



Iowa's Doctor of Pharmacy Educational Programs Leading to Licensure as a Pharmacist

The State of Iowa is the home to two colleges of pharmacy, one at Drake University and the other at The University of Iowa. Although there are differences between the two colleges, both work within the same professional accreditation framework to educate health professionals who will serve as integral members of patient-centered health care teams. The programs require a minimum of six years of education. Four of these years are in the professional Doctor of Pharmacy (Pharm.D.) program following a minimum of two years of preparatory work prior to entry. A large percentage of graduates have attained another degree prior to beginning the Pharm.D. program.

Pharmacists have **two fundamental roles** in society. The first is to **protect the nation's medication supply**. Under this responsibility pharmacists assure that the public has appropriate and timely access to needed medications. This we call medication dispensing. The second is to **optimize a patient's health by assuring appropriate use of medications** while minimizing negative effects that can occur from prescription and nonprescription drugs. It is well known that medications can have powerful effects that can create positive outcomes, but they are also capable of causing patient harm and even death. Working with patients and the health care team to optimize medication-related outcomes is what we call medication therapy management. The colleges of pharmacy in Iowa educate health professionals devoted to protecting the public in both roles, especially in regard to medication therapy management which dramatically affects patient health care quality, costs and safety.

All course work and experiential activities leading to the Pharm.D degree are designed to provide students with the knowledge, skills, and abilities to manage the nation's drug supply and patients' medication therapy. Students engage in course work, simulated laboratory experiences, and real-world, hands-on activities alongside Iowa pharmacists, physicians and other health care practitioners to prepare for careers where their medication expertise can be utilized to improve societal health.

Throughout the first three years of their course of study, student pharmacists complete more than 100 credit hours in coursework, simulations, laboratories, and pharmacy practice experiences (which includes 300 clock hours of service-learning, professional engagement, and patient care). Student pharmacists become **medication experts** as they develop knowledge and skills in the following:

- Mechanisms of action, side effects, drug-drug and food-drug interactions.
- Appropriate medication selection, dosage requirements, dosage form selection, and monitoring of patients.
- Patient care skills including patient assessment, communication, counseling, drug information, and team work.
- Professionalism, empathy, and cultural competency.

Along with their on-campus experiences, student pharmacists develop skills by working with pharmacists providing care in both community and hospital settings, giving immunizations, counseling patients, and participating in health fairs and screenings.

During the intense final year of their program, student pharmacists are engaged at least 40 hours/week for over 1400 hours in practical education providing care in a variety of patient-care practices. Students work with faculty and practicing pharmacists alongside physicians and other health care practitioners providing patient care and developing

skills to contribute to team-based care upon graduation. During most of the 5 week experiences students work to improve patients' medication utilization (i.e. compliance or adherence), assist with medication changes to decrease side effects, improve therapy and/or save money, and help to educate other providers in the appropriate use of medications.

The State of Iowa benefits from two established colleges of pharmacy that educate students to provide patient care. These programs continually monitor the health care environment to develop curricula and experiences that prepare student pharmacists to improve the health of Iowans through timely and accurate dispensing and medication therapy management.

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