

Pharmacy Careers

The following information was taken from the websites of the American Association of Colleges of Pharmacy, American Society of Health System Pharmacists, and the Department of Labor, Bureau of Labor Statistics, Pharmacy Careers.

Most people think of pharmacists when they get sick and they need to fill a prescription at their community pharmacy or to have drug-related questions answered. But that is just a small part of an extensive list of things that pharmacists are qualified to do. Besides working in the community, a pharmacist can work in a hospital, home health care, nursing homes, organizations, pharmaceutical research companies, government health agencies, and higher education among others.

Although pharmacists do not have the most visible job in health care they are a critical element to the delivery of quality patient care. The pharmacy profession, like all other health care professions, is in the midst of a severe shortage, which has left the profession overtapped.

There are career opportunities for pharmacists in hospitals, long-term care facilities, home health centers, and clinics. Some 50,000 chain and independent pharmacy retailers, department stores, and supermarkets across the United States operate pharmacy operations where qualified pharmacy professionals are working.

Pharmacy — A Prescription for a Rewarding Career

Why Pharmacy?

- A well-rounded career. Pharmacy is an exciting blend of science, health care, direct patient contact, computer technology, and business.
- A vital part of the health care system. Pharmacists play a vital role in improving patient care through the medicine and information they provide.
- Excellent earning potential. Pharmacy is one of the most financially rewarding careers.
- Outstanding opportunities. There is an unprecedented demand for pharmacists in a wide variety of occupational settings.

- A trusted profession. Pharmacists are consistently ranked as one of the most highly trusted professionals because of the care and service they provide. (*According to data by Gallup International*)
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Did You Know?

- Pharmacy is the third largest health profession in the US?
 - Pharmacists play a vital role in improving patient care through the medicine and information they provide?
 - Pharmacists are consistently ranked as one of the most highly trusted professionals because of the care and service they provide?
 - There is an unprecedented demand for pharmacists?
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What do hospital pharmacists do?

Hospital pharmacists advise other health professionals about the actions, interactions, and side effects of drugs, and counsel patients about medications. They may help select the medications the hospital will use, manufacture preparations, dispense prescription drugs, and handle special products like radioactive medicines, artificial kidney fluid, and plastic inserts. Many hospital-based pharmacists also are administrators and influential members of important committees.

Clinical pharmacists promote appropriate, effective and safe medication use for patients within the hospital. By working as part of a health care team, they are able to closely monitor patient drug therapy and make recommendations on the selection of the best medication for a patient's condition, the correct dose and duration of therapy. Clinical pharmacists can specifically tailor the medication choice or dose- form to be most appropriate for the patient."

Pharmacists are available to advise doctors, nurses and other hospital staff on any medication issues. They provide advice on the effects, administration, availability, cost and Pharmaceutical Benefits Scheme (PBS) status of drugs. Valuable information resources are available in the department and may be accessed by all hospital staff.

By working closely with nursing staff, pharmacists can make it easier for patients to take medicine or make complicated administration regimens less complex. Pharmacists regularly present education sessions to nursing staff on a wide range of topics.

While responsibilities vary among the different areas of pharmacy practice, the bottom line is that pharmacists help patients get well. Pharmacist responsibilities include a range of care for patients, from dispensing medications to monitoring patient health and progress to maximize their response to the medication. Pharmacists also educate consumers and patients on the use of prescriptions and over-the-counter medications, and advise physicians, nurses, and other health care professionals on drug decisions.

Pharmacists also provide expertise about the composition of drugs, including their chemical, biological, and physical properties and their manufacture and use. Pharmacists ensure drug purity and strength and make sure that drugs do not interact in a harmful way. They are the drug experts ultimately concerned about their patients' health and wellness.

- Advise doctors on the choice and dose of medication, ensuring that the least number of medications necessary for treatment are used,
- Monitor and report side effects caused by medications,
- Anticipate problems that may occur when two or more medications are used together,
- Advise nurses on how to give medications. Some medications don't taste the best. We can suggest options to improve their acceptance.
- Dispense medications for both inpatients and outpatients.
- Provide up-to-date information about medications to doctors, nurses, other hospital staff. We answer drug-related questions, write guidelines, prepare bulletins, etc.
- Prepare sterile medications under special conditions (e.g. intravenous medications, anticancer medications, eye drops).
- Coordinate, prepare and monitor intravenous feed formula (parenteral nutrition) for those patients unable to take food otherwise.
- Manufacture other special products, e.g. creams, mixtures, suppositories.
- Advise on the selection of new medications for the hospital.

- Help design and run trials to evaluate new medications.
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Nursing Home and Extended Care Facility Pharmacy

Pharmacists who work in nursing homes and extended care facilities provide prescription service for patients, and they consult with other health professionals who care for the patients. As consultants they review patient charts for correct dosages, drug interactions, adverse reactions, or side effects. They may counsel patients about their medications.

Community Pharmacy

Community pharmacists are charged with the safe and efficient distribution of prescription medications, advising patients on the proper use of their prescription and non-prescription medication use and keeping the records of patients and their health, illnesses, and medications. These pharmacists are the most visible branch of practice and there are approximately 50,000 community pharmacists in the United States.

Community pharmacists also provide information and advice about medications to physicians and other health professionals. In addition, community pharmacists increasingly provide pharmacy services and supplies to the growing number of patients who receive health care at home, and they are actively involved in community service.

Industrial Pharmacy

Pharmacists in pharmaceutical manufacturing may work in research, and development, testing of medications in humans, production systems, quality control, government regulations, marketing, public relations, sales, and management. Pharmacists who work in the pharmaceutical industry often need an additional postgraduate degree, such as a master's or a Ph.D. degree.

Academic Pharmacy

Perhaps no other job in pharmacy has such far-reaching effects on the profession as that of an educator. It is in academia that one can excite individuals about pharmacy and lay the groundwork for continuing advances in the field. Over 3,000 full-time faculty

members work in the nation's colleges and schools of pharmacy. They are involved with teaching, research, public service, and patient care. Others serve as consultants for local, state, national, and international organizations. Becoming a member of the faculty at a college of pharmacy usually requires a postgraduate degree and/or training (e.g., Ph.D. degree or residency or fellowship training following the professional degree program). There currently exists a shortage of pharmacy faculty, creating an array of excellent professional opportunities.

Advanced Pharmacy Careers

Doctor of Pharmacy or Pharm.D. graduates can work as drug information specialists in a hospital or other health care organizations. They also can work for the Food and Drug Administration, the Drug Enforcement Administration, the Veterans Administration, the Public Health Service, the Armed Forces, the National Institutes of Health, and many other government agencies. Pharm.D. graduates find ample practice opportunities in managed care organizations, home health care agencies and general and specialized clinics.

Pharmacists, in and out of the community pharmacy, are specialists in the science and clinical use of medications. They are knowledgeable about the composition of drugs, their chemical and physical properties, and their manufacture and uses, as well as how products are tested for purity and strength. Additionally, a pharmacist needs to understand the activity of a drug and how it will work within the body. More and more prescribers rely on pharmacists for information about various drugs, their availability, and their activity, just as patrons do when they ask about nonprescription medications.

The principal goal of pharmaceutical care is to achieve positive outcomes from the use of medication which improves patients' quality of life. These outcomes include:

- cure of a disease;
- elimination or reduction of symptoms;
- arresting or slowing a disease process;
- prevention of disease;
- diagnosis of disease; and

- desired alterations in physiological processes, all with minimum risk to patients.
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The Job Market and Salary

The Department of Health and Human Services (HHS) released a report in 2000 titled "The Study of the Supply and Demand for Pharmacists" to determine to what extent a shortage of pharmacists exists. The report concludes that there is an increasing demand for pharmacists' service that is outpacing the current and future pharmacist supply. The report also states that factors causing the shortage are not likely to abate in the near future. According to the Bureau of Labor Statistics, half of all pharmacists made between \$66,210 and \$87,250 a year in 2002. The lowest 10 percent made less than \$54,100. The highest 10 percent earned more than \$94,570 a year.

Becoming a Pharmacist

Here are some things to think about when considering a career in pharmacy. Typically, one should consider both the steps involved in the process of becoming a pharmacist as well as the career options available to pharmacists. Even more importantly, you must consider the responsibilities and qualifications of a pharmacist relative to your own abilities.

An excellent source of information which may help you investigate these considerations is a booklet entitled "Shall I study Pharmacy?" published by the American Association of the Colleges of Pharmacy (AACP). This booklet is available from the AACP web site in PDF format.

When Looking for a College, Start by Looking at Yourself : Successful College Searches Begin With Knowing Who You Are

(from Peterson's Guides online)

Your Future in Pharmacy Begins with Education

A balanced and comprehensive high school and college education is an important first step in the pursuit of a professional degree in

pharmacy, especially in the areas of math and science. The Doctor of Pharmacy (Pharm.D.) degree program requires at least two years of pre-professional (undergraduate) study followed by four academic years of professional study. The majority of first-year students enter a pharmacy program with three or four years of college experience. The requirements for admission into a pharmacy program vary.

Don't delay find out more today!

Visit the American Association of Colleges of Pharmacy web site for more information about career opportunities and links to all U.S. colleges and schools of pharmacy. <http://www.aacp.org>

High School Preparation for a Career in Pharmacy

A solid education in high school science and math classes is essential for studying pharmacy. Science classes are good preparation for or the advanced science courses required in the Doctor of Pharmacy (Pharm.D.) degree curriculum. Courses in biology, chemistry, physics, and mathematics are especially desirable.

High school students considering a career in pharmacy should also have good written and verbal communication skills. Prospective pharmacy students are encouraged to take college preparatory classes in areas such as literature, history, government, and humanities in order to become well-rounded individuals. These skills will help create an educational foundation on which to grow. Contrary to popular belief, Latin, while helpful in many aspects, is not essential for admission to pharmacy school.

Colleges and schools of pharmacy, in considering applicants for admission, may give attention to the relative position of students within their class-near the top, in the middle group, or near the bottom. Although colleges of pharmacy are interested in enrolling students who have demonstrated exceptional work in school, they are also interested in students who demonstrate potential for contributing to the profession.

The classes required for admission into a pharmacy program vary significantly from one institution to the next. Due to the variations in admission requirements and procedures among the colleges and

schools of pharmacy, it is advisable for high school students to research different pharmacy programs. In some cases, high school counselors or college advisors may have the necessary information. The pharmacy programs will be pleased to supply details concerning admission or curriculum. School specific information is also available in the AACP publication, "Pharmacy School Admission Requirements" (PSAR). The on-line version of the PSAR is available for free on the AACP web site.

In addition to academic preparation, high school students should evaluate their personal qualifications to meet pharmacy's demands for judgment, dependability, and conscientious performance. Pharmacists must be able to pay attention to detail. As with others on the health care team, the pharmacist's decisions and actions effect human life and well-being. Pharmacists, by law, are entrusted with the proper handling and dispensing of potentially dangerous and habit-forming substances. They must have high ethical standards, communicate well with patients and other health care providers, maintain reliable records, and be knowledgeable about existing and new medications on the market to ensure each patient has optimal drug therapy results.

College Preparation for a Career in Pharmacy

The Pharm.D. degree program requires at least 2-years of specific pre-professional (undergraduate) coursework followed by 4-academic years (or 3-calendar years) of professional study. Pharmacy colleges and schools may accept students directly from high school for both the pre-pharmacy and pharmacy curriculum, or after completion of the college course prerequisites. The majority of students enter a pharmacy program with 3 or more years of college experience. College graduates who enroll in a pharmacy program must complete the full 4-academic years (or 3-calendar) years of professional study to earn the Pharm.D. degree. The AACP does not track the availability of accelerated programs of study for individuals with a baccalaureate degree in a related health career or science field.

You are not required to major in "pre-pharmacy" to be eligible for admission to pharmacy school. Chemistry is the most common major for pharmacy applicants because the course prerequisites for pharmacy are incorporated into the standard chemistry

curriculum. Pharmacy students, however; come from a wide variety of educational backgrounds, including those who majored in English, business, communications, biology, etc. If the pharmacy prerequisite courses are not required as part of your undergraduate major, you will need to complete these courses as electives. Contact pharmacy programs directly to determine whether classes the admissions office distinguishes between classes taken at a community college versus a four-year university or college.

Approximately half of all pharmacy programs require applicants to submit scores from a standardized test known as the Pharmacy College Admission Test (PCAT). To determine which colleges and schools require the PCAT, review Table 9 of the PSAR handbook.

Mid-Atlantic Schools of Pharmacy: Maryland, Pennsylvania, and the District of Columbia

Maryland

University of Maryland
20 North Pine Street Baltimore, MD 21201-1180
410-706-7651

While the state of Maryland has only one school of pharmacy, there are programs that are being offered in neighboring states

District of Columbia

Howard University College of Pharmacy
2300 Fourth Street, NW
Washington, DC 20059
(202) 806-6530

Pennsylvania

Duquesne University
Mylan School of Pharmacy
Pittsburgh, PA 15282
(412) 396-6380

Philadelphia College of Pharmacy and Science
600 South 43rd Street

Philadelphia, PA 19104-4495
(215) 596-8800

Temple University of the Commonwealth System of Higher
Education
School of Pharmacy
3307 North Broad Street
Philadelphia, PA 19140
(215) 707-3678

University of Pittsburgh School of Pharmacy
1104 Salk Hall
Pittsburgh, PA 15261
(412) 624-3270

Wilkes University School of Pharmacy
P.O. Box 111
Wilkes Barre, PA 18766
(717) 831-4823

Search for other Schools of Pharmacy at
[Thomson — Peterson's](#) - The leader in college search, test prep,
and financial aid
<http://iiswinprd03.petersons.com/>

Additional Resources

Handouts, slides, brochures, reports, and videos regarding
pharmacy education and careers at the American Association of
Colleges of Pharmacy's Web site <http://www.aacp.org/>

Financial Aid information at
American Association of Colleges of Pharmacy's Web site
<http://www.aacp.org/>
Thomson—Peterson's Web site
<http://iiswinprd03.petersons.com/finaid/>

The Seed Grant Program on the American Society of Health-
System Pharmacists' Web site
<http://www.ashp.org/student/>

Tool Kit
"Shall I study Pharmacy?" published by the American Association

of the Colleges of Pharmacy (ACCP) (PowerPoint slide presentation)
ia also available at <http://www.aacp.org/>
FAQs
<http://www.aacp.org/>

Source

<http://www.marylandhealthcareers.org/html/student/pharmacy.main.html>