

Credentials for a PharmD graduate: The voyage never ends

SAGE Open Medicine
3: 2050312115584228
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/2050312115584228
smo.sagepub.com


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Abstract

Doctor of Pharmacy (PharmD) is a professional pharmacy degree qualification offered by universities world-wide. While the graduates from the West are familiar with scope and job opportunities that present on completion of a PharmD degree, graduates from Asia and the Middle-East are coming to grips with the future of PharmD program and the role that it could play in career advancement. Through this review, we would like to highlight that numerous credential programs are available which can be added to the armory of PharmD graduates for advancement of their professional careers. The credentials detailed in this review are designed for PharmD graduates to optimize pharmaceutical care in specialized clinical settings such as geriatrics and ambulatory medicine. We have assembled an extensive list of post-PharmD educational opportunities to enhance professional practice for pharmacy graduates.

Keywords

PharmD, doctor of pharmacy, credentials

Date received: 28 October 2014; accepted: 31 March 2015

Overview

Doctor of Pharmacy (PharmD) is a professional pharmacy degree qualification offered by most universities world-wide. While the graduates from the West are familiar with scope and job opportunities that present on completion of a PharmD degree, graduates from Asia and the Middle-East are coming to grips with the future of PharmD program and its role in career advancement. The aim of this review is to provide an overview of credentials that would enable the pharmacist to get specialized training in a clinical setting to optimize pharmaceutical care.

The PharmD curriculum is notably a structured academic program that integrates clinical practice and therapeutics into its curriculum. It is designed to ensure that a clinical pharmacist possesses all relevant clinical skills and therapeutic knowledge to thrive in a patient-centered care setting.

The two terms “credential” and “credentialing” are derived from the Latin word “*credere*” which means “to trust,” “to believe,” or “to entrust.” In the healthcare settings, credentials are closely related to the idea of credentialing and privileging whereby practitioners are granted expanded authority (within their scope of practice) to practice at a higher or more advanced level. The main scope of a credentialing process is to deliver optimal pharmaceutical care in a desired clinical setting.¹ In order to maintain high standards of contemporary

practice, pharmacists have to undergo continuing professional development of education and training and attain relevant competencies to be able to work in collaborative healthcare teams. Some of the major pathways for pharmacists to attain competence to provide patient care services are through post-licensure education, certification, and training. Estimate shows that by 2020, there will be over 300,000 pharmacists available in the workforce that leads to a 29% increase in the pharmacy workforce as compared to 2007.²

Majority of the credentials are accredited by the Council on Credentialing in Pharmacy (CCP).³ The CCP founded in 1999 consists of a coalition of 11 national pharmacy organizations devoted to provide guidance, leadership, and public information for conducting relevant pharmacy credentialing programs. Current member organizations of CCP are as follows:

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- American Association of Colleges of Pharmacy (AACCP) (<http://www.aacp.org>);
- American College of Clinical Pharmacy (ACCP) (<http://www.accp.com>);
- Accreditation Council for Pharmacy Education (ACPE) (<http://www.acpe-accredit.org>);
- Academy of Managed Care Pharmacy (AMCP) (<http://www.amcp.org>);
- American Pharmacists Association (APhA) (<http://www.aphanet.org>);
- American Society of Consultant Pharmacists (ASCP) (<http://www.ascp.com>);
- American Society of Health-System Pharmacists (ASHP) (<http://www.ashp.org>);
- Board of Pharmacy Specialties (BPS) (<http://www.bpsweb.org>);
- Center for Pharmacy Practice Accreditation (CPPA) (<http://www.pharmacypracticeaccredit.org/>);
- Commission for Certification in Geriatric Pharmacy (CCGP) (<http://www.ccgp.org>);
- Pharmacy Technician Educators Council (PTEC) (<https://www.pharmacytecheducators.com/>).

Discussion

The purpose of this review is to create awareness among the blooming buds of pharmacy profession about the never ending voyage of their pharmacy career. From the wide range of enlisted credentials on broad disciplines (Table 1), a student could plan career in their early stage of pharmacy education. A recent study reported that 34% of the total final year PharmD participants revealed a desire to pursue additional degree(s) after graduation.⁴ However, there is paucity in the literature about the information on add-on credentials for pharmacy professionals. Credentials and post-licensure training programs are mainly developed based on core competencies relevant to areas of specialized practice and are accredited by organizations that embrace principles and practices of quality, integrity, and validation.⁵ Through this review, we have assembled an extensive list of post-PharmD educational opportunities for pharmacists to enhance their professional practice.^{6,7} An outline of these credentials is depicted in Table 1. These credentials are designed for PharmD graduates to attain additional expertise and to optimize pharmaceutical care in specialized clinical settings including, but not limited to, geriatrics, psychiatry pharmacy, oncology pharmacy, and ambulatory medicine.

The purpose of a credentialing program is to assure stakeholders of certain privileges that the healthcare professional being considered for specific services is in agreement to the organization's need based on specific competencies and experience. CCP has recognized guiding principles for post-licensure credentialing of pharmacists.³ The principles clearly state the importance of credentialing programs based on societal or patient need achieved through professional

education, certification, postgraduate education, and training. Moreover, CCP recommends all programs should include assessments that measure the attainment of the required level of competence.¹ This would help the employers to assure the standard of each credentialing programs. The CCP published an article entitled "Scope of contemporary pharmacy practice: roles, responsibilities, and functions of pharmacists and pharmacy technicians." This article provides a detailed guide to pharmacist and other stakeholders about the postgraduate pharmacy education, certificate training programs, and board certification that pharmacists are presently engaged in to establish competence and experience in provision of direct patient care services.²⁸

We believe a certification works well with pharmacy profession's evolving status. An example is BPS certification in nutrition allows pharmacy graduates to expand their responsibilities to patients requiring customized and specialized nutritional care. The certification adds credibility and confidence for pharmacists to optimize clinical care in these settings. Similar examples have been cited in oncology and psychiatry pharmacy. Increasingly, medical specialists at community hospitals are requesting pharmacist specialists in these areas because of the complexity of clinical care involved.²⁵ Although this review does not describe the admission criteria or the study duration, the highlighted references of each credential provide access to the right resources to find auxiliary information. Furthermore, this mini-review could be the foundation for a larger review article that reflects on historical perspectives on the development of post-PharmD educational opportunities and how they have enhanced professional practice.

Board certification is a apologue of the expert training that a pharmacist received in specific areas of practice, for example, providing cognitive services as a primary care giver for certain patient groups. It also delivers a signal to healthcare professionals in medicine, nursing, and others that the pharmacist is not just a generalist but also a medication information expert. Postgraduate pharmacy education and board certification are important indicators to promote this recognition of pharmacists as to receive remuneration for the cognitive services they provide to patients. Several states in the United States recognize pharmacists as providers, and there is a strong national effort aimed at federal recognition as well.

A white paper published by the ACCP describes Joint Commission of Pharmacy Practitioners future vision of speciality board certification in pharmacy and recommendations for future clinical pharmacy practitioners to be board-certified specialists.²⁹ The value of BPS certification is clearly articulated in this white paper. Board-certified pharmacists working with physicians and other healthcare providers have shown to be capable of working effectively in collaborative multidisciplinary health teams.³⁰ The primary aim of BPS certification is to acquire advanced clinical skills and recognition; however, many BPS certified pharmacists have benefited from financial incentives and job promotions.³¹

Table 1. Add-on credentials after PharmD.

Credentials	Certifying body	Specialization
Degree-based “Credentials”		
Master’s degree		
Master of Healthcare Administration (MHA)	University	–
Master of Business Administration (MBA)	University	Health Care Management, Hospital Management, Disaster Management, Pharmaceutical Marketing, Pharmaceutical Management, and so on
Master of Public Health (MPH)	University	–
Master of Pharmacy (MPharm)	University	Pharmaceutics, Pharmaceutical Chemistry, Medicinal Chemistry, Pharmacognosy, Pharmacology, Pharmaceutical Analysis, Pharmaceutical Biotechnology, Pharmacy Practice, Phytopharmacy and Phytomedicine, Industrial Pharmacy, Pharmaceutical Quality Assurance, Regulatory Affairs, Clinical Practice and Research
Master of Science (MS)	University	Medicinal Chemistry, Neuroscience, Pharmacology and Toxicology, Pharmaceutical Chemistry, Pharmaceutics, Pharmacy Administration, Pharmacy Practice, Medication Therapy Management, Clinical Research, Nuclear Pharmacy, Pharmacodynamics, and Pharmaceutical Outcomes and Policy
Doctor of Philosophy (PhD)		
Doctor of Philosophy (PhD)	University	Pharmaceutical Sciences, Clinical Pharmacy, Social Pharmacy, Pharmacometrics, Pharmacoepidemiology, Medicinal Chemistry, Pharmacognosy, and so on
Juris Doctor (JD)		
Juris Doctor (JD) (Law)	University	<i>Opportunities:</i> Patent law specialists, private practice, managed care lawyers, medical malpractice, and so on
Practice-based “Credentials”		
Licensure (RPh)		Mandatory by the state in which a pharmacist intends to practice.
Residency training programs		
Postgraduate year 1 (PGY-1)	ASHP	Foundation in pharmaceutical care and hospital pharmacy practice Ambulatory care, pharmacogenomics, cardiology, critical care, drug information, emergency medicine, geriatrics, Health-System Pharmacy Administration, immunology, infectious diseases, informatics, internal medicine, Managed Care Pharmacy System, medication use safety, nephrology, neurology, nuclear pharmacy, nutrition support, oncology, pediatrics, pharmacotherapy, practice management or administration, psychiatry, pain and palliative care, solid organ transplant
Postgraduate year 2 (PGY-2)	ASHP	
Physician assistant (US) or Physician associate (UK)		
Physician assistant/Physician associate (PA)		Under the supervision of clinician, PA provides diagnostic, therapeutic, and preventive healthcare services to the patients
Certificate training programs		
Clinical Lipid Specialist		Accreditation Council for Clinical Lipidology (ACCL) ⁸
Credentialed Pain Practitioner (CPP)		American Academy of Pain Management (AAPM) ⁹
Certified Specialist in Poison Information (CSPI)		American Association of Poison Control Center (AAPCC) ¹⁰
Diplomate of the American Board of Applied Toxicology (DABAT)		American Board of Applied Toxicology (ABAT) ¹¹
Accredited in Applied Pharmacology (AP)		American Board of Clinical Pharmacology (ABCP) ¹²
Advanced Cardiovascular Life Support (ACLS), Pediatric Cardiovascular Life Support (PALS)		American Heart Association ¹³
Credentialed Pain Educator (CPE)		American Society of Pain Educators (ASPE) ¹⁴
Certified Geriatric Pharmacist (CGP) ^a		Commission for Certification in Geriatric Pharmacy (CCGP) ¹⁵
Certified Rehabilitation Counselor (CRC)		Commission on Rehabilitation Counselor Certification (CRCC) ¹⁶
Certified Professional in Electronic Health Records (CPEHR)		Health IT Certification ¹⁷
Certified Professional in Health Information Technology (CPHIT)		Health IT Certification ¹⁷

(Continued)

Table 1. (Continued)

Credentials	Certifying body	Specialization
Certified Professional in Health Information Exchange (CPHIE)		Health IT Certification ¹⁷
Certified Professional for Operating Rules Administration (CPORA)		Health IT Certification ¹⁷
Certified Asthma Educator (AE-C)		National Asthma Educator Certification Board (NAECB) ¹⁸
Certified Nutrition Support Clinician (CNSC)		National Board of Nutrition Support Certification (NBNSC) ¹⁹
Certified Anticoagulation Care Provider (CACP)		National Certification Board for Anticoagulation Providers (NCBAP) ²⁰
Certified Diabetes Educator (CDE)		National Certification Board for Diabetes Educators (NCBDE) ²¹
HIV Specialist (AAHIVS) or HIV Expert (AAHIVE) or HIV Pharmacist (AAHIVP)		The American Academy of HIV Medicine (AAHIVM) ²²
Board Certified-Advanced Diabetes Management (BC-ADM)		The American Association of Diabetes Educators (AADE) ²³
Certified Professional in Healthcare Quality (CPHQ)		The National Association for Healthcare Quality (NAHQ) ²⁴
Board certification programs ^a		
Board Certified Nuclear Pharmacist (BCNP) ²⁵		National Commission for Certifying Agencies (NCCA)
Board Certified Nutrition Support Pharmacist (BCNSP) ²⁵		
Board Certified Oncology Pharmacist (BCOP) ²⁵		
Board Certified Pharmacotherapy Specialist (BCPS) ²⁵		
Board Certified Psychiatric Pharmacist (BCPP) ²⁵		
Board Certified Ambulatory Care Pharmacist (BCACP) ²⁵		
Board Certified Critical Care Pharmacist (BCCCP) ^{25,b}		
Board Certified Pediatric Pharmacist ^{25,b}		
Board Certified Pharmacotherapy Specialist (BCPS) with Added Qualifications in Cardiology ²⁵		
Board Certified Pharmacotherapy Specialist (BCPS) with Added Qualifications in Infectious Diseases ²⁵		
Postgraduate training—fellowships		
American College of Clinical Pharmacy (ACCP) directory of residencies, fellowships, and graduate programs ²⁶		Individualized training program lasts 1–2 years with the goal of developing independent researchers within a specific area of practice (e.g. pharmacometrics)
American Society of Health-System Pharmacists (ASHP) Foundation Research Boot Camp ²⁷		
Fellow programs		
Fellow of the American Society of Health-System Pharmacists (FASHP)		Fellows are earned following selection by one's peers within those organizations based on the applicant's work over an extended period of time
Fellow of the American College of Clinical Pharmacy (FACCP)		
Fellow of the American Society of Consultant Pharmacists (FASCP)		
Fellow of the American College of Critical Care Medicine (FCCM)		
Fellow of the American Pharmaceutical Association (FAPhA)		

AAHIVS: American Academy of HIV Medicine Specialist; AAHIVE: American Academy of HIV Medicine Experts; AAHIVP: American Academy of HIV Medicine Pharmacists; ASHP: American Society of Health-System Pharmacists.

^aPharmacist only credentials.

^bBeginning 2015.

To gain a competitive edge and versatility for professional employment, it is crucial for a pharmacist to acquire postgraduate pharmacy qualifications. These programs provide the pharmacist with experiential learning so that at the completion they can apply the required knowledge, attributes, and

skills to contemporary pharmacy practice. The expertise and responsibilities of the pharmacist continue to evolve. This is quite evident in Australia and New Zealand as healthcare changes to the demands of the aging population, the pharmacist is required to evolve to provide cognitive services.^{32–34} In

Australia, accreditation by the Australian Association of Consultant Pharmacy is now imperative for pharmacy graduates to provide cognitive services remunerated by the federal government.³⁵

In conclusion, credentialing could serve as a benchmark for quality assurance of future pharmacy graduates. However, the scope of practice and competency standards should be clearly defined so that pharmacists can have a clear understanding of the tangible benefits gained by acquiring these credentials.

Declaration of conflicting interests

None of the authors has any conflicts of interest to declare.

Funding

This work received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

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