

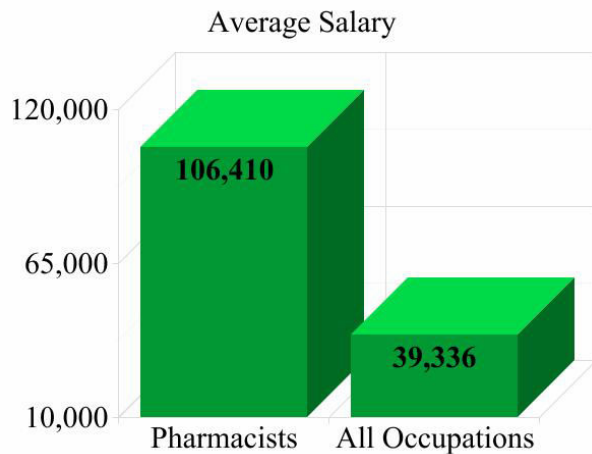
# Pharmacists

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## WHAT THEY DO

Pharmacists distribute prescription drugs to individuals. They also advise their patients, physicians, and other health practitioners on the selection, dosages, interactions, and side effects of medications, as well as monitor the health and progress of those patients to ensure that they are using their medications safely and effectively. Compounding—the actual mixing of ingredients to form medications—is a small part of a pharmacist's practice, because most medicines are produced by pharmaceutical companies in standard dosages and drug delivery forms. Most pharmacists work in a community setting, such as a retail drugstore, or in a healthcare facility, such as a hospital.

Pharmacists in community pharmacies dispense medications, counsel patients on the use of prescription and over-the-counter medications, and advise physicians about medication therapy. They also advise patients about general health topics, such as diet, exercise, and stress management, and provide information on products, such as durable medical equipment or home healthcare supplies. In addition, they often complete third-party insurance forms and other paperwork. Those who own or manage community pharmacies may sell non-health-related merchandise, hire and supervise personnel, and oversee the general operation of the pharmacy. Some community pharmacists provide specialized services to help patients with conditions such as diabetes, asthma, smoking cessation, or high blood pressure. Some pharmacists are trained to administer vaccinations.



Pharmacists in healthcare facilities dispense medications and advise the medical staff on the selection and effects of drugs. They may make sterile solutions to be administered intravenously. They also plan, monitor, and evaluate drug programs or regimens. They may counsel hospitalized patients on the use of drugs before the patients are discharged.

Some pharmacists specialize in specific drug therapy areas, such as intravenous nutrition support, oncology (cancer), nuclear pharmacy (used for chemotherapy), geriatric pharmacy, and psychiatric pharmacy (the use of drugs to treat mental disorders).

Most pharmacists keep confidential computerized records of patients' drug therapies to prevent harmful drug interactions. Pharmacists are responsible for the accuracy of every prescription that is filled, but they often rely upon pharmacy technicians to assist them in the dispensing medications. Thus, the pharmacist may delegate prescription-filling and administrative tasks and supervise their completion. Pharmacists also frequently oversee pharmacy students serving as interns.

## EDUCATION REQUIRED

Pharmacists who are trained in the United States must earn a Pharm.D. degree from an accredited college or school of pharmacy. The Pharm.D. degree has replaced the Bachelor of Pharmacy degree, which is no longer being awarded. To be admitted to a Pharm.D. program, an applicant must have completed at least 2 years of specific professional study. This requirement generally includes courses in mathematics and natural sciences, such as chemistry, biology, and physics, as well as courses in the humanities and social sciences. In addition, most applicants have completed 3 or more years at a college or university before moving on to a Pharm.D. program, although this is not specifically required.

Pharm.D. programs generally take 4 years to complete. The courses offered are designed to teach students about all aspects of drug therapy. In addition, students learn how to communicate with patients and other healthcare providers about drug information and patient care. Students also learn professional ethics, concepts of public health, and business management. In addition to receiving classroom instruction, students in Pharm.D. programs spend time working with licensed pharmacists in a variety of practice settings.

Some Pharm.D. graduates obtain further training through 1-year or 2-year residency programs or fellowships. Pharmacy residencies are postgraduate training programs in pharmacy practice and usually require the completion of a research project. The programs are often mandatory for pharmacists who wish to work in a clinical setting. Pharmacy fellowships are highly individualized programs that are designed to prepare participants to work in a specialized area of pharmacy, such as clinical practice or research laboratories. Some pharmacists who own their own pharmacy obtain a master's degree in business administration (MBA). Others may obtain a degree in public administration or public health.

## Pharmacists - Continued

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### OTHER USEFUL SKILLS

Prospective pharmacists should have scientific aptitude, good interpersonal skills, and a desire to help others. They also must be conscientious and pay close attention to detail, because the decisions they make affect human lives.

### HOW TO ADVANCE

In community pharmacies, pharmacists usually begin at the staff level. Pharmacists in chain drugstores may be promoted to pharmacy supervisor or store manager. Some pharmacists may be promoted to manager at the district or regional level and, later, to an executive position within the chain's headquarters. Hospital pharmacists may advance to supervisory or administrative positions.

### WORK ENVIRONMENT

Pharmacists work in clean, well-lighted, and well-ventilated areas. Many pharmacists spend most of their workday on their feet. When working with sterile or dangerous pharmaceutical products, pharmacists wear gloves, masks, and other protective equipment.

Most pharmacists work about 40 hours a week, but about 12 percent worked more than 50 hours per week in 2008. In addition, about 19 percent of pharmacists worked part-time. Many community and hospital pharmacies are open for extended hours, so pharmacists may be required to work nights, weekends, and holidays.

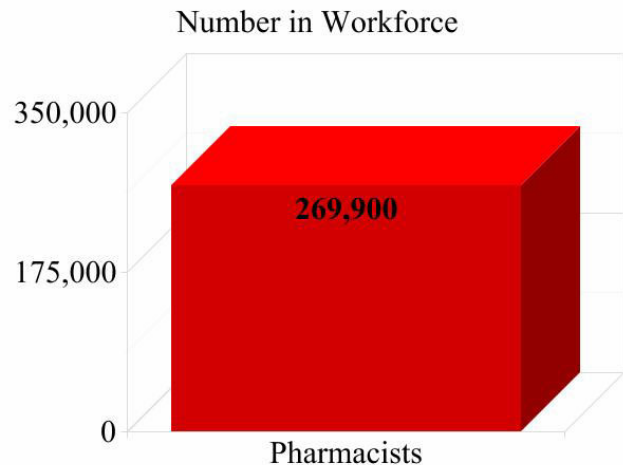
### CERTIFICATION NEEDED

A license to practice pharmacy is required in all States and the District of Columbia, as well as in Guam, Puerto Rico, and the U.S. Virgin Islands. To obtain a license, a prospective pharmacist generally must obtain a Pharm.D. degree from a college of pharmacy that has been approved by the Accreditation Council for Pharmacy Education. After obtaining the Pharm.D. degree, the individual must pass a series of examinations. All States, U.S. territories, and the District of Columbia require the North American Pharmacist Licensure Exam (NAPLEX), which tests pharmacy skills and knowledge. Forty-four States and the District of Columbia also require the Multistate Pharmacy Jurisprudence Exam (MPJE), which tests pharmacy law. Both exams are administered by the National Association of Boards of Pharmacy (NABP). Each of the eight States and territories that do not require the MJPE has its own pharmacy law exam.

### JOB GROWTH

Employment of pharmacists is expected to grow by 17 percent between 2008 and 2018, which is faster than the average for all occupations. The increasing numbers of middle-aged and elderly people—who use more prescription drugs than younger people—will continue to spur demand for pharmacists throughout the projection period. In addition, as scientific advances lead to new drug products, and as an increasing number of people obtain prescription drug coverage, the need for these workers will continue to expand.

Pharmacists also are becoming more involved in patient care. As prescription drugs become more complex, and as the number of people taking multiple medications increases, the potential for dangerous drug interactions will grow. Pharmacists will be needed to counsel patients on the proper use of medication, assist in drug selection and dosage, and monitor complex drug regimens. This need will lead to rapid growth for pharmacists in medical care establishments, such as doctors' offices, outpatient care centers, and nursing care facilities.



Demand also will increase in mail-order pharmacies, which often are more efficient than pharmacies in other practice settings. Employment also will continue to grow in hospitals, drugstores, grocery stores, and mass retailers, because pharmacies in these settings will continue to process the majority of all prescriptions and increasingly will offer patient care services, such as the administration of vaccines.

Job prospects are expected to be excellent over the 2008–18 period. Employers in many parts of the country report difficulty in attracting and retaining adequate numbers of pharmacists—primarily the result of the limited training capacity of Pharm.D. programs. In addition, as a larger percentage of pharmacists elects to work part time, more individuals will be needed to fill the same number of prescriptions.