know it.

Because there is no single "U.S. healthcare system," the many ways in which health care is delivered can be puzzling. This should not be surprising, given the historical perspective of health services, the diverse subsystems in operation in the United States, and the dynamics of social and technological changes.

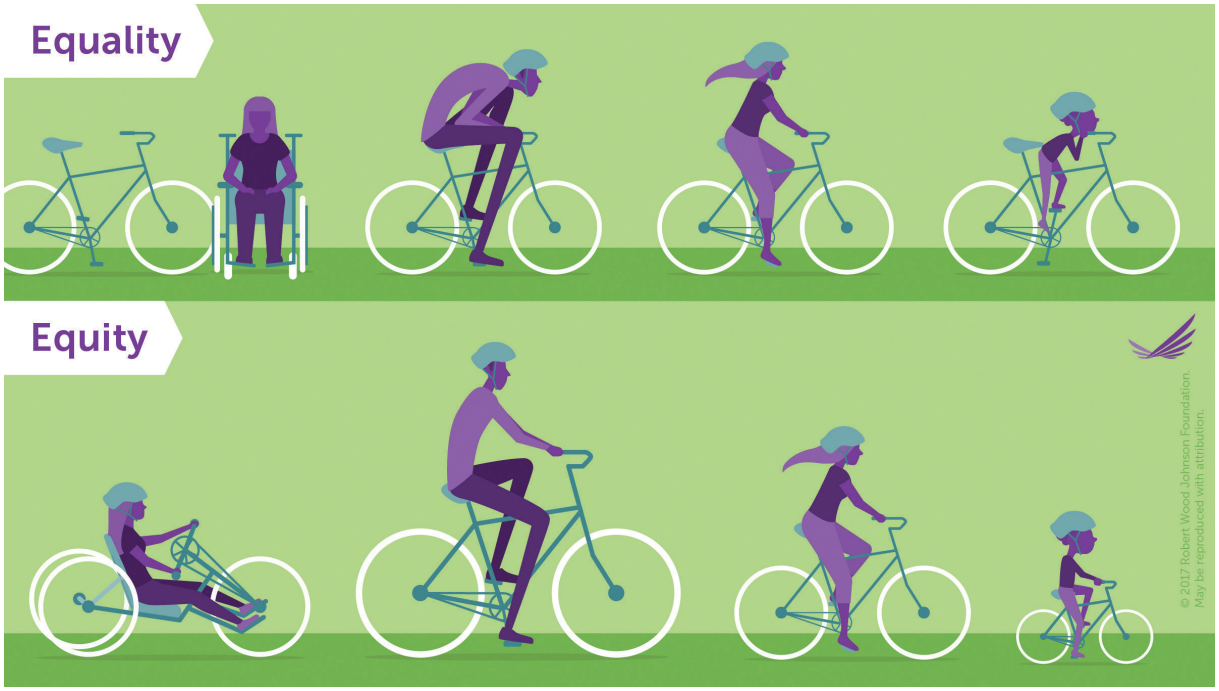

FIGURE 1.8 Visualizing health equity: One size does not fit all.

Data from Robert Wood Johnson Foundation. Visualizing Health Equity: One Size Does Not Fit All Infographic. June 30, 2017. www.rwjf.org/en/library/infographics/visualizing-health-equity.html

LEARNING PORTFOLIO

Study Points

1. As a result of the 2010 Affordable Care Act (ACA), more Americans have access to health insurance. The percentage of the uninsured dropped from 17% to 10% between 2008 and 2017. Those who remained uninsured were non-elderly adults with incomes below 200% of the federal poverty level living in states that did not expand Medicaid.
2. In the second half of the nineteenth century, the most critical health problems were related to poor sanitation resulting in contaminated water and food.
3. Diseases caused by infectious agents—pneumonia, tuberculosis, diarrhea, and diphtheria—accounted for one-third of all deaths in the 1900s with 40% of the deaths in children under five years of age.
4. By the 1950s, with the use of antibiotics and universal childhood immunizations, the causes of death changed from acute infectious diseases to chronic diseases of heart disease and cancer.
5. Life expectancy at birth plateaued between 2014 and 2017; the plateau is attributed to increases in death from unintentional injuries (including unintentional drug overdose), Alzheimer's disease, suicide, and chronic liver disease.
6. Deaths from drug overdose, suicide, and chronic liver disease have been labeled "deaths of despair," attributed to living in a community with limited opportunities for employment and a readily available source of opioids.
7. Factors contributing to drug (opioid) addiction and overdose are inappropriate prescribing of synthetic opioids for treatment of pain and aggressive trafficking of heroin laced with synthetic opioids.
8. Even though infant mortality rates continue to decrease, there are disparities by race, geography, and socioeconomic status with higher infant mortality rates from non-Hispanic Black and American Indian/Native Alaskan women.
9. Leading causes of infant mortality are congenital malformations, preterm birth and low birth weight, sudden infant death syndrome, and maternal complications of birth.
10. Programs that improve pregnancy outcomes and prevent infant mortality are classes on normal pregnancy and childbirth and possible complications of pregnancy, addressing structural barriers to making prenatal visits, and using doulas to support women during pregnancy and childbirth.
11. Chronic diseases are conditions that last one year or more and require ongoing medical attention, limit activities of daily living, or both; chronic diseases that are leading causes of death and disability are heart disease, diabetes, and cancer.
12. By age 65, half of seniors will have two to three chronic diseases, and with increasing age many will become frail and require personal assistance from family or paid caregivers.
13. Lifestyle factors related to the development of chronic diseases are physical activity, eating habits, smoking, drinking alcoholic beverages, using illicit drugs, and personal hygiene.
14. Smoking for those 18 years of age and older has declined, but it has increased for teens.
15. The obesity rate for adults is twice as high (40%) as for children (20%).
16. Vaccines to prevent infectious diseases are not utilized by everyone; about 70% of infants receive vaccines against childhood diseases, about two-thirds of adults receive the pneumonia vaccine, and fewer than half of children and adults receive the vaccine for influenza.
17. Gastroenteritis is a common foodborne illness caused by the norovirus and the salmonella bacteria with symptoms of vomiting and diarrhea.
18. Zoonotic diseases are infectious diseases that are transmitted from wild animals or insects to domesticated animals and humans.
19. The coronavirus COVID-19 originated in China and spread throughout the world in 2020 causing a pandemic similar to the 1918 influenza (Spanish Flu); methods used to stop the spread of the disease were for individuals to wear face masks, practice social distancing, and wash hands frequently.
20. The Centers for Disease Control and Prevention (CDC) in the United States and the World Health Organization (WHO) are the governmental organizations that monitor infectious and chronic diseases.
21. Augmented or artificial intelligence (AI) and health information technology (health IT) are used to improve the efficiency of health care. AI is used to follow infectious disease epidemics, use robots to perform surgery, and monitor patient movements in the hospital and at home. Health IT uses computers to document and share health information among healthcare workers in different locations.

LEARNING PORTFOLIO

22. The Human Genome Project will increase understanding and treatment of diseases that have a genetic basis.
23. The healthcare system is recognizing the importance of considering nonmedical factors (social needs or social determinants of health [SDOH]) that impact health outcomes such as hospital readmission rates, compliance with scheduled clinic visits, and taking prescribed medications.
24. SDOH are socioeconomic factors: housing, food, education, employment, personal safety, personal and family support; SDOH account for 40% of health outcomes.
25. There continue to be disparities in health outcomes based on socioeconomic factors, race, ethnicity, gender and gender identity, sexual orientation, and physical or mental disability.
26. Equality and equity are terms used to describe opportunities for best health outcomes; equality is treating everyone the same even though their needs are different, while equity is removing obstacles that interfere with achieving the best health outcomes.

Issues for Discussion

1. Discuss changes in access to health care in the United States as a result of the Affordable Care Act of 2010.
2. Discuss how the causes of death have changed since 1900 in the United States. Discuss three major factors that have contributed to these changes.
3. Go to the *2020 County Health Rankings & Roadmaps* website to review the health of the county in which you live. Review all of the components of the model shown in Figure 1.7, "The County Health Rankings Model for Health Outcomes." Link to trend tables and percentages according to race (for example, low birth weight). Compare the rankings of the county with the ranking of the state in which you live and the entire United States. www.countyhealthrankings.org/explore-health-rankings
4. Review the one-minute video "Equity vs. Equality" from the Robert Wood Johnson Foundation. Explain the difference between equity and equality as it relates to health care. https://youtu.be/MlXZyNtaoDM. August 6, 2018.
5. Discuss the role of government in providing access to health care through legislation and financial support of health care and technology.
6. Review the social needs screening tool "The EveryONE Project," developed by the American Academy of Family Physicians. Select one social need—for example, housing—and describe how health outcomes are impacted by insecure housing. www.aafp.org/dam/AAFP/documents/patient_care/everyone_project/hops19-physician-guide-sdoh.pdf

Enrichment Activities

1. Methicillin-resistant *Staphylococcus aureus* (MRSA) is a cause of skin infection in the community—for example, in high schools and day care centers. Review information from the CDC to learn how MRSA can be transmitted in the community setting. www.cdc.gov/mrsa/community/index.html
2. Explore CDC Vital Signs to learn more about differences in cigarette smoking across states and different groups within the United States. Learn more about the health risks of smoking and secondhand smoke. www.cdc.gov/vitalsigns/TobaccoUse/Smoking/index.html
3. Learn more about the role of genomics from the CDC's *Healthy People 2020* website. Which diseases have a strong relationship to genomics, and how can this information be used by consumers and physicians to prevent disease? www.healthypeople.gov/2020/topics-objectives/topic/genomics
4. Review the five-minute video clip "The Cliff of Good Health" by Dr. Camara Jones, who explains the structural causes of health inequity. List ways that structural barriers limit health equity. https://youtu.be/to7Yrl50iHI7
5. Review the CDC website that summarizes past pandemics. How were past pandemics similar to and different from the coronavirus pandemic of 2020? www.cdc.gov/flu/pandemic-resources/basics/past-pandemics.html

LEARNING PORTFOLIO

CASE STUDY: U.S. HEALTH CARE

Will is a 20-year-old male who is attending a community college and is enrolled in a physical therapy assistant program with an ultimate goal of applying for a physical therapy program. He also works part time as an emergency medical technician (EMT) in the college town where he lives. He has been smoking since he was 15 years old and has recently tried to quit because his father had a heart attack several months ago and his mother has diabetes and is overweight.

While working as an EMT, Will makes many trips to nursing homes to pick up residents and take them to the hospital. He has concerns about contracting the flu because his younger brother's school was shut down because of a flu epidemic. Although his brother didn't contract the flu, Will is concerned that he could become exposed since he often examines patients that are very ill.

Based on the information in this chapter, answer these questions related to this case study.

1. If Will is able to quit smoking, what are his risks for developing the same health problems as his parents?
   A. Increased health risk for heart disease
   B. Risk will be the same because of genetics
   C. Decreased risk for heart disease
   D. Increased risk for lung cancer
2. What recommendations do you have for Will to prevent becoming ill with the flu?
   A. Getting the annual flu vaccine
   B. Getting tested for the coronavirus
   C. Getting the pneumococcal vaccine
   D. Getting a booster shot to protect against childhood infections
3. What percentage of health outcomes (length of life and quality of life) can be attributed to social and economic factors?
   A. 10%
   B. 20%
   C. 30%
   D. 40%
4. _____ is the causes and rates of death.
5. _____ is the death of a baby before one year of age.

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CHAPTER 2

Categories of Health Services

OBJECTIVES

After studying this chapter, the student should be able to:

- List direct health services provided by the federal government.
- Compare financing and governing of private, public, and volunteer healthcare facilities.
- Identify the five broad types of health services in the United States.
- Compare the population served by federally funded primary care health centers and free clinics.
- Name health agencies within the U.S. Department of Health and Human Services (HHS).
- Summarize the six major points of the Patient Care Partnership.
- Describe public health and mental health services in the United States.

KEY TERMS

Affordable Care Act (ACA)
Almshouse
Ambulatory care
Behavioral Risk Factor Surveillance System (BRFSS)
Centers for Disease Control and Prevention (CDC)
Certified Community Behavioral Health Clinics (CCBHCs)
Chronic care
Civilian Health and Medical Program of the Department of Veterans Affairs (CHAMPVA)
Commissioned Corps
Community hospital
Community Mental Health Act
Community Mental Health Centers (CMHC)
Diagnosis and treatment of illness
Disease prevention services

Drug addiction
Essential hospitals and health systems
Federally Qualified Health Center (FQHC)
Free medical clinic (FMC)
Healthcare facilities
Health promotion services
Health Resources and Services Administration (HRSA)
Hospital system
Indian Health Service (IHS)
Informed consent
Mental health services
Mental Health Parity and Addiction Equity Act of 2008
National Association of Free & Charitable Clinics (NAFC)
National Center for Health Statistics
National Health Service Corps
National Institute of Mental Health (NIMH)
Patient-Centered Medical Home (PCMH)
Patient Care Partnership
Protecting Access to Medicare Act of 2014
Rehabilitation
Serious mental illness (SMI)
Social Security Act of 1935
Social Security Act of 1965

OVERVIEW OF THE U.S. HEALTHCARE SYSTEM

The healthcare industry is a complex system of diagnostic, therapeutic, and preventive services. Hospitals, clinics, government and volunteer agencies, pharmaceutical and medical equipment manufacturers, and private insurance companies provide these services. In terms of jobs in the healthcare industry, hospitals employ the largest percentage (39%), followed by offices of health practitioners (26%) and nursing and other residential facilities (20%). Home health services and outpatient, laboratory, and other ambulatory care settings make up the remaining healthcare jobs, at 8% each.[1]

The focus of this chapter is hospitals and outpatient or ambulatory care provided by both private and government institutions as well as the federal agencies responsible for ensuring the health and safety of all Americans under the U.S. Department of Health and Human Services (HHS) through research and financial support. Chapter 4 includes long-term care—nursing home care and other supportive living facilities.

Unlike most developed countries, the United States does not have a centralized healthcare delivery system in which individuals automatically receive health care. Instead, consumers obtain healthcare services—choosing their doctor, clinic, or hospital—from a variety of locations and providers funded by private insurance or government-subsidized insurance. Consumers often are left to coordinate their own care; thus, the quality of health care can vary.

Two countries similar to the United States, Canada and the United Kingdom (UK), have national health insurance systems. Canada implemented a national health insurance system in 1966, and each province or territory has its own unique health insurance plan. The health insurance program is funded by provincial taxes as well as a fixed amount from the federal government. The UK health delivery system—the National Health Service (NHS)—is funded primarily through general taxation. The system emphasizes preventive community services and coordination of primary and acute care. All patients insured through this system are required to register with a local general practitioner or physician who coordinates their care. The federal government owns and operates the hospitals and clinics, and most of the healthcare workers are employed by the government.[2]

In contrast, the U.S. federal government provides very few direct health services, preferring to support new or improved services by providing money to fund expanded services—for example, through the **Affordable Care Act (ACA)**. The exceptions are the health services of TRICARE, through the U.S. Department of Defense (DoD), the Civilian Health and Medical Program of the Department of Veterans Affairs (CHAMPVA), and the **Indian Health Service (IHS)**. The federal government has no authority to provide direct services; this is a function of the private sector and the states. The federal government is involved, however, in financing research through the National Institutes of Health (NIH) and individual health care for the elderly through Medicare as well as health care for the low-income uninsured through Medicaid. The federal government also funds loans and scholarships for students in the health professions through the **Health Resources and Services Administration (HRSA)**. The most important federal agency concerned with health affairs is the HHS, with 11 operating divisions, including eight agencies in the U.S. Public Health Service and three human services agencies.[3] Congress plays a key role in this federal activity by making laws, allocating funds, and doing investigative work through committees.

CATEGORIES OF HEALTHCARE SERVICES

The healthcare system offers five broad types of services: health promotion, disease prevention, diagnosis and treatment, rehabilitation, and chronic care.

Health promotion services help clients reduce the risk of illness, maintain optimal function, and follow healthy lifestyles. These services are provided in a variety of ways and settings. Examples include hospitals that offer prenatal nutrition classes and local health departments that offer selected recipients prenatal nutrition classes plus a food package that meets their nutritional requirements (the Women, Infants, and Children [WIC] program). Classes at both locations promote the general health of women and children. Exercise and

aerobic classes offered by city recreation departments, adult education programs, and private or nonprofit gymnasiums encourage consumers to exercise and maintain cardiovascular fitness, thus promoting better health through lifestyle changes.

Disease prevention services offer a wide variety of assistance and activities. Educational efforts aimed at involving consumers in their own care include attention to and recognition of risk factors, environmental changes to reduce the threat of illness, occupational safety measures, and public health education programs and legislation. Examples of public health programs are a smoking cessation class offered through the hospital or the local department of public health or a lead abatement program for older homes offered to homeowners by the city health department. An example on the individual level is women participating in screening for breast and cervical cancer. It is evident that preventive measures such as these can reduce the overall costs of health care.

Diagnosis and treatment of illness have been the most used of the healthcare services, most often provided in the hospital or **ambulatory care** setting. Diagnosis of illness involves physician visits and, if necessary, laboratory tests, X-rays, and other technology to make a diagnosis; examples of treatment are surgery, physical and speech therapy, and medications. Recent advances in technology and early diagnostic techniques have greatly improved the diagnosis and treatment capacity of the healthcare delivery system, but the advances have also increased the complexity and price of health care (**FIGURE 2.1**).

Rehabilitation involves the restoration of a person to normal or near-normal function after a physical or mental illness, including chemical addiction. These programs take place in many settings: homes, community centers, rehabilitation centers, hospitals, outpatient clinics, and long-term care facilities. Rehabilitation is a long process, and both the client and family require extra assistance in adjusting to a chronic disability. Common conditions requiring rehabilitation are physical injuries such as strokes and head injuries, hip and knee replacement surgery, and substance use disorders such as alcohol or drug addiction.

FIGURE 2.1 Diagnosis and treatment are the most used healthcare services.

Chronic care is ongoing care for a chronic health condition such as diabetes, which requires long-term monitoring with adjustments in diet, medication, and physical activity to maintain blood glucose levels and the prevention of complications. Most individuals with diabetes have a primary physician or a specialist physician, an endocrinologist, who coordinates care. Nurses, dietitians, and other healthcare professionals who specialize in diabetes care provide patient education. The primary care provider refers patients to other physician specialists when complications of the disease develop—for example, an ophthalmologist for eye health and a nephrologist to monitor kidney function.

HEALTHCARE FACILITIES

A wide variety of **healthcare facilities** are available. These facilities—the places where people involved in the healthcare industry work—are broadly summarized in this chapter but are individually detailed elsewhere. This discussion of numerous healthcare settings should assist students in selecting a health career and becoming knowledgeable about their chosen field.

Expansion of the healthcare system and professional specialization have broadened the range and types of healthcare settings. Medical care settings include offices of health practitioners, nursing and residential facilities, home health services, and outpatient clinics, laboratories, and ambulatory services as well as the primary inpatient setting, hospitals. Public health settings are usually community-based and may be voluntary organizations, such as the American Cancer Society, or government-supported entities, such as the city, county, or state public health department.

Clients requiring diagnosis and treatment can find health care in physicians' offices, ambulatory care centers, and outpatient clinics. In addition, there are freestanding immediate-care clinics staffed by physicians or located inside a pharmacy and staffed by nurse practitioners or physician assistants who provide immunizations and treat minor, acute illnesses such as colds, cuts, or sprains. Although physicians in office practice focus mainly on the diagnosis and treatment of specific diseases, many clinics and ambulatory centers offer health education and rehabilitation as well. For example, outpatient cardiac rehabilitation centers provide classes on nutrition and stress management and the use of exercise equipment to increase strength and endurance while monitoring heart function. Other health professionals who provide rehabilitation services are physical therapists for physical rehabilitation and psychologists, social workers, and behavioral counselors, who provide therapy for chemical addiction and mental illness.

Community-based agencies provide health care within defined neighborhoods. Such diverse facilities include federally supported health centers, adult day care centers, home health agencies, crisis intervention and drug rehabilitation centers, halfway houses, and various support groups. All work in a wide variety of ways to maintain the integrity of the community.

Federally funded primary care health centers—**Federally Qualified Health Centers (FQHC)**—are the largest

comprehensive safety net of primary and preventive care in the country with nearly 1,400 centers in the United States. The health centers are supported by the HRSA within the HHS and are public and private nonprofit healthcare organizations governed by a board, most of whose members are from the community being served by the health center. The centers provide a medical home for medically underserved populations—for example, the homeless, veterans, residents of public housing, and the uninsured—or special, medically underserved populations, such as migrant and seasonal farmworkers. The health centers receive assistance in recruiting and staffing primary care providers through the **National Health Service Corps**, also funded by HRSA.[4] The FQHC manage patients with multiple healthcare needs and use key quality improvement practices, including health information technology—nearly 97% of the centers use electronic health records.[5] The majority of the operating funds come from Medicaid, Medicare, private insurance, and patient fees; services are provided regardless of ability to pay. The quality of care is comparable to private primary care centers.[4]

Comprehensive medical, prenatal, dental, pharmacy, and behavioral health services are available at the health centers. A multidisciplinary team of physicians, physician assistants, nurses and nurse practitioners, midwives, social workers, health educators, behavioral health counselors, and other providers staff the health centers.[5] Supportive services—health education, language translation, and transportation—increase language access and reduce barriers to keeping scheduled appointments because of limited public transportation.[4]

The health centers use the **Patient-Centered Medical Home (PCMH)** model, whereby patient care is coordinated by a primary care provider to ensure that patients receive culturally appropriate care when and where they need it. The centers are able to achieve strong patient outcomes even though the patients are often sicker than the general population. Because of the care received in the clinics, patients have fewer emergency room or hospital visits, resulting in a cost savings to the government.[6]

The first federally funded health centers were established in 1962 for migrant and seasonal farmworkers, and by 1964, two neighborhood health centers were opened in the Boston area. As of 2019, centers provided care to over 28 million patients in all states within the United States, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and the Pacific Basin.[6] The ACA provided funds to expand the number of health centers and increased access to health care for many low-income individuals. In 2019, one in every 12 Americans received health care through one of the health centers[6]; over 60% of those receiving services were members of an ethnic or minority group, and 23% had no health insurance.[5]

The FQHC network addresses public health priorities—for example, the opioid crisis and the HIV epidemic. For example, in 2018, health centers screened and identified over 1 million people for substance use disorder and provided medication-assisted treatment—naloxone, used to prevent death from an overdose—to nearly 95,000 patients. These health centers serve the HIV community with testing and diagnosis of HIV and in 2018 provided testing for over 2 million patients and treated one in six individuals diagnosed with HIV from across the United States.[6]

Privately funded **free medical clinics (FMCs)** are nonprofit, community-based or faith-based organizations that provide health care at little or no charge to low-income individuals—at or below 200% of the federal poverty level—who are uninsured or underinsured and are residents of the county in which the clinic is located. The **National Association of Free & Charitable Clinics (NAFC)** was established in 2001; in 2019, 2 million people received health care at 1,400 clinics and pharmacies.[7] A nationwide survey reported that those who used a free clinic were homeless (42%) and immigrants (40%) and had substance use disorders (18%) or HIV/AIDs (10%). When the ACA was implemented, more people were eligible for health insurance through Medicaid or the Marketplace. However, barriers to health care access persisted for individuals not eligible for government-subsidized health insurance—for example, the undocumented and those who live in states that have not expanded Medicaid programs. Also, FMCs provide services less readily available elsewhere, free or low-cost medications and eyeglasses, and health education (**FIGURE 2.2**).[8]

In contrast to the FQHC, the free clinics receive little or no state or federal funds. FMCs are financially supported by a variety of individuals or organizations such as hospitals, medical associations, secular community organizations, faith-based entities, and foundations as well as fund-raising events. Pharmaceutical companies and other organizations donate low-cost or free medications and medical supplies. Clinics may be housed in temporary physical facilities similar to those used for humanitarian relief in response to disasters such as a hurricane or tornado.[9] For example, from 2009 through 2016, large-scale free clinics were held in several cities including Kansas City, MO; Dallas, TX; New Orleans, LA; Charlotte, NC; Madison, WI; and Tacoma, WA. Permanent clinics are housed in existing physical spaces such as

FIGURE 2.2 Free clinics provide dental services to the uninsured.

churches.[10] Most FMCs provide medical, dental, pharmaceutical, behavioral health, vision, and health education services to ensure that the uninsured and underinsured have a medical home. Clinics are staffed by a variety of volunteer health professionals: doctors, dentists, nurses, nurse practitioners, social workers, psychologists, optometrists, pharmacists, and non-licensed medical personnel or lay volunteers. Board-certified physicians typically devote one to four half-days per month. Some clinics develop networks with local physician specialists such as cardiologists or endocrinologists or with hospitals to pool resources to enable the uninsured or undocumented to receive specialty care.[9]

There is a popular misconception that free clinics are no longer necessary after the implementation of the ACA. However, an estimated 29 million (11%) of those living in the United States were uninsured in 2019. Nearly half of the uninsured were not eligible for insurance because they lived in a state that did not expand Medicaid, were restricted because of immigration status, or were not eligible for subsidized health insurance premiums because their income was too high. Those without health insurance included noncitizens (23%); undocumented immigrants are not eligible for federally funded health insurance through Medicaid, the Marketplace, or the FQHC.[11] Immigrants are more likely to be uninsured because most work in low-paying jobs that do not include a health insurance benefit. In addition, documented immigrants must have lived in the United States for at least five years to be eligible for federally funded insurance; however, immigrants granted refugee status are eligible.[11]

Individuals who are unemployed or working in low-paying jobs and living in the 12 states that have not expanded Medicaid often are unable to pay for the premiums for health insurance policies through the Marketplace because of the cost. They fall into a coverage gap because they earn too much to be eligible for Medicaid and don't earn enough to be able to pay for health insurance premiums, even when the premiums are subsidized. However, they would be able to receive care in federally supported health centers. Undocumented immigrants often rely on free clinics for health care since they are not eligible for government programs, either Medicaid or services through the FQHC.

HOSPITALS: DEVELOPMENT AND SERVICES

Hospitals are the major agency in the healthcare system and vary greatly in size, depending on the location. A rural hospital may have two dozen beds; a hospital in a large city may have more than a thousand. The hospital is the key resource and center of the U.S. healthcare system. Hospitals not only deliver primary patient care, but some also train health personnel, conduct research, and disseminate information to consumers. Since the turn of the century, hospitals have gradually become the professional heart of all medical practice. Accelerating technological advances and changing societal factors have thrust hospitals into the grasp of big business. Hospitals are the second-largest business in the United States. They employ approximately 40% of healthcare personnel, with a collective payroll that accounts for at least one-third of the nation's health expenditures. Approximately 41% of federal health spending goes to hospitals as reimbursement for patients who are enrolled in Medicare or Medicaid.

American hospitals started around the time of the Civil War in response to urbanization and economic expansion during the Second Industrial Revolution as well as the arrival of large numbers of immigrants. When the country was first settled, most Americans lived in rural areas and received health care in the home. Hospitals emerged from **almshouses**, institutions that cared for the poor who were chronically ill or disabled. The first two hospitals in the United States were originally almshouses; a six-bed almshouse founded in 1736 in New York City later became Bellevue Hospital, and an almshouse founded in the same year in New Orleans later became Charity Hospital. Before the 1920s, the doctors donated their services, and the nurses and other staff received low pay; however, as healthcare staff became more professional, funds were required to operate the hospitals. From these first hospitals developed public hospitals established by cities, counties, or states that were committed to serving all people but especially the poor. The passage of the **Social Security Act of 1965** created the Medicare and Medicaid programs that funded health care for those over 65 years of age through Medicare and for the indigent through Medicaid. These programs provided federal funds to alleviate poverty; Medicare and Medicaid provided a source of funds to hospitals.[12]

The major forces affecting the development of hospitals include the following: (1) advances in medical science, most notably the discovery of antiseptic techniques and sterilization processes and the use of anesthesia; (2) advances in medical education, with predominant use of scientific theory and standardization of academic training for physicians; and (3) transformation of nursing into a profession by requiring training in caring for the wounded and ill, cleanliness and sanitation procedures, dietary instruction, and simple organized care. These effective, although simple, procedures were a great boon to the growth of hospitals, as the public began to see hospitals as a safe, effective place to go when they were ill. The fourth major force was the development of specialized technology such as X-rays, blood typing, and electrocardiograms, which all came into being early in the twentieth century.[13]

The growth of health insurance (which is discussed in Chapter 3) and of the role of government in the hospital industry has had a substantial impact on hospitals. The federal government has financed hospital construction, regulated the type of construction, financed the provision of care, and set policy for the ways in which hospitals are operated.

The complex hospital industry is usually categorized by three methods: function or type of service provided (from those treating a single disease such as cancer to those with multiple specialties, usually teaching hospitals); length of stay (many short-term, with five days being the average length of stay, and fewer long-term, such as psychiatric or chronic disease hospitals,

where the average stay is several weeks to months); and ownership or source of financial support—for example, government (or public), proprietary (private for-profit), or voluntary and religious (private nonprofit) ownership.[13] The majority of hospitals (5,141) in the United States are **community hospitals**, with nearly 3,000 of community hospitals being nonprofit (TABLE 2.1).

Hospitals are either private or public. Private hospitals are owned and operated by groups such as churches, businesses, corporations, and physicians. This type of facility is operated in such a way as to make a profit for the owners. A public hospital is financed and operated by a government agency—for example, by the city, county, or state. Such facilities are termed nonprofit facilities, and they admit many patients who cannot afford to pay for medical care. Patients in private hospitals have insurance, private funds, or medical assistance to pay for their care. Voluntary hospitals are usually nonprofit and often are owned and operated by religious organizations. Community hospitals are independent, nonprofit corporations consisting of local citizens interested in providing hospital care for their community.[13]

Proprietary hospitals or for-profit hospitals are operated for the financial benefit of the persons, partnerships, or corporations that own them. The current trend is toward a buyout of substantial numbers of these smaller hospitals by large investment firms, creating large, for-profit hospital systems. Management contracts are also on the rise, not only in for-profit hospitals but also in community hospitals. Both trends are expected to continue, as will adverse reaction to them, especially in regard to management corporations taking over community-based hospitals. Philosophy, policies, and operations change drastically under management systems—sometimes for the better and at other times with dubious benefit. However, the proliferation of multisystem hospitals (corporation owned, leased, or managed) will probably persist.[13]

Community hospitals are defined as short-term general and specialty hospitals designed to treat specific health problems, which may include obstetrics and gynecology; ear, nose, and throat; rehabilitation; and orthopedic conditions. These may include academic medical centers and teaching hospitals. A **hospital system** is defined as either more than one hospital managed by one organization or a single hospital that includes other healthcare organizations—for example, a single hospital that has ownership in a pre-acute outpatient clinic and/or in a post-acute rehabilitation center. A network is a group of hospitals, physicians, and other providers such as physical therapists or mental health workers, insurers, and other community agencies that work together to coordinate and deliver a broad spectrum of services within a town or geographic region.[14]

Public hospitals are owned by local, state, or federal agencies. Federally owned hospitals are generally reserved for the military, veterans, American Indians and Alaska Natives, or other special groups. State governments usually operate long-term hospitals treating chronic illnesses, such as mental institutions. Local governments have city, county, or district hospitals that are primarily short term and staffed by physicians who also have private practices. These types of hospitals in small cities and towns are generally small and function as community healthcare facilities. Public hospitals in major urban areas are large and are staffed by salaried physicians and resident physicians. They take care of the economically deprived and furnish all types of services—from drug abuse treatment to family planning.[13] Another term used to describe public hospitals is **essential hospitals and health systems** that provide significant levels of care to vulnerable populations with limited or no access to health care because of financial circumstances, insurance status, or health condition.[15]

Every state operates hospitals that provide long-term care (if necessary) for the treatment of the mentally ill or developmentally disabled persons; for example, Lincoln Regional Center is a hospital that provides care for Nebraskans who are mentally ill. These state hospitals are run by state administrative agencies; at the local level, district hospitals are supported by taxes from those who live in the district. These hospitals are not involved with the governments of cities, states, or counties. County and city hospitals provide services for the poor and for private patients. Municipal and county governments usually control city hospitals. An example of a locally governed public hospital is Cook County Hospital in Chicago, IL (now Stroger Hospital), which provided uncompensated care for residents without health insurance for years at a cost to taxpayers.

The federal government operates hospitals and clinics for three agencies—the VA, the DoD, and the IHS. The **Civilian Health and Medical Program of the Department of Veterans Affairs (CHAMPVA)** is a comprehensive healthcare program in which the VA shares the cost of covered healthcare services with eligible veterans of the armed services. VA services are organized into regional centers that include hospitals and clinics. TRICARE is a managed healthcare program for active-duty and retired members of the armed services, their families, and survivors. Military retirees and spouses of

TABLE 2.1 Number of Hospitals in the United States by Type of Hospital, 2021[14]

Type of hospital	Number
Community	5,141
Nonprofit	2,946
For-profit	1,233
State and local	962
Federal government	208
Non-federal psychiatric	625

Data from American Hospital Association. *Fast Facts on U.S. Hospitals*, 2021. Accessed August 16, 2021. https://www.aha.org/system/files/media/file/2021/01/Fast-Facts-Hospitals-Infographic-2021-jan21.pdf

FIGURE 2.3 The federal government operates hospitals for the military and VA.

veterans killed in action are also eligible for health services through TRICARE. Walter Reed National Military Medical Center in Bethesda, MD, is one of the largest military hospitals in the United States and provides care for military personnel who are injured or need medical care (**FIGURE 2.3**).[16]

The IHS provides health services to 2.2 million American Indians (AI) and Alaska Natives (AN) who are members of 566 federally recognized tribes. IHS is administered through a system of 12 area offices and 170 IHS and tribally managed service units that include both hospitals and clinics. In addition, there are 33 urban health service programs to meet the needs of AI/AN who live off the reservation.[17]

AMBULATORY HEALTHCARE SERVICES

Care that is provided outside institutional settings is considered ambulatory care and is the most frequent contact that most people have with the healthcare system. Ambulatory care can be any type of care, from simple and routine to complex and specialized. Probably the most familiar kind of ambulatory care, and the one that most people receive, is in the office of either a single practitioner or a group practice or in a non-institutional clinic. The type of service is primary or secondary care, and the principal health practitioners are physicians, dentists, nurses, medical lab technicians, physical therapists, and medical and nursing assistants. If the community can afford an emergency transportation and immediate care system, paramedics and emergency medical technicians are also part of the ambulatory care network. Emergency advice is furnished from community hotlines and poison control centers.

Primary and secondary care is given at neighborhood health centers and migrant health centers as previously discussed in this chapter. Psychologists and social workers staff community mental health centers. Nurses staff home health and school health services and give both primary and preventive care. Public health services include targeted programs such as family planning, immunizations, screening, maternal and child nutrition, and health education. The health practitioners in these settings are physicians, nurses, dietitians, clinical assistants, and aides. The roster may also include environmental health specialists and health inspectors who do inspections of factories, hospitals, and food establishments to ensure the safety of workers and the public. Pharmacies are ambulatory care facilities staffed by registered pharmacists who dispense drugs and health education. Optical shops with optometrists and opticians provide vision care, while medical technicians provide specialized services in medical laboratories. The federal health system, previously detailed, furnishes all types of ambulatory care, as do prison services.

Many of the ambulatory care services evolve into large, highly complex organizations. For example, an executive committee may be elected to administer the service's business and operations functions. Designated group members may form a credentials committee to screen prospective members, or a building committee may be established.

Large group practices usually have a medical director who is responsible for establishing policies regarding the scope and quality of care as well as personnel practices.[13]

Hospitals are expanding their role to include ambulatory services. They have established fully staffed outpatient facilities and clinics. Hospital outpatient clinics include not only primary care but also specialties such as cardiology, neurology, and endocrinology. Teaching hospitals operate many specialty ambulatory clinics that expose medical students and residents to more extensive experiences. Ambulatory surgery centers and emergency medical services have both expanded, with emergency medicine becoming a specialty for physicians, and regional, hospital-based trauma centers have sprung up in many communities. Forces are at work within communities throughout the nation to enhance primary and specialized health care for all citizens.[13]

BEHAVIORAL HEALTH SERVICES

Behavioral health disorders include mental illness and substance use disorders. Mental illnesses are specific, diagnosable disorders characterized by intense alterations in thinking, mood, and/or behavior. Substance use disorders are conditions resulting from the inappropriate use of alcohol and drugs. Behavioral health disorders affect one in five Americans, yet finding affordable services can be a challenge for many.[18] In 2016, only 43% of nearly 45 million adults with any mental health disorder received treatment, and fewer than 11% of those with substance use disorder received treatment.[19]

Behavioral health personnel involved in the delivery of services include psychiatrists, who are physicians who make a diagnosis, prescribe medications, and may provide psychotherapy. Other health professionals include psychologists, clinical social workers, behavioral disorder counselors, and psychiatric nurses who have advanced degrees and who provide case management and/or psychotherapy. Primary care providers—physicians, nurse practitioners, and physician assistants—screen patients for mental health and substance use disorders and frequently prescribe psychotherapeutic medications. A number of allied health fields have developed in response to the growing needs of the community and the availability of funding. These include school counselors, special education teachers, and others such as art, music, and recreational therapists.

Mental health facilities in the United States were developed in the nineteenth century (as was the American Psychiatric Association), but they were little more than warehouses for large numbers of poor, homeless, alcoholics, drug addicts, and social misfits. They were state hospitals in which the primary purpose, instead of treating the patient, was to protect the public. The creation of the **National Institute of Mental Health (NIMH)** in 1946 and the development of psychopharmaceuticals in the 1950s were the major breakthroughs that led to the real treatment of mental illnesses. Psychotropic drugs enabled thousands of people to return to their communities and to be treated on an outpatient basis.[20] On October 31, 1963, President John F. Kennedy signed into law the **Community Mental Health Act,** which led to changes in how **mental health services** were delivered and provided funds for the establishment of comprehensive **Community Mental Health Centers (CMHC)** throughout the United States.[21]

By 1964, over 1,600 CMHC and general hospitals were providing mental health services in the community. General hospitals designated a certain number of beds as psychiatric beds for short-term stays. Grants were provided to finance staffing and conversion, especially in economically depressed areas. The centers provided inpatient, outpatient, and day care as well as emergency services; the centers were required to provide specialized services for the mental health of children and the elderly and offered special preventive, treatment, and rehabilitation programs for behavioral health disorders.[22]

Deinstitutionalization appeared to be an acceptable approach for treating mental illness; most patients who had been living in institutions could be treated in community facilities if a comprehensive program was available. Unfortunately, the government failed to adequately fund the CMHC needed for addressing the needs of those diagnosed with **serious mental illness (SMI)**—schizophrenia and severe bipolar disorder—with serious consequences. In 2017, an estimated 11 million adults (4.5%) over 18 years of age in the United States suffered from SMI, yet nearly half of those needing treatment were not getting it because (1) they could not afford the cost of treatment, (2) they didn't know where to go for treatment, or (3) they thought they could handle the problem on their own.[19] The publicly funded psychiatric system that was originally created to protect both the patients and the public no longer exists. Those with SMI are more likely to be homeless or incarcerated or attempt suicide. The psychiatric care they receive is fragmented and uncoordinated, coming at great cost to taxpayers, often with poor outcomes.[23]

Drug addiction became a public health crisis beginning in 2001 when deaths from drug overdoses needed to be addressed. In 2014, nearly 2 million people in the United States suffered from substance use disorders fueled by addiction to prescription opioids and heroin, with a 200% increase in death from overdose between 2001 and 2014. States addressed the opioid crisis by increasing patient access to medication-assisted treatment (e.g., methadone treatment and naloxone [Narcan]) and behavioral health treatment programs. Naloxone was made available to emergency medical technicians and emergency room staff to reverse an opioid overdose and prevent death.[24]

In response to the opioid crisis and decades of declining federal funding for both mental health and addiction treatment services, the bipartisan **Protecting Access to Medicare Act of 2014** funded **Certified Community Behavioral Health Clinics (CCBHC)** to expand access to comprehensive mental health and substance use disorder services. States applied for grants for Medicaid demonstration projects and were required to meet specific criteria including 24-hour crisis services and rapid response non-crisis services, tailored

services for active duty military and veterans, and access for all regardless of ability to pay. In 2017, eight states received funding for 66 CCBHC, and by 2020, 13 additional states were funded for a total of 113 clinics in 21 states. Other states can use Medicaid waivers to fund CCBHC. The clinics partner with primary care providers, hospitals, and other healthcare providers to coordinate care, integrate mental and physical health, and reduce hospital readmission; clinics also partner with local law enforcement to prevent recidivism.[25]

Hospitals can become "safety nets" for behavioral health care especially when there is a shortage of CMHC and CCBHC in the community. As a way to identify settings more appropriate for providing behavioral health services, hospitals are now partnering with CMHC, CCBHC, FQHC, academic medical centers, churches, community advocacy groups, and other social service agencies to connect those suffering from behavioral health disorders with care and resources. Hospitals are also working with healthcare workers in primary care settings to integrate assessment and treatment for behavioral health disorders.[18] Approximately one in eight emergency department (ED) visits involves a behavioral health condition, the most common being suicide ideation. This occurs in communities where access to behavioral health care is limited. To avoid repeat visits to the ED, hospitals are involving community resources for care.[18]

Many problems exist within the behavioral health system, including a society that stigmatizes mental illness and substance use disorders. One in 5 Americans suffers from mental illness or substance use disorders every year, yet only half of those seek treatment. Mental illness and substance use disorders are leading causes of disability and death. Adequate and appropriate treatment for mental illness has been difficult, especially for long-term treatment, because of lack of public funding. Historically, most private health insurance policies limited the number of days in the hospital and the number of outpatient visits for treating mental illness and substance use disorders. It has only been since 2008 that services began to be covered by health insurance policies as a result of the **Mental Health Parity and Addiction Equity Act of 2008**.[26] In addition, the ACA requires that all health insurance policies include mental and behavioral health services (see Chapter 5). These requirements are expected to increase access to mental health services for Americans. Unfortunately, those with SMI often are unable to seek treatment, including follow-up care, because of the disabling effects of mental illness. The consequences of untreated mental illness too often are unemployment, homelessness, and incarceration. Treatment requires an integrated system of social and medical services and greater awareness of mental health and mental illness, prevention, and early intervention. There are also disparities in behavioral healthcare access for various populations, including racial and ethnic minority groups, the LGBTQ community, military service members and veterans, and rural residents. These disparities continue to result in poorer health outcomes and increased costs across the healthcare system.[27] The CCBHC model addresses these issues, but not all states have these clinics, and as in the past, the federal government may reduce funding for these clinics, leaving those most vulnerable to a behavioral health crisis without the needed services.

THE CONSUMER'S RIGHTS

In 1973, the American Hospital Association (AHA) developed a Patient's Bill of Rights. The bill, although not a legally binding document, stated the responsibilities of the hospital and staff toward the patient and the patient's family. In 1997, President Bill Clinton appointed an advisory commission on consumer protection and quality in the healthcare industry that further refined the Patient's Bill of Rights. In 2003, the AHA developed the **Patient Care Partnership** to replace the Patient's Bill of Rights, which has six expectations for patients during hospitalization: (1) high-quality hospital care, (2) a clean and safe environment, (3) patient involvement in their own care, (4) protection of patient privacy, (5) help when leaving the hospital, and (6) help with billing claims. A brochure is available in several languages in addition to English and is posted on the AHA webpage.[28]

One of the patient's most important legal rights is **informed consent**; that is, the physician must obtain permission from the patient to perform certain actions or procedures. Informed consent must be obtained before beginning any invasive procedure, administering an experimental drug, or entering the patient into any research project. Specific criteria must be adhered to for informed consent to be valid. Important factors are that the client must be rational and competent or be represented by someone (an advocate) and that the document must be written in a language the client can understand, delineate all the risks involved, state that participation is voluntary, and list the benefits of the procedure and alternatives to the procedure. The client's right to informed consent affects how the healthcare system delivers care. It usually results in increased costs from extra paperwork, but it is necessary for the consumer's protection (and may reduce the care provider's vulnerability to malpractice suits).

Healthcare professionals working in such a wide variety of facilities find challenges and diversity that require them to become knowledgeable in specialized areas and to expand their range of services. The healthcare professional who prefers research may choose to work in primary research institutions, such as the NIH and agencies that administer health and welfare programs. Two major agencies are the VA hospitals and clinics and the U.S. Public Health Service (PHS). If you choose to practice in Canada, the Canada Health Care System covers medical care for all residents of Canada.

PUBLIC HEALTH SERVICES

The mission of HHS is to enhance and protect the health and well-being of all Americans by providing for effective health and human services and fostering advances in medicine, public health, and social services. The Secretary, Operating

Divisions, and Regional Offices administer HHS programs including the ACA. Many HHS-funded services are provided at the local level by state or county agencies or through private-sector grantees (TABLE 2.2).[2]

HHS is responsible for Medicare, Medicaid, public health, biomedical research, food and drug safety, disease control and prevention, Indian health services, and mental health services. HHS works closely with state and local governments and provides leadership in public health emergency preparedness in the event of severe weather, infectious disease epidemics, or biological terrorism.[2]

The focus of public health is the community instead of the individual. The community may be limited to a city or may include an entire state, country, or the world. The recent outbreaks of infectious diseases such the coronavirus and Ebola demonstrate the importance of global disease surveillance, pooling of research efforts to help identify pathogens, and international cooperation to develop diagnostic tests, prevention measures, and treatments.

The emphasis in public health is on prevention in contrast to medical care, in which the emphasis is treatment of disease. Public health practitioners are represented by a variety of disciplines such as nursing, medicine, veterinary medicine, dentistry, health education, and nutrition.

Practitioners in public health, including epidemiologists and statisticians, study the nature of new threats and organize public measures to combat them. Because the government is usually involved in the financing and policy-making procedures, the term "public health" has come to include research, assessment, and control measures.

The threats to health change over time. As one set of diseases, epidemics, and conditions is brought under control or eliminated, new diseases appear. The past focus of services, as previously discussed, was to prevent or mitigate the effects of acute infectious diseases such as smallpox, bubonic plague, typhoid fever, childhood infectious diseases, and the 1918 flu pandemic. With the changes in living conditions in the twentieth century, degenerative, debilitative diseases such

TABLE 2.2 Operating Divisions and Functions within the U.S. Department of Health and Human Services (HHS)[2]

Administration for Children and Families (ACF)	Promotes economic and social well-being of families, children, individuals, and communities through educational and supportive programs in partnership with states, tribes, and community organizations.
Administration for Community Living (ACL)	Ensures access to community support and resources to meet needs of older Americans and people with disabilities.
Agency for Healthcare Research and Quality (AHRQ)	Supports research designed to improve quality and patient safety, reduce healthcare costs and medical errors, and broaden access to essential services.
Agency for Toxic Substances and Disease Registry (ATSDR)	Prevents exposure to toxic substances and the adverse health effects and diminished quality of life associated with exposure from waste sites, unplanned releases, and other sources of environmental pollution.
Centers for Disease Control and Prevention (CDC)	Protects the public health of the nation by providing leadership and direction in the prevention and control of diseases and other preventable conditions, and responding to public health emergencies.
Centers for Medicare and Medicaid Services (CMS)	Combines oversight of the Medicare program, the federal portion of the Medicaid program and State Children's Health Insurance Program, the Health Insurance Marketplace, and related quality-assurance activities.
Food and Drug Administration (FDA)	Ensures that food is safe, pure, and wholesome; human and animal drugs, biological products, and medical devices are safe and effective; and electronic products that emit radiation are safe.
Health Resources and Services Administration (HRSA)	Improves access to healthcare services for people who are uninsured, isolated, or medically vulnerable.
Indian Health Service (IHS)	Provides American Indians and Alaska Natives with comprehensive health services by developing and managing programs to meet their health needs.
National Institutes of Health (NIH)	Supports biomedical and behavioral research in the United States and abroad, conducts research in its own laboratories and clinics, trains promising young researchers, and promotes collecting and sharing medical knowledge.
Substance Abuse and Mental Health Services Administration (SAMHSA)	Improves access and reduces barriers to high-quality, effective programs and services for individuals who suffer from or are at risk for addictive and mental disorders as well as for their families and communities.

Reproduced from Department of Health and Human Services, HHS Agencies & Offices. https://www.hhs.gov/about/agencies/hhs-agencies-and-offices/index.html[3]

as chronic obstructive pulmonary disease (COPD), cancer, arthritis, strokes, and coronary heart disease have replaced infectious diseases. That is, until 2020, when the pandemic caused by COVID-19 caught the world unprepared to manage a public health crisis. The virus caused many hospitalizations and deaths comparable to the worldwide 1918 influenza.

The public health system requires cooperation among federal, state, and local governments. Great changes in the roles played by government agencies have occurred over time, with the most important one being the **Social Security Act of 1935**. This act established annual grants-in-aid from the federal government to the states, part of the purpose of which was to fund full-time local health departments. These grants provided for maternal and child health services and extended the services of local public health departments according to the needs of their communities. They were matching-fund grants, in which the states matched federal money on a dollar-for-dollar basis.

Public health at the city and state level now includes such functions as licensing and accrediting health professionals and health facilities, setting standards for automobile safety devices, and supervising the quality of medical payment programs such as Medicaid.

The establishment of public health and social services in the United States has evolved over time. **TABLE 2.3** is a timeline of the HHS beginning in 1798 with an act to provide health care for sick and disabled seamen.[9]

Six basic functions were established for the Public Health Service between 1935 and 1946, and with few revisions they remain the foundation for public health agencies. These are (1) collecting and reporting vital statistics such as birth, death, and incidence of diseases; (2) controlling communicable diseases such as influenza and measles; (3) maintaining a sanitary and safe supply of food and water; (4) ensuring maternal and child health by providing prenatal care; (5) improving health education on common diseases through publications and state and local outreach; and (6) providing laboratory services to track communicable diseases such as HIV/AIDS, COVID-19, influenza, and outbreaks of foodborne illnesses. States conduct annual telephone surveys of residents as part of the **Behavioral Risk Factor Surveillance System (BRFSS)** to evaluate behaviors that increase risk for

TABLE 2.3 Historical Highlights of Health and Human Services in the United States[29]

1798	Passage of an act for the relief of sick and disabled seamen, which established a federal network of hospitals for the care of merchant seamen, the forerunner of today's U.S. Public Health Service.
1862	President Lincoln appointed a chemist, Charles M. Wetherill, to serve in the new Department of Agriculture. This was the beginning of the Bureau of Chemistry, the forerunner to the Food and Drug Administration.
1871	Appointment of the first Supervising Surgeon (later called Surgeon General) for the Marine Hospital Service, which was organized the previous year.
1878	Passage of the National Quarantine Act began the transfer of quarantine functions from the states to the federal Marine Hospital Service.
1887	The federal government opened a one-room laboratory on Staten Island for research on disease, thereby planting the seed that was to grow into the National Institutes of Health.
1891	Passage of immigration legislation, assigning to the Marine Hospital Service the responsibility for the medical examination of arriving immigrants.
1902	Conversion of the Marine Hospital Service into the Public Health and Marine Hospital Service in recognition of its expanding activities in the field of public health. In 1912, the name was shortened to the Public Health Service (PHS).
1906	Congress passed the Pure Food and Drugs Act, authorizing the government to monitor the purity of foods and the safety of medicines, which is now a responsibility of the Food and Drug Administration (FDA).
1912	President Theodore Roosevelt's first White House Conference urged the creation of the Children's Bureau to combat the exploitation of children.
1921	The Bureau of Indian Affairs Health Division was created, the forerunner to the Indian Health Service.
1930	Creation of the National Institute (later Institutes) of Health, out of the Public Health Service's Hygienic Laboratory.
1935	Passage of the Social Security Act.
1938	Passage of the Federal Food, Drug, and Cosmetic Act.
1939	The Federal Security Agency was created, bringing together related federal activities in the fields of health, education, and social insurance.
1946	The Communicable Disease Center was established, forerunner of the Centers for Disease Control and Prevention (CDC).

(*Continued*)

TABLE 2.3 Historical Highlights of Health and Human Services in the United States[29] (*Continued*)

1955	Licensing of the Salk polio vaccine. The Indian Health Service was transferred to the U.S. Department of Health and Human Services from the Department of the Interior.
1961	First White House Conference on Aging.
1962	Passage of the Migrant Health Act, providing support for clinics serving agricultural workers.
1964	Release of the first Surgeon General's Report on Smoking and Health.
1965	Creation of the Medicare and Medicaid programs, making comprehensive health care available to millions of Americans. The Older Americans Act created nutrition and social programs administered by the HHS's Administration on Aging. Head Start program was created.
1966	International Smallpox Eradication program was established; led by the U.S. Public Health Service, the worldwide eradication of smallpox was accomplished in 1977. The Community Health Center and Migrant Health Center programs were launched.
1970	Creation of the National Health Service Corps.
1971	National Cancer Act signed into law.
1975	Child Support Enforcement program was established.
1977	Creation of the Health Care Financing Administration (HCFA) to manage Medicare and Medicaid separately from the Social Security Administration.
1980	Federal funding provided to states for foster care and adoption assistance.
1981	Identification of AIDS. In 1984, the Public Health Service and French scientists identified HIV. In 1985, a blood test to detect HIV was licensed.
1984	National Organ Transplantation Act signed into law.
1988	Creation of the JOBS program and federal support for child care. Passage of the McKinney Act to provide health care to the homeless.
1989	Creation of the Agency for Health Care Policy and Research (now the Agency for Healthcare Research and Quality).
1990	Human Genome Project established. Passage of the Nutrition Labeling and Education Act, authorizing the food label. Ryan White Comprehensive AIDS Resource Emergency (CARE) Act began providing support for people with AIDS.
1993	The Vaccines for Children Program was established, providing free immunizations to all children in low-income families.
1995	The Social Security Administration became an independent agency.
1996	Enactment of welfare reform under the Personal Responsibility and Work Opportunity Reconciliation Act. Enactment of the Health Insurance Portability and Accountability Act (HIPAA).
1997	Creation of the State Children's Health Insurance Program (CHIP), enabling states to extend health coverage to more uninsured children.
1999	The Ticket to Work and Work Incentives Improvement Act of 1999 made it possible for millions of Americans with disabilities to join the workforce without fear of losing their Medicaid and Medicare coverage. Initiative on combating bioterrorism was launched.
2000	Publication of human genome sequencing.
2002	Office of Public Health Emergency Preparedness was created to coordinate efforts against bioterrorism and other emergency health threats.
2003	Enactment of the Medicare Prescription Drug Improvement and Modernization Act of 2003, the most significant expansion of Medicare since its enactment, including a prescription drug benefit.
2010	The Affordable Care Act was signed into law, putting in place comprehensive U.S. health insurance reforms.

Modified from U.S. Department of Health and Human Services. *HHS Historical Highlights*, 2017. http://www.hhs.gov/about/historical-highlights/[29]

chronic disease, including diet, physical activity, smoking, and drug and alcohol use. Individual states report health statistics to the **National Center for Health Statistics**, and the **Centers for Disease Control and Prevention (CDC)** compiles, analyzes, and reports data on disease prevalence. The CDC works in cooperation with infectious disease specialists around the world to track outbreaks of infectious diseases and to develop vaccines and other treatment protocols. In addition, the CDC monitors air and water quality and provides support in emergencies, such as severe weather conditions that impact health and safety (**FIGURE 2.4**).

In the United States, career opportunities in public health exist in the **Commissioned Corps**, an essential component of the largest public health program in the world. Corps officers are eligible for a variety of positions throughout the HHS and certain non-HHS federal agencies and programs in the areas of disease control and prevention; biomedical research; regulation of food, drugs, and medical devices; mental health and drug abuse; healthcare delivery; and international health. Opportunities are also available at the community level in public health departments and professional organizations—for example, the American Heart Association.

The student desiring to go into public health must be aware of the political battles that are being waged over the structure of the system as well as a lack of financial support. New and changed roles for local, state, and federal public health agencies are apparent. The nation will continue to need public health services and leaders who keep abreast of new research and who have a grasp of modern health problems and solving problems from both a preventive and curative standpoint. Also needed is an understanding of the political system and societal expectations and demands. The student who chooses a public health service career will be in a role with changing dynamics while still fulfilling fundamental, long-accepted functions. Table 2.3 lists achievements in public health in the United States.

HEALTH CARE IN THE TWENTY-FIRST CENTURY

From its humble, unscientific, and often haphazard beginnings to the present multibillion-dollar industry, the private U.S. healthcare system has undergone broad and often drastic changes. Its present visibility and highly technical orientation have led to thousands of jobs, created new professions, and provided care to millions of people. It is not without the attendant problems of a giant industry, however, and in the twenty-first century, the system must face and solve yet more problems. Preventive health care will play an important role

FIGURE 2.4 The CDC monitors air and water quality and provides support in weather emergencies.

in achieving health care for all through recently expanded federally funded primary care clinics and behavioral health clinics in response to the opioid crisis and high rates of incarceration of those with serious mental illness. Although many infectious diseases have been nearly eliminated through vaccination programs, new infectious threats can reappear, as happened in 2019–2020 with COVID-19. American ingenuity will face a difficult challenge in formulating a workable, affordable system for all people.

SUMMARY

Unlike most developed countries the United States does not have a centralized health care delivery system (national health system) in which individuals automatically receive health care. Instead, the majority of Americans obtain health care services from a variety of locations and providers; services are employer-funded private insurance or government-subsidized Medicare or Medicaid. Five broad categories of healthcare services are health promotion, disease prevention, diagnosis and treatment, rehabilitation, and chronic care.

The only direct health services provided by the federal government are TRICARE, through the Department of Defense, CHAMPVA through the Veterans Administration, and the Indian Health Service. The federal government administers public health programs through 11 agencies within Health and Human Services (HHS) responsible for Medicare, Medicaid, public health, biomedical research, food and drug safety, disease control and prevention, Indian health services, and mental health services. HHS works closely with state and local governments and provides leadership in public health emergency preparedness. The role of the U.S. Congress is making laws, allocating funds, and doing investigative work through committees.

Hospitals are the second-largest industry in the United States and the largest employer of healthcare workers. Public hospitals are financed by the government, while private hospitals are financed by businesses, churches, physicians, and others. Hospitals provide patient care, train health professionals, conduct research, and provide public education for consumers and members of the community. The American Hospital Association's Patient Care Partnership informs patients of their rights and responsibilities during hospitalization and after hospital discharge.

Ambulatory healthcare is delivered outside of a hospital setting and employs the second-highest number of healthcare workers to provide care for simple to complex health conditions. Federally Qualified Health Centers are funded by Medicare, Medicaid, and private insurance, and serve high-need and medically underserved people including those with substance use disorders and HIV. Free Medical Clinics are privately funded and serve those who are uninsured—the unemployed and underemployed—as well as undocumented immigrants and the homeless. Certified Community Behavioral Health Clinics are federally funded and provide comprehensive mental health and substance use disorder services.

LEARNING PORTFOLIO

Study Points

1. The healthcare industry is a complex system of hospitals, ambulatory care, laboratories, pharmaceutical and medical equipment manufacturers, and private and government-funded programs. However, the United States does not have a centralized healthcare delivery system common in other countries including Canada and the United Kingdom.
2. Hospitals are the second-largest industry and the largest employer of healthcare workers in the United States.
3. Direct healthcare services provided by the federal government are limited to the U.S. Department of Defense, the U.S. Veterans Administration, and Indian Health Services.
4. Most health care is delivered in ambulatory care settings by a variety of health professionals.
5. Five broad categories of health care are health promotion, disease prevention, diagnosis and treatment, rehabilitation, and chronic care.
6. Nearly 1,400 Federally Qualified Health Centers (FQHC) are funded by Medicare, Medicaid, private insurance, and patient fees. FQHC serve high-need and medically underserved people living in urban and rural areas, including large populations with substance abuse disorders and HIV.
7. About 1,400 privately funded free medical clinics (FMCs) serve those who are uninsured—the unemployed and underemployed as well as undocumented immigrants and the homeless.
8. Inadequate public funding for treating serious mental illness (SMI) has had serious consequences for those with SMI: unemployment, homelessness, and incarceration.
9. In response to deaths from the opioid crisis and homelessness and incarceration of those with serious mental illness, federal legislators funded Certified Community Behavioral Health Clinics (CCBHC) beginning in 2017.
10. Hospitals provide patient care, train health professionals, conduct research, and provide public education for consumers and members of the community.
11. Four major forces responsible for the development of hospitals in the United States are (1) aseptic techniques, (2) advances in medical education, (3) professional development of nurses, and (4) specialized technology.
12. Hospitals are categorized by function, length of stay, and financial support or ownership. Public hospitals are financed by the government, while private hospitals are financed by businesses, churches, physicians, and others. There are more community, nonprofit hospitals than all other categories of hospitals.
13. Most health care is delivered in ambulatory care settings by a variety of health professionals.
14. The American Hospital Association developed the Patient Care Partnership as a guide for hospital personnel in providing care to patients and to inform hospital patients of their rights and responsibilities.
15. The coronavirus, COVID-19, caught the world unprepared for an infectious disease pandemic resulting in the infection and death of thousands around the world.
16. The most important federal agency responsible for the health of the United States is the U.S. Department of Health and Human Services, which administers 11 operating divisions responsible for Medicare, Medicaid, public health, biomedical research, food and drug safety, disease control and prevention, mental health services, and Indian Health Services.

Issues for Discussion

1. View the 5½-minute video "American's Health Centers: An Enduring Legacy, Value for Today & Tomorrow," March 21, 2015. National Association of Community Health Centers. Discuss the history of federally funded national health centers. Discuss the medical services provided at these centers and the medical and economic benefits for local communities. https://www.youtube.com/watch?v=aV9jJpX0PZI
2. View the 2-minute cartoon video "My Hospital—Advancing Health in America" from the American Hospital Association. Discuss community outreach programs of the hospital and how health care is coordinated with other health service facilities in the wider community that make up health care in the entire community. https://www.youtube.com/watch?v=NFiLJksGOxA
3. Go to the Centers for Disease Control and Prevention (CDC) webpage, link to *Emergency Preparedness and Response,* and select one disaster to review what to do before, during, and after the event, especially regarding food and water safety.

   Which weather-related disasters are common in your area? What can you do to be prepared to prevent injury or illness? Which agencies in your community provide support during emergencies? https://www.cdc.gov/disasters/alldisasters.html

LEARNING PORTFOLIO

4. Review the infographic titled "Multicultural Mental Health Infographic" from the National Alliance for Mental Illness.

   At what age does chronic mental illness appear? Which ethnic group has the highest incidence of mental illness? Which other minority groups have a high incidence of mental illness? https://www.nami.org/NAMI/media/NAMI-Media/Infographics/MulticulturalMHFacts10-23-15.pdf

Enrichment Activities

1. Access the website for the National Association of Free and Charitable Clinics; enter the zip code where you live to find out if there are any free clinics where you live. https://www.nafcclinics.org/find-clinic
2. Go to the Indian Health Services' website to find out what healthcare services are provided and how the quality of the health services are monitored. http://www.ihs.gov/forpatients/healthcare/
3. Go to the Centers for Disease Control and Prevention website and review information about the 1918 Pandemic Flu (H1N1 virus). What are the similarities with the COVID-19 pandemic in 2020? What are the differences? https://www.cdc.gov/flu/pandemic-resources/1918-pandemic-h1n1.html

CASE STUDY: CATEGORIES OF HEALTH CARE

Jenny was enlisted in the United States Navy and was on active duty as a hospital corpsman serving as an operating room technician during surgery. Jenny was able to begin taking basic college courses while in the Navy with a goal of becoming a registered nurse. She has been admitted to a community college in a suburb of Chicago to begin an associate's degree that will enable her to complete the requirements to take the national licensing exam required to become a registered nurse. Jenny plans to work part time as a waitress; however, she will have no health benefits through her job. Jenny is a single mother of a 5-year-old daughter and is concerned about obtaining health care for herself and her daughter while she attends college.

Based on the information about healthcare systems, answer the following questions.

1. Jenny has found it challenging to follow a routine of regular physical activity since leaving the military. Which of the following category of health services would assist Jenny in meeting her goal of becoming physically fit?
   A. Diagnosis
   B. Health promotion
   C. Disease prevention
   D. Treatment
2. Which category of health services are immunizations?
   A. Diagnosis
   B. Health promotion
   C. Disease prevention
   D. Treatment
3. Jenny's boyfriend Joe is also a veteran. He is a construction worker and injured his back several months ago. Joe's doctor prescribed a pain medication, and Joe was able to continue to work because the medication stopped the pain. Joe has tried to stop taking the pain medication but experienced withdrawal symptoms. Where would you recommend that Joe not go for treatment of his addiction?
   A. VA clinic
   B. Primary doctor
   C. Certified Community Behavioral Health Clinic
   D. Emergency room

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LEARNING PORTFOLIO

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CHAPTER 3

Paying for Health Services

OBJECTIVES

After studying this chapter, the student should be able to:

- Explain how public healthcare systems are financed.
- Characterize the populations served by Medicare, Medicaid, and the Children's Health Insurance Program (CHIP).
- Estimate the percentage of the total federal budget expended for government-funded healthcare programs.
- Compare traditional and contemporary methods of reimbursement for healthcare services.
- Describe the similarities and differences of managed care organizations used by private insurance.
- Identify the role of the government in the expansion of health care.

KEY TERMS

Accountable care organization (ACO)
Affordable Care Act (ACA)
American Medical Association (AMA)
Bundled payment
Capitation
Centers for Medicare and Medicaid Services (CMS)
Children's Health Insurance Program (CHIP)
Community Engagement
Initiative
Copayment
Coinsurance
Cost-sharing subsidy
Deductible

Department of Health and Human Services (HHS)
Diagnosis-related groups (DRGs)
Dual-eligible
Early and Periodic Screening, Diagnostic, and Treatment (EPSDT)
Exclusive provider organization (EPO)
Fee-for-service
Federal poverty level (FPL)
Health Insurance Marketplace
Health maintenance organization (HMO)
Home- and community-based services (HCBS)
Hospital Readmission Reduction Program (HRRP)
High-deductible health plan with a savings option (HDHP/SO)
Long-term services and supports (LTSS)
Managed care organizations (MCOs)
Marketplace subsidies
Medicaid
Medicaid waiver
Medicare
Medicare Advantage Plan
Network
Preferred provider organizations (PPOs)
Premium tax credit
Private health insurance
Premium
Out-of-pocket
Reimbursement
Work requirement waiver

HEALTHCARE FINANCING

Health care in the United States is funded through a variety of private payers and public programs. Public spending represents expenditures by federal, state, and local governments. Private funding is primarily through private health insurance. In addition to private insurance, privately funded health care includes out-of-pocket expenditures, philanthropy, and non-patient revenues (such as revenue from hospital gift shops and parking lots) as well as health services that are provided at employers' establishments, immediate care clinics, or clinics within pharmacies.[1]

A significant portion of public health spending can be attributed to the programs administered by the **Centers for Medicare and Medicaid Services (CMS)**—Medicare, Medicaid, the **Children's Health Insurance Program (CHIP)**, and the **Health Insurance Marketplace**. In 2019, three budget items accounted for the largest expenditures for the federal budget; government-funded health care programs—Medicare, Medicaid, CHIP, and Marketplace subsidies—accounted for 25%, Social Security for 23%, and defense for 16% (**FIGURE 3.1**)[2]

The sources of federal revenue to cover the costs of the national budget are income tax (50%); payroll tax (36%); excise, estate, and other taxes (7%); and corporate income tax (7%) (**FIGURE 3.2**). Payroll taxes are assessed on the wage or salary paychecks of almost all workers and split between the employer and employee. Payroll taxes are used to fund Social Security, Medicare Hospital Insurance, and unemployment insurance. Excise taxes are collected on the sale of such items as fuel, alcohol, and tobacco. Estate tax is a tax on assets transferred to the deceased heirs on items such as cash, real estate, or stock (Figure 3.2).[3]

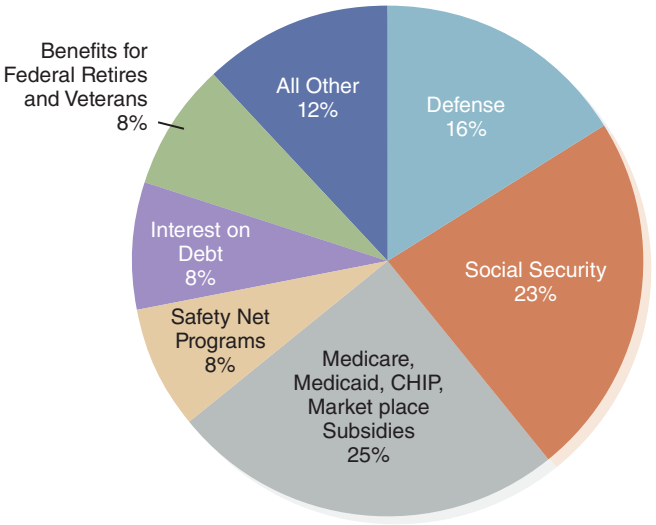

FIGURE 3.1 Federal budget, 2019.
Data from Center on Budget and Policy Priorities. *Where Do Our Federal Tax Dollars Go?* April 9, 2020. https://www.cbpp.org/sites/default/files/atoms/files/4-14-08tax.pdf

PAYMENT TO PROVIDERS

The traditional method of **reimbursement** for health services before passage of the **Affordable Care Act (ACA)** was **fee-for-service**; that is, paying the provider at the time of service. Under fee-for-service, the provider—doctor, hospital, or clinic—is financially rewarded for the volume of services performed—for example, the number of laboratory tests, number of surgeries, and number of days in the hospital—rather than for the quality and cost control (value) of those services. In an effort to control rising healthcare costs, both public and private health insurance programs have moved to **capitation**, defined as paying the practitioner or hospital a fixed amount for a specific service. In capitation, the insurance pays a set fee to cover all the services; fee-for-service pays only for the particular service(s) rendered (itemized) at a given time.[4]

An example of capitation for private insurance is **health maintenance organizations (HMOs)**, which limit consumer choice to health professionals and hospitals that contract with the HMO. Both Medicare and Medicaid use long-term contracts with providers for a population or group of patients. An example of long-term contracts is **managed care organizations (MCOs)**, a healthcare delivery system designed to manage cost, utilization, and quality. State Medicaid agencies contract with MCOs that accept payment for a specific dollar

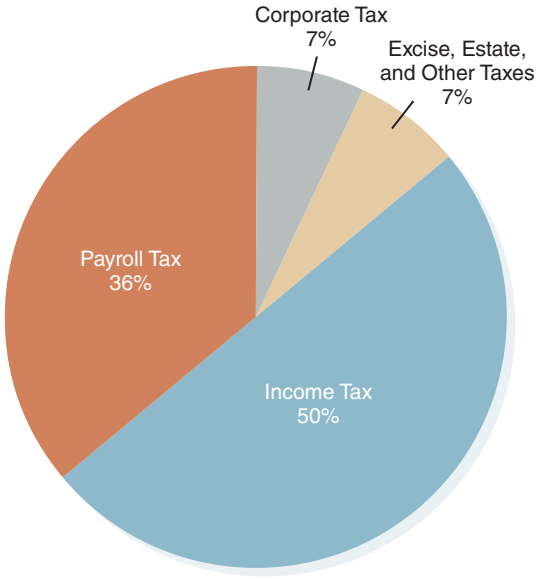

FIGURE 3.2 Sources of federal tax revenue, 2019.

Modified from Center on Budget and Policy Priorities. *Where Do Federal Tax Revenues Come From?* June 2019. https://www.cbpp.org/sites/default/files/atoms/files/PolicyBasics_WhereDoFederalTaxRevsComeFrom_08-20-12.pdf

amount per member per month (capitation) regardless of the services delivered. **Medicare Advantage Plans** are a form of MCO; Medicare pays a fixed dollar amount per enrollee per month to the insurance company offering Medicare Advantage Plans. Providers are motivated to give quality care rather than increase the number of procedures or hospitalizations when patients are enrolled in an MCO.

Shifting away from fee-for-service to improve quality while reducing costs requires changed expectations for both consumers and providers. Under fee-for-service, there were few limits on the length of hospital stay or number of doctor visits; however, MCOs often require preapproval for surgery and other costly treatments.[4] The consequence for consumers is that scheduling non-emergency surgery and other procedures will involve a waiting period. Consumers will need to be knowledgeable about their insurance requirements for treatment.

In an effort to reduce costs and improve quality, the CMS set a goal of reducing Medicare fee-for-service payments to providers (doctors, hospitals) over a period of several years. One of the changes CMS made to reward quality of care instead of volume is the **Hospital Readmission Reduction Program (HRRP)**, in which hospitals receive lower reimbursement rates for all patients on Medicare if hospital readmission occurs sooner than 30 days after discharge.[5] Other CMS programs designed to improve quality and reduce costs are **bundled payments** and **accountable care organizations (ACOs)**; both are examples of capitation. Bundled payments are made for an episode of care; for example, hospital and homecare services, including physical therapy for a patient receiving hip-replacement surgery. ACOs address quality and costs for a population—for example, payment for comprehensive care for end-stage renal disease for patients receiving regular dialysis.[4]

GOVERNMENT-FUNDED HEALTH INSURANCE

Medicare and Medicaid are government or public health insurance programs that benefit one in three Americans. The **Medicare** program is a federal health program for people aged 65 years and older, certain disabled people younger than 65, and any adult with permanent kidney failure (end-stage renal disease) or amyotrophic lateral sclerosis (ALS, or Lou Gehrig's disease). Patients on Medicare are entitled to the same benefits and care as those with private insurance. The main difference is that the government pays the healthcare bills instead of the individual or private insurance. Medicare pays for many healthcare services—hospitalizations, doctor visits, and prescription drugs. It also covers the cost of short-term stays in a skilled nursing facility, home health care, hospice, and preventive services such as immunizations (flu shots and pneumococcal shots) and cancer screenings.[6] In 2019, Medicare provided health insurance for 61.5 million people—8.5 million with permanent disabilities under age 65 (14%) and 53 million 65 years of age and older (86%).[7]

Medicaid is the federal–state cooperative health insurance plan for those who are not eligible for health insurance through an employer and cannot afford to buy health insurance through the Marketplace. Title XIX of the Social Security Act and other federal regulations govern Medicaid by defining federal requirements and state options.[8] The CMS within the **Department of Health and Human Services (HHS)** is responsible for implementing Medicaid. The program is jointly funded by the federal and state governments and is administered by individual states. People with incomes below the poverty level established by a state can use this government-sponsored health insurance program. Until Medicaid was expanded as a result of the ACA, only certain low-income individuals were eligible: U.S. citizens or legal immigrants, pregnant women, children, parents of low-income children, seniors, and those with disabilities.[9] The ACA set new guidelines requiring states to cover all children and pregnant women living in households with incomes up to at least 138% of the **federal poverty level (FPL)**; however, about half of the states cover children from households with higher incomes—above 250% of the FPL.[9] Since implementation of the ACA, states that chose to expand Medicaid cover adults at 133% of the FPL.[9]

Medicaid as an entitlement is based on two guarantees: (1) All Americans who meet Medicaid eligibility requirements are guaranteed coverage, and (2) states are guaranteed matching funds from the federal government to help pay for Medicaid coverage. The matching rate ranges from 50% to 75% depending on a state's per-capita income and changes from year to year; wealthier states receive lower federal matches, and poorer states receive higher matches. Some Medicaid services are funded at even higher levels; family planning is funded at 90%, while home health and Indian Health Services are funded at 100%.[10] Matching funds from states are generated through local and state sales tax, state income taxes, or assessments on health