

CHAPTER 2

HEALTHCARE PROFESSIONS

Many different types of professionals participate in taking care of our health. Physicians, nurses, respiratory therapists, nurse aides, lab workers, radiology technicians, clergy members, social workers, and other professionals visit and care for patients. Behind the scenes, law enforcement personnel, carpenters, housekeepers, engineers, computer scientists, educators, chefs, accountants, and many other professionals provide direct and indirect support to patients as well. As the US population ages, the demand for healthcare and those who provide it will only continue to grow. “The U.S. will need to hire 2.3 million new healthcare workers by 2025 in order to adequately take care of its aging population, a new report finds. But a persistent shortage of skilled workers—from nurses to physicians to lab technicians—will mean hundreds of thousands of positions will remain unfilled” (Kavilanz 2018).

The aging of the healthcare workforce will require replacements with new healthcare experts in all areas (Harrington and Heidkamp 2013; Institute of Medicine 2008).

- ◆ By 2020, nearly half of all registered nurses will reach traditional retirement age.
- ◆ Nearly one-quarter of physicians in 2007 nationwide were 60 or older.
- ◆ In 2001, more than 80 percent of dentists in the United States were older than 45.

LEARNING OBJECTIVES

After reading this chapter, you will be able to

- Describe key clinical care personnel, their educational requirements, and their median salaries.
- Identify some of the careers in allied health professions.

- ▶ Compare the educational requirements of healthcare professionals in administrative (nonclinical) positions.
- ▶ Understand the future demand for and growth of health professions.

Healthcare occupations are among the fastest-growing jobs in the United States, projected to increase 18 percent from 2016 to 2026. Over that ten-year period, about 2.4 million new jobs are expected to be created. A 2018 study conducted by the global healthcare consulting firm Mercer reported that by 2025, the United States will face an estimated shortage of 446,300 home health aides, 98,700 medical and lab technologists and technicians, 95,000 nursing assistants, and 29,400 nurse practitioners.

The healthcare workforce encompasses a wide variety of careers, employing more than 18 million people in relatively well-paying jobs. According to the US Bureau of Labor Statistics, median wages for workers in the healthcare industry tend to be higher compared with the entire US workforce (BLS 2020). Healthcare jobs can be divided into two categories: clinical care positions and administrative positions, both of which are explored in this chapter.

CLINICAL CARE POSITIONS

PHYSICIANS

A physician in the United States typically completes one of two types of clinical training. Most physicians attend an allopathic medical school and graduate as a doctor of medicine (MD), while a smaller number attend an osteopathic medical school and graduate as a doctor of osteopathic medicine (DO). Graduates of both types of schools are licensed to practice medicine in the United States. Both groups are similarly educated and certified, but they are distinguished by differences in their training and their philosophies of treatment, which are explained here.

More than 90 percent of physicians in the United States practice **allopathic medicine**. These physicians receive a doctor of medicine degree and are designated as medical doctors, or MDs (Salsberg and Erikson 2017). As discussed in chapter 1, during the early twentieth century, doctors came from different backgrounds in terms of their education, philosophy, and perspective on medicine. However, after the publication of the Flexner Report in 1910 (discussed in chapter 1), most medical schools became standardized as allopathic teaching institutions. Allopathic medicine, also called as “conventional” or “mainstream” medicine, refers to healing through opposites. It focuses on treating disease through medication, surgery, or other interventions. For example, if a person has swelling and too much water in the body, an appropriate treatment would be a drug that increases urination. This system of medicine became known for using treatments that had scientific value. Of the 25,955 medical school graduates in 2018, 19,533 completed allopathic

allopathic medicine

A system of medical practice that focuses on treating disease through medication, surgery, or other interventions; also called *conventional medicine* or *mainstream medicine*.

osteopathic medicine

A system of medicine that focuses on the manipulation of the musculoskeletal system and emphasizes preventive medicine while taking a holistic approach to health.

primary care physician (PCP)

A physician who typically serves as the first contact for patients with basic medical needs; treats acute and chronic ailments and illnesses; and focuses on health promotion, disease prevention, health maintenance, and counseling. PCPs primarily practice family medicine, internal medicine, and pediatrics.

medical education, while 6,402 graduated from osteopathic medical schools (Kaiser Family Foundation 2018).

Osteopathic medicine, although it is not recognized in many countries outside the United States, is one of the fastest-growing healthcare professions. These physicians are designated as doctors of osteopathic medicine, or DOs. Most DOs serve in primary care, which includes family medicine, internal medicine, and pediatrics. About 44 percent of DOs specialize in emergency medicine, general surgery, obstetrics and gynecology, anesthesiology, and psychiatry (American Osteopathic Association 2018). Like their MD counterparts, they are licensed to perform surgery and prescribe medications.

Dr. Andrew Taylor Still, a physician in Kansas, is credited with developing the philosophy of osteopathic medicine in the 1870s. Osteopathic medicine is grounded in the view that all of the body's systems are interrelated and dependent on one another for good health. Still advocated the idea of preventive medicine and taught physicians to focus on treating the whole patient, not just the disease. He believed in using osteopathic manipulative medicine to allow the body to better heal itself. Today, DOs provide comprehensive medical care throughout the United States. Like their MD colleagues, DOs are healthcare policy leaders at all levels of government and pursue careers in medical research (American Association of Colleges of Osteopathic Medicine 2020).

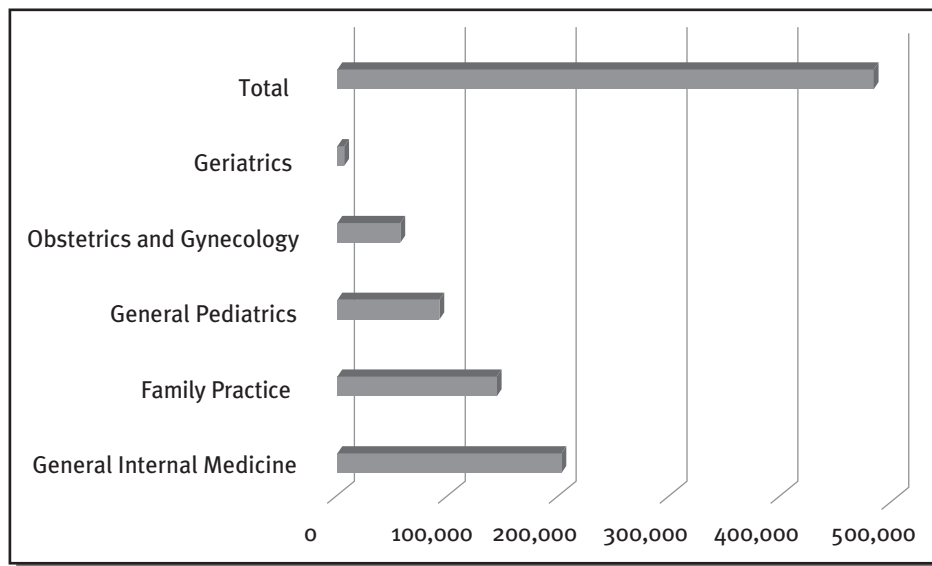
MDs made up 91.3 percent of actively licensed physicians in the United States in 2016, while DOs accounted for 8.5 percent. More than 75 percent of licensed physicians were graduates of medical schools in the United States and Canada, while around 23 percent received training from a school elsewhere in the world (Young et al. 2017).

Primary care physicians (PCPs) are typically the first contact for patients with basic medical needs. They practice family medicine, internal medicine, and pediatrics. Some insurers also identify gynecologists as PCPs, while others include geriatric physicians. These doctors treat a variety of ailments and illnesses, both acute and chronic. They also focus on health promotion, disease prevention, health maintenance, and counseling. PCPs practice in private offices, hospitals, long-term care facilities, home care agencies,

and other settings (American Academy of Family Physicians 2020a).

Data from the Kaiser Family Foundation on state licensing in the United States (see exhibit 2.1) in March 2020 report more internal medicine physicians (199,683) than any other specialty. The second-largest group is family practice physicians (141,417), followed by pediatricians (89,168) and obstetric and gynecology physicians (54,718) (Kaiser Family Foundation 2019). The data show very few geriatricians (1,419). The aging US population is expected to demand more care in the future,

A 2018 snapshot report in *USA Today* indicated that Washington, DC, had the highest number of physicians per residents in the United States, at 8.24 per 1,000. In comparison, the Association of American Medical Colleges reported in 2019 that the total rate for the United States was 2.8 physicians per 1,000 population.

**EXHIBIT 2.1**

Active Primary
Care Physicians by
Specialty, March
2020

Source: Kaiser Family Foundation (2020).

however, and by 2030, the country is expected to face a shortage of PCPs. Estimates suggest that between 8,700 and 43,100 more primary care doctors will be needed (Mann 2017).

While PCPs are often the first providers to treat patients, medical and surgical specialists treat a variety of specific illnesses and injuries. Diagnostic specialists focus on identifying conditions, diseases, and injuries.

Medical specialists include, but are not limited to, cardiologists (dealing with diseases of the heart and blood vessels), dermatologists (skin), emergency medicine specialists, endocrinologists (hormones and metabolism), gastroenterologists (stomach, bowels, pancreas, liver, and gallbladder), hospitalists (inpatient care), infectious disease specialists, nephrologists (kidneys), neurologists (brain and nervous system), oncologists (cancer), ophthalmologists (eyes), otolaryngologists (ear, nose, and throat), palliative care specialists (pain management and hospice care), podiatrists (feet), proctologists (anal and rectal diseases), psychiatrists (mental and behavioral disorders), pulmonologists (lungs), rehabilitation specialists, rheumatologists (rheumatism, arthritis, and other disorders of the joints, muscles, and ligaments), and urologists (urinary tract).

Surgical specialists include anesthesiologists (physicians who administer local or general anesthesia during surgery), cardiovascular surgeons (heart surgery), general surgeons, neurosurgeons (surgery on the brain and nervous system), oral surgeons (surgery on the teeth, mouth, and jaw), orthopedic surgeons (bones, joints, ligaments, tendons and muscles), plastic surgeons (cosmetic and reconstructive surgery), transplant surgeons (organ transplants), and vascular surgeons (surgery on the arteries and veins).

Finally, pathologists (physicians who examine bodily tissues and fluids) and radiologists (physicians who examine X-rays and other imaging tests) are physicians who diagnose disease and injury. Exhibit 2.2 reports the number of physicians in non–primary care specialties in the United States in 2015.

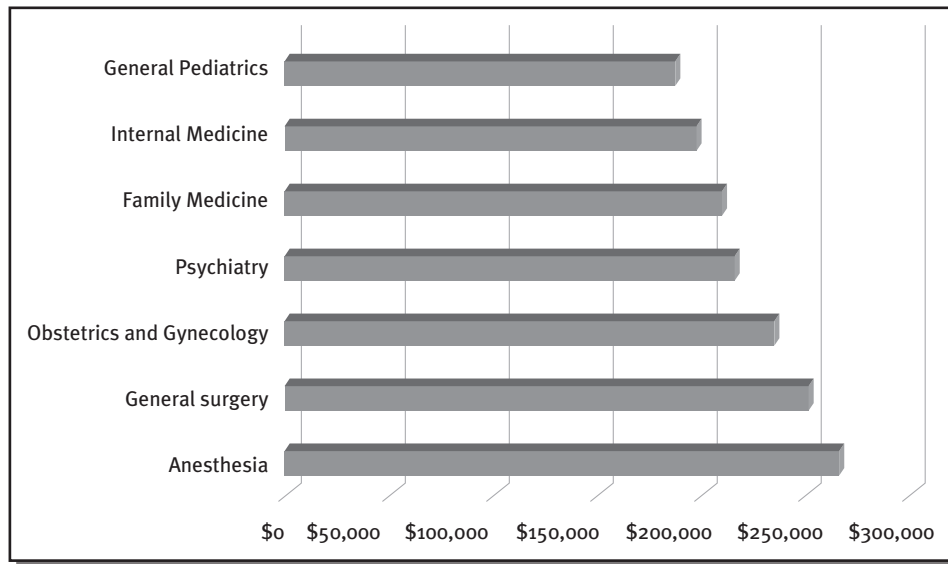
In 2015, the United States had 153 allopathic medical schools (Association of American Medical Colleges 2020) and 36 osteopathic medical schools (American Association of

EXHIBIT 2.2

Number of
Physicians in
Non–Primary Care
Specialties, 2015

Specialty	Total Active Physicians
Anesthesiology	41,351
Psychiatry	37,736
Radiology	27,522
General surgery	25,254
Cardiovascular disease	22,058
Orthopedic surgery	19,145
Ophthalmology	18,593
Hematology and oncology	14,476
Gastroenterology	14,126
Neurology	13,392
Pathology	13,286
Dermatology	11,706
Critical care medicine	10,158
Nephrology	10,083
Urology	9,808
Ear, nose, and throat (otolaryngology)	9,411
Physical medicine and rehabilitation	9,164
Child and adolescent psychiatry	8,736
Infectious disease	8,515
Plastic surgery	7,020
Endocrinology	6,968

Source: Data from Association of American Medical Colleges (2015).

**EXHIBIT 2.3**

Median Annual Compensation for Selected Healthcare Specialties in the United States, 2017

Source: Data from US Bureau of Labor Statistics, *Occupational Outlook Handbook*, 2018.

Colleges of Osteopathic Medicine 2020). Medical students typically complete a bachelor's degree and then a four-year program of study at a medical school. Many hours of medical school are completed in clinical settings working with patients. After medical school—depending on a student's chosen specialty—most physicians spend at least three years in a residency program, and some complete more specialized fellowships. Family physicians, for example, complete a three-year residency program after medical school (American Academy of Family Physicians 2020b). Cardiac or heart surgeons require more training, typically completing a five-year general surgery residency and then a two- to three-year specialized cardiac or cardiothoracic fellowship.

Wages for physicians and surgeons are among the highest of all occupations, according to the Bureau of Labor Statistics. Exhibit 2.3 shows the median annual compensation for selected healthcare specialties in the United States in 2017.

PHYSICIAN EXTENDERS

In the 1980s, the term **physician extender** was introduced to identify nonphysician providers who perform medical activities typically done by physicians. As displayed in exhibit 2.4, nurse practitioners, physician assistants, and certified nurse midwives, in particular, practice in a variety of healthcare settings alongside or sometimes geographically quite distant from physicians.

physician extender

A healthcare provider who is not a physician but performs medical activities typically done by a physician; most physician extenders are nurse practitioners or physician assistants.

A *nurse practitioner (NP)* is an advanced practice registered nurse who can examine patients, diagnose illnesses, prescribe medicines, and provide treatment. Twenty-eight US states allow NPs individuals “full practice authority,” or the license to practice without the supervision of a doctor (Rappleye 2019) (see sidebar).

According to a Kaiser Family Foundation report, NPs can manage 80 to 90 percent of the care typically provided by PCPs, with comparable care outcomes. Typically, NPs earn a bachelor’s degree from a four-year college or university and then complete a master’s degree. These providers can help meet the increasing demand for primary care (Van Vleet and Paradise 2015).



PRACTICE SCOPE OF NURSE PRACTITIONERS

Each US state defines the practice authority of nurse practitioners (American Association of Nurse Practitioners 2018):

- *Full practice.* State law licenses NPs to evaluate, diagnose, treat, and prescribe on their own.
- *Reduced practice.* State law requires NPs to work with a physician to provide patient care and limits some of what they do.
- *Restricted practice.* State law requires supervision, delegation, or team management by a physician to provide patient care.

NPs hold advanced degrees, either a master of science in nursing (MSN) or a doctor of nursing practice (DNP). Individual states license these providers and have different requirements for national certification and the nature or specialization of education needed. Typically, NPs focus on one or more patient populations, such as families and individuals across the life span, pediatrics, adult geriatrics, neonatal care, women’s health, or mental health (*Nurse Journal* 2020b). The DNP is a terminal professional degree in nursing, along with the doctor of nursing (ND), doctor of nursing science (DNSc), and doctor of nursing philosophy (PhD) degrees. NPs must complete 100 hours of continuing education and 1,000 clinical hours every five years (American Association of Nurse Practitioners 2020).

More than 248,000 NPs are licensed in the United States, and nearly 87 percent are certified in an area of primary care. They work in hospitals, clinics, private group practices, long-term care facilities, and psychiatric and mental health clinics. In 2017, the

mean full-time base salary for an NP was \$105,500 (American Association of Nurse Practitioners 2020).

A *physician assistant (PA)* is a medical professional who can diagnose illness, determine the appropriate treatment for patients, and prescribe medications. Some individuals choose PAs as their principal healthcare providers. PAs work in a variety of settings, including hospitals and clinics (American Academy of Physician Assistants 2020) (see sidebar).

More than 123,000 PAs are practicing in all 50 states and Washington, DC. About 12 percent of PAs work in rural settings, most of whom practice primary care. PAs tend to have a wider scope of practice and often see uninsured individuals or those covered by Medicaid or Medicare. Rural patients seen by PAs frequently have chronic conditions (Cawley et al. 2016).

PAs hold master's degrees, completing programs that typically take three years and include 2,000 hours or more of clinical rotations. These rotations include family medicine, internal medicine, general surgery, pediatrics, obstetrics and gynecology, emergency medicine, and psychiatry. They are trained as medical generalists (American Academy of Physician Assistants 2020).

In most cases, state medical boards regulate and license PAs. Five states—Arizona, Iowa, Massachusetts, Rhode Island, and Utah—have separate PA board exams. PAs must complete 100 hours of continuing medical education every two years and recertify every ten years.

In 2016, the median salary for a PA was \$101,480, while the highest-paid PAs made \$142,210 (*U.S. News & World Report* 2018). In 2019, the median salary grew to \$112,260. The number of jobs for PAs is predicted to grow 31 percent between 2018 and 2028—much faster than the average for all occupations (BLS 2020).

Nurse midwives are advanced practice registered nurses who specialize in the management of women's reproductive health and the care of women during pregnancy, labor, and childbirth. In 2020, there were 40 accredited schools for nurse midwives in the United States. After finishing their education (typically an MSN), nurses take an exam to become a certified nurse midwife. Nurse midwives earn salaries between \$90,000 and \$100,000 per year and often work in private birthing centers, hospitals, and clinics. Some also participate in home births. In 2020, there were more than 12,000 certified nurse midwives in the United States, who attended more than 330,000 births, most occurring in hospitals (American Midwifery Certification Board 2020; *Nurse Journal* 2020c).

The ability to practice varies by state law. Twenty-four states allow certified nurse midwives to practice independently without physician supervision. Across the United



PHYSICIAN ASSISTANTS: A Growing Profession

Between 2010 and 2016, the number of certified physician assistants grew 44 percent, and according to the US Department of Labor, employment for PAs will likely increase 31 percent between 2018 and 2024. The number of nurse practitioners is also expected to grow, from 128,000 in 2008 to 244,000 by 2025 (Young et al. 2017). In 2020, *U.S. News & World Report* rated physician assistant as the third-best job in the United States (Roberson 2020).

States, about 8 percent of births are delivered by certified nurse midwives. However, in three states (Alaska, New Mexico, and Vermont), more than 20 percent of births are attended by certified nurse midwives. To highlight the importance of this profession, the World Health Organization designated 2020 as the Year of the Nurse and Midwife (Martin et al. 2018; Vedam et al. 2018).

NURSES

Nurses are the backbone of healthcare. Nurses can be divided into two categories: *registered nurses (RNs)* and *licensed practical nurses (LPNs)*. Nursing is the biggest and most diverse of the healthcare professions, with more than 3 million RNs and nearly 730,000 LPNs in the United States (BLS 2020). Nurses have responsibility for providing continuous care for the sick and injured in a wide variety of settings. Nurses are also actively involved in health policy, research, quality improvement, patient rights, and management.

Florence Nightingale is undoubtedly the most famous nurse, and she is credited with establishing the tradition of educating and training nurses using scientific principles. In 1854, the British government asked Nightingale and a small group of nurses to visit a military hospital in what is now Turkey. She learned of their practices of sanitizing hospital rooms, providing patients with nourishing food, and efficiently administering medications and treatments. Within weeks of her return to Britain, soldiers there fared much better. Death rates plummeted, and soldiers no longer suffered from infectious diseases associated with poor sanitary conditions.

Until the second half of the twentieth century, most nurses were trained in hospitals, which had their own nursing schools; now, however, most nurses are trained in nursing programs at colleges and universities. Today, nearly 2,000 basic RN programs exist in the United States (National League for Nursing 2018). The training offered in these programs differs. Some programs offer one year of coursework and clinical experience, after which students can take a state-required test and apply for a license. Those individuals can go on to complete a second year of study and clinical practice, take another exam, and become a registered nurse. They typically receive an associate's degree in nursing (ADN). Most states have agreements that allow nurses to practice in a number of states after completing their study and exams. An LPN or RN who receives a license to practice in Utah, for example, may practice in 25 other states (National Council of State Boards of Nursing 2020).

LPNs are known in some states (e.g., California and Texas) as *licensed vocational nurses*. They practice in a number of settings, such as schools, home health care agencies, nursing homes and other long-term care facilities, physician offices and private practices, private hospitals, universities, and other facilities.

Beyond the two-year RN license, a number of schools in the United States offer a bachelor's degree in nursing (BSN), which requires two to three years of additional education

after the ADN. Some programs skip the ADN and require students to complete the BSN degree (*Nurse Journal* 2020a). Online education programs are also available for those who have been practicing as an RN for a number of years and want to complete the BSN.

Arguments exist for the necessity of both two-year and the four-year RN degrees. Practically, it comes down to what employers—or, in some cases, states—require. For instance, in 2017, New York State passed a “BSN in 10” law, requiring all nurses to obtain a BSN within ten years of receiving their initial RN license. This law was passed in response to a 2010 recommendation by the Institute of Medicine that 80 percent of the nursing workforce should hold a BSN by 2020 (Mararac 2017). Many US hospitals plan to hire only nurses with at least a BSN, but most healthcare organizations do not distinguish between two-year and four-year degrees in terms of salary and promotion (Coutre 2016).

In 2019, median pay for LPNs was \$47,480 per year, and the profession is projected to grow 11 percent between 2018 and 2028. The median pay for RNs was \$73,300 per year in 2019, and their job outlook was slightly better, projected to grow 12 percent during the same ten-year period (BLS 2020).

ALLIED HEALTH PROFESSIONALS

The Association of Schools of Allied Health Professions (2020) defines allied health professionals as “concerned with the identification, diagnostic evaluation, and treatment of acute and chronic diseases and disorders; provision of dietary and nutrition services; rehabilitation services; and the management and operation of health systems.”

Allied health professionals include, but are not limited to, anesthesia technologists, audiologists, medical and clinical laboratory technologists, dental hygienists, dietitians, emergency medical technicians, exercise physiologists, lactation consultants, nuclear medicine technologist, occupational therapists, providers of orthotics and prosthetics, physical therapists, radiation therapists, radiologists, respiratory therapists, speech-language pathologists, and vocational rehabilitation counselors.

Exhibit 2.4 lists some of these allied health professions, their educational requirements, and median pay in the United States.

As indicated in exhibit 2.4, allied health occupations can be categorized, roughly, into those who help diagnose diseases or injuries, those who treat diseases or injuries, and those who support the treatment or prevention of diseases or injuries. Experts in radiology, diagnostic imaging, and medical laboratory sciences, for example, are healthcare “detectives” who work to identify an injury or determine a patient’s disease. Occupational, physical, and respiratory therapists, along with speech-language pathologists, often assess and treat diseases and injuries. Dental hygienists and dietitians both treat diseases and help prevent more extensive disease.

EXHIBIT 2.4
Allied Health
Occupations in the
United States

Occupation	Job Summary	Entry-Level Education	2019 Median Pay
Audiologist	Work on patients' hearing, balance, or ear problems	Doctoral or professional degree	\$77,600
Dental hygienist	Clean teeth, look for oral diseases, and provide preventive care	Associate's degree	\$76,220
Diagnostic medical sonographer	Operate special imaging equipment to help physicians diagnose problems	Associate's degree	\$68,750
Dietitian	Experts in nutrition who advise people on what to eat to promote wellness or cope with medical conditions	Bachelor's degree	\$61,270
Emergency medical technician or paramedic	Care for the sick and injured in emergency medical settings	Postsecondary nondegree award	\$35,400
Medical/clinical laboratory technologist	Collect samples and perform tests to analyze body fluids, tissue, and other substances	Associate's or bachelor's degree	\$53,120
Health information technologist	Organize and manage health information data, using classification systems to code and categorize patient information	Postsecondary nondegree award or associate's degree	\$42,630
Nuclear medicine technologist	Prepare radioactive drugs and administer them to patients for imaging	Associate's degree	\$77,950
Occupational therapist	Treat injured, ill, or disabled people through the therapeutic use of daily activities	Master's degree	\$84,950

(continued)

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Occupation	Job Summary	Entry-Level Education	2019 Median Pay
Pharmacist	Dispense prescription medications and offer advice on the safe use of prescriptions	Doctoral or professional degree	\$128,090
Physical therapist	Help injured or ill people improve their movement and manage pain	Doctoral or professional degree	\$89,440
Radiation therapist	Treat cancer and other diseases in patients with radiation treatments	Associate's degree	\$85,560
Respiratory therapist	Care for people with breathing problems, from infants to the elderly	Associate's degree	\$61,330
Speech-language pathologist	Assess, diagnose, treat, and help prevent communication and swallowing problems in children and adults	Master's degree	\$79,120

EXHIBIT 2.4

Allied Health Occupations in the United States
(continued)

Source: BLS (2020).



DEBATE TIME Changing Practice Requirement for Healthcare Professionals

Entry-to-practice requirements are changing for many health professionals. Registered nurses now need at least a bachelor's degree. Physiotherapists and other types of therapists must have a master's degree. Some professions prefer a doctoral degree for licensing. These greater educational requirements are not always popular with professionals who are already practicing or their employers. Some argue the higher level of education not necessary, while others believe that the complexity of healthcare warrants increased education and training.

Form a team and debate the merits and challenges of mandating advanced degrees in healthcare. Consider patient outcomes, cost, time, staff retention, rural health, and other issues.

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INTERPROFESSIONAL HEALTHCARE TEAMS

Healthcare is a team sport. As illustrated in the sidebar, collaboration among interdisciplinary teams often is necessary to diagnose and treat complex illnesses or injuries. As early as the 1970s, the Institute of Medicine identified the importance of team-based patient care and its role in patient safety and health outcomes (Institute of Medicine 1972, 2001). *Interprofessional practice and education* is the term that is used to describe two or more professions working and learning together in an educational or clinical setting. These teams include many of the professionals discussed in this chapter. In some grassroots efforts, they also include patients and their communities (Wood 2012).



HEALTHCARE IS A TEAM SPORT

In 1981, Ned traveled abroad with a group of dancers. In a hurry one day, he brushed his teeth using the tap water in his room rather than the bottled water offered by the hotel. By the time the group left two weeks later, Ned's hands and feet hurt so badly that he could hardly move. The trip back to the United States was long and uncomfortable.

Ned lost a significant amount of weight over the next few weeks. After seeing his doctor, he checked into a regional academic medical center for care. Medical students, interns, residents, and Ned's attending physician visited him often during the few days he was there. Nurses cared for him. Lab workers drew blood for diagnostic tests. Housekeepers and dietary workers were also part of Ned's care team.

Only after Ned started feeling better and left the hospital did the answers come back from the labs and physicians—Ned had contracted a water-borne parasite during his trip.

Often, physicians and nurses come to mind when the public thinks about healthcare. Ned's care was provided by a variety of professionals, all of whom are vital to healthcare. In his case, support came in the form of treating symptoms, expressing concern, providing food that tasted good, keeping his room clean and bright, and asking the right questions. To be successful, healthcare involves a team of professionals.

The Affordable Care Act of 2010 created incentives for interprofessional teams to focus on value-based care, as opposed to the traditional fee-for-service model on which healthcare was built. The act created two new types of organizations: accountable care organizations (ACOs) and patient-centered medical homes (PCMHs) (discussed in chapter 3). Both ACOs and PCMHs focus directly on patients and use care coordinators to coach

patients and promote communication among healthcare providers during the entire process of care. Care teams have opportunities for consultation and education. ACOs receive financial incentives for teamwork leading to better health outcomes.

Higher education today supports interprofessional education. Schools and health providers are creating opportunities for students in different medical programs to work and learn together. In 2009, the leading health-related associations formed the Interprofessional Education Collaborative (IPEC) to promote learning experiences in team-based care (IPEC 2020). Members of IPEC include the following organizations:

- ◆ Academy of Nutrition and Dietetics
- ◆ American Association of Colleges of Nursing
- ◆ American Association of Colleges of Osteopathic Medicine
- ◆ American Association of Colleges of Pharmacy
- ◆ American Association of Colleges of Podiatric Medicine
- ◆ American Association for Respiratory Care
- ◆ American Council of Academic Physical Therapy
- ◆ American Dental Education Association
- ◆ American Occupational Therapy Association
- ◆ American Psychological Association
- ◆ American Speech-Language-Hearing Association
- ◆ Association of Academic Health Sciences Libraries
- ◆ Association of American Medical Colleges
- ◆ Association of American Veterinary Medical Colleges
- ◆ Association of Schools and Colleges of Optometry
- ◆ Association of Chiropractic Colleges
- ◆ Association of Schools and Programs of Public Health
- ◆ Association of Schools of Allied Health Professions
- ◆ Council on Social Work Education
- ◆ National League for Nursing
- ◆ Physician Assistant Education Association

Developing, implementing, and assessing interprofessional education, however, presents a number of challenges. Traditionally, medical education has been fragmented into many separate disciplines. To create interprofessional education, training in these disciplines must be unified. However, changing curricula is difficult and costly. Although accrediting organizations for a variety of healthcare education programs now recognize the need for interprofessional teamwork, many still insist on course content, experiences, and competencies specific to each field of study. Educators find it difficult to add content to an already full plate.

In addition, universities rarely offer programs that represent the wide variety of healthcare workers and instead create interprofessional experiences that include only a handful of professions. Medical and nursing students, for example, may come together with a few other professions in an academic medical center. However, they may not include respiratory therapy, medical laboratory sciences, the rehabilitation sciences, and even pharmacy. Creating equal representation among disciplines and finding faculty who can teach across disciplines remains difficult (Schapmire et al. 2018).

ADMINISTRATIVE POSITIONS

Healthcare settings, especially large hospitals and healthcare systems, need a variety of support personnel who are not associated with providing clinical care. For example, network personnel maintain complex information systems. Likewise, housekeeping staff are responsible for ensuring that surgical rooms are sterile and free of infectious agent that might harm patients. Engineers design, build, and maintain specialized biomedical equipment. Security personnel keep buildings and the people in them safe. Executives and managers focus on efficiency, patient and staff safety, and strategic planning to ensure the success of the organization.

MANAGEMENT

Although one might not think of management as support staff, healthcare management spans multiple levels, beginning with frontline supervisors—those who work directly with patient and care providers—to mid-level managers, to senior executives at the local or facility level. In bigger systems, management includes regional managers and system-level senior executives. At the most senior level of leadership, both locally and nationally, governing boards of trustees and a medical executive, such as a chief medical officer, often exist. In some cases, the board is advisory, while in others, the board makes management decisions setting policy and selects and retains the hospital's chief executive officer. To become a successful healthcare leader, one must transition from being a doer of things to a motivator of others to achieve (see sidebar).



BEING A HEALTHCARE LEADER

“When one becomes the senior leader of an organization, there is a big transition from a lifetime of being a ‘doer’ to accomplishing things through other people—effectively becoming the orchestra conductor. The real challenge is to find the best violinist, the best horn player, and the right people to perform in that orchestra and then give them the tools to do what they need to do and take pride and joy in the music that comes out.”

—Marna P. Borgstrom, FACHE, president and CEO of Yale New Haven Health System and CEO of Yale New Haven Hospital, Connecticut (O’Connor 2014)

The role of the hospital executive or *chief executive officer (CEO)* requires competencies in interpersonal skills, communication, information management, financial analysis, leadership, critical thinking, knowledge of the healthcare industry, policymaking, decision-making, strategic planning and more (Calhoun et al. 2002). The American College of Healthcare Executives divides these competencies into five key areas (ACHE 2020):

- ◆ *Communication and relationship management* includes skills in relationship management, communication, facilitation, and negotiation.
- ◆ *Leadership competencies* focus on behavior, organizational climate and culture, communicating a vision, and managing change.
- ◆ *Professionalism* involves personal and professional accountability, continued learning, and contributions to the community and profession.
- ◆ *Knowledge of the healthcare environment* suggests an executive would understand health systems and organizations, personnel, the patient’s perspective, and the community.
- ◆ *Business skills and knowledge* include general management, financial management, human resource management, organizational dynamics and governance, strategic planning and marketing, information management, risk management, quality improvement, and patient safety.

CEOs create a vision for the organization and promote it to key **stakeholders**, who are “individuals or groups that have some investment in an organization or obtain

stakeholder

An individual or group that has some investment in an organization or obtains some benefit from it.

some benefit from it” (Walston 2018, 119). CEOs work extensively with key stakeholders, including employees, physicians, community leaders, government officials, and board members. The *chief operating officer (COO)* and other mid-level executives have the primary responsibility for interpersonal roles and making sure the activity of the organization matches the strategic plan or vision.

The relationship between the CEO and the *chief medical officer (CMO)* is essential to the success of a healthcare organization. The CMO is the liaison between the administration and the physicians who practice at the medical facility. The director deals with issues of professionalism, quality of care, patient satisfaction, medical teaching, malpractice, equipment and capital, and strategic initiatives. Typically, the CMO is a physician who is recruited for his or her competencies and record of accomplishments. The CMO’s primary focus is the welfare of patients and of the doctors, nurses, and other clinicians who care for them (Kossaify, Rasputin, and Lahoud 2013).

Healthcare executives at the senior level most often hold an advance degree, such as a master of health administration (MHA), a master of business administration (MBA), or another master’s degree. Some executives are physicians with a medical degree (MD or DO). Mid-level and frontline managers frequently have bachelor’s degrees. Some have a clinical degree, such as a BSN, and may supervise a hospital department or medical clinic.

A 2019 *Business Insider* article reports the median annual salary of a hospital CEO at \$242,550 (De Luce, Court, and Hoff 2020). CEOs of large healthcare systems make much more. In 2017, the salaries of the top executives at the leading 82 nonprofit healthcare systems averaged \$3.5 million, with the highest-paid CEO making \$21.6 million (Paavola 2019). Individuals who earn a bachelor’s degree and manage a clinical area or department or even the medical practice of a group of physicians had a median salary of \$98,350 in 2017 (BLS 2020).

Filling out the management team are experts in human resource management, health information technology and management, accounting and other financial services, community services, and population health.

SUPPORT SERVICES

Serving alongside the clinical experts and administrators are the many support teams that make up a healthcare system. These include a wide range of departments that are vital to managing the operational and business side of a healthcare organization, such as business and financial services, health information management, supply chain services, housekeeping and maintenance, security, and others.

Business and Finance

Healthcare systems, hospitals, nursing homes, and other large institutions have teams of individuals who work with patient records, determine the care or treatment they received,

and submit bills to insurance plans and patients. They collect on accounts due, manage the funds received, and monitor the entire revenue cycle.

These revenue cycle operations are constantly changing, especially as high-deductible insurance plans and value-based reimbursement models become more common (Murphy 2017). Some healthcare organizations outsource such services to companies that have the resources to keep up with these changes. Many hospitals continue to employ such experts.

The business and finance workforce is made up of individuals with a variety of educational backgrounds, from a high school diploma to a graduate or master's degree, and their salaries vary accordingly. Often, business and finance staff members have a bachelor's degree in finance or accounting. Many healthcare administrative careerists get their start in this field.

The person who leads the business and finance area is generally called the *chief financial officer (CFO)* or the (executive) vice president for finance. The CFO manages all the financial and business office functions of a hospital or healthcare system and generally participates as a member of the senior leadership team.

Health Information Management

Once called medical records technology, health information management has evolved with the creation of electronic health records (EHRs). Typically, the *chief information officer (CIO)* or *chief technical officer (CTO)* oversees these and other health information technology (IT) systems within an organization. These individuals are not only technology experts—many of whom have advanced degrees—but also experienced innovators who are responsible for transforming health IT within organizations. Health information management today is moving away from the legacy IT infrastructures of the late twentieth century to what some call the four pillars of digital transformation, known as SMAC: social, mobile, analytics, and cloud computing (Sullivan and Miliard 2018) (see sidebar).

Health Informatics

Many healthcare providers provide health informatics, also known as health information systems support. These personnel use technology to aggregate and analyze data from health records to produce better health outcomes. Healthcare informatics bring together “healthcare sciences, computer science, information science, and cognitive science” to manage healthcare information (Sweeney 2017). Informatics specialists exist in many areas of healthcare, including pharmacy, nutrition, and nursing.

THE CLOUD

IT continues to evolve, and one reason is the move to cloud computing. “Going out to the cloud for analytics, clinical decision support, EHRs, not to mention a raft of mobile apps and social networks, might seem like something everybody does nowadays but it’s still a radically different model than IT departments packed with software architects and programmers building proprietary programs or keeping massive databases and enterprise apps up and running” (Sullivan and Miliard 2018).

Other Support Services

The workforce that is employed to keep facilities running varies from organization to organization. The maintenance of buildings and grounds is vital. Services such as waste management, laundry, and nutrition or food services are sometimes provided onsite and sometimes outsourced. The Centers for Disease Control and Prevention notes the important function of these services in infection control and patient safety. Everything from exhaust ventilation to cleaning spills to disinfecting of surgical rooms is vital (CDC 2019). Occupational safety experts work to prevent injuries to healthcare workers from the accidental poke of a contaminated needle or lifting a heavy patient from a bed to a wheelchair. They are responsible for ensuring that the buildings and equipment are safe, which includes adherence to life safety codes and fire protection. Security teams are common in today's hospitals to protect staff and patients from physical harm.

Education and experience in these services produces good leaders who run departments. Workers often receive on-the-job training. Some require professional licensure, as in the case of electricians, plumbers, and similar skilled trades workers.

SUMMARY

A variety of professionals put their skills and passions to work in healthcare. Jobs in healthcare have a wide range of educational requirements: While some occupations require only a high school education, others required many years of highly specialized training. Likewise, salaries range from minimum wage to six- or seven-figure incomes.

Jobs in healthcare can be divided into two categories: clinical care positions and administrative positions. Clinical care positions include physicians, physician extenders (nurse practitioners and physician assistants), nurses, and allied health professionals. These professionals all work directly with patients. Administrative positions include management and administration, business and finance, health information management, health informatics, and other support services, such as housekeeping, maintenance, and dietary services.

A diverse healthcare workforce requires teamwork and communication to provide high-quality patient care and ensure good health outcomes. To reinforce this need for cooperation, many schools and training programs have joined forces to give students interprofessional team experiences before they enter the workforce.

Healthcare occupations are among the fastest-growing jobs in the United States, projected to increase 18 percent from 2016 to 2026, according to the US Bureau of Labor Statistics. The aging of the US population will only increase the demand for healthcare. Clearly, the many professions within the health industry continue to be dynamic and growing, offering opportunities for many different individuals.

QUESTIONS

1. Give three examples of clinical professions and describe the tasks they perform.
2. What are the two types of physician extenders, and what are their roles?
3. Give three examples of allied health professions and describe the tasks they perform.
4. List a few examples of healthcare management positions and the responsibilities of each.
5. Outline the educational requirements for physicians, nurses, five allied health positions of your choice, a hospital CEO, and a chief medical officer.
6. Research current salaries for physicians, nurses, five allied health positions of your choice, and a hospital CEO. What accounts for the differences their salaries?
7. Why is interprofessional teamwork important in healthcare?
8. What effect will the aging US population have on the demand for healthcare professionals?
9. How do the roles of the chief executive officer (CEO) and chief operating officer (COO) differ?
10. Describe the job of the chief medical officer. How does this position relate to the management of healthcare?

ASSIGNMENTS

1. Research a small hospital located in a rural setting and a larger one located in an urban setting. Compare and contrast the workforces of the two hospitals. Specifically, consider the following:
 - a. What types of physicians (specialties) practice in the two facilities?
 - b. Which support services are provided in house, and which are outsourced?
 - c. How do the management structures of the two hospitals differ? List the top leadership positions and the number of department heads. Does each hospital have a medical director and a board of trustees?
2. Research a physician clinic that provides multiple services. What kinds of professions are employed in that clinic?
3. Describe the healthcare professions that meet the following criteria:
 - a. Two years of college or less, takes care of patients
 - b. High school education, takes care of patients (you might need to do a little research for this one)
 - c. Many years of education, does not give direct patient care
 - d. Training in a skilled trade, does not give direct patient care
 - e. Works directly with patients and might be part of a team

CASES

OLIVIA'S STAFFING DILEMMA

Olivia Lee is suffering from burnout. Dr. Kritcher has just left her office, complaining loudly that his nurse is gone. She is taking some vacation time, and he does not like “that other nurse” who is now working with him. She is unfamiliar with his way of doing things. He wants his nurse back!

Lee has been the manager of a large outpatient center for only two years, and during that time, she has had to constantly deal with staffing issues. Hiring and retaining new staff is hard enough. Filling short-term vacancies because of vacations, staff illness, pregnancy or child care needs, and short-term disability is especially difficult. When workers are gone, she receives complaints from physicians and other staff members who are overworked. Overtime, in some cases, has led to high costs. She could use temporary help from float pools or groups of individuals who could fill in as needed, but this option very expensive.

Lee has some other options: She could hire extra staff and send them home when the patient load decreases. Another option would be to cross-train staff where possible. For example, a medical assistant could learn the duties of a receptionist or clerk.

Lee is unsure what to do. She has a meeting scheduled with the clinic's CEO two days from now, and she wants to have a plan ready to present. She needs to show that she can maintain costs and still cover the clinic's patient care needs.

Discussion Questions

1. With a small group of classmates, discuss the staffing options open to Lee. What are the pros and cons of each option?
2. What information does Lee need when she meets with her supervisor?
3. How might Lee reduce some of her job stress?

STAFFING A SKILLED NURSING FACILITY

When Conrad Hayden sat in his classes at the local university, he imagined that his job as a nursing home administrator would involve walking the floors and visiting with patients. His grandfather was currently in such a facility, and Conrad liked to visit him. He felt comfortable in that setting, and he was looking forward to his chosen career.

A year later, Conrad was in the middle of his Administrator-in-Training program, which involved 1,000 hours of on-the-job training required by his state for licensure. His training included experience in areas such as patient care, health maintenance, social and psychological needs, food service program, recreational and therapeutic recreational activities, medical records, pharmaceutical programs, personnel management, grievance procedures,

personnel policies, and financial management. He learned a great deal about regulation and working with the many government agencies that survey nursing homes to keep them safe.

Conrad began to see that as an administrator, he would spend much of his time working with staff and addressing personnel needs. In particular, he learned that one of the biggest challenges in long-term care is staff turnover.

Discussion Questions

1. What types of healthcare professionals might be found in a skilled nursing facility? (Note: Chapter 5 of this book deals with long-term care.)
2. Why are turnover rates higher for some positions than others?
3. What would you do to decrease turnover rates among these staff members?

Challenge

Visit with a local nursing home administrator and find out what the biggest staffing challenges are. Find out how much time the administrator spends on recruiting new staff and is done to retain them.

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