

It is time to rethink the all-Pharm.D. educational system: Multiple tiered degrees would better serve the diverse nature of pharmacy practice

Daniel L. Brown Pharm.D. 

South University School of Pharmacy,
Columbia, South Carolina

Correspondence

Daniel L. Brown, South University School of
Pharmacy, Columbia, SC.
Email: danbrown@southuniversity.edu

Abstract

As of the year 2000, schools of pharmacy stopped offering the option of a 5-year baccalaureate degree. The 6-year Doctor of Pharmacy (Pharm.D.) is now the sole entry-level pharmacy degree. Proponents of an all-Pharm.D. educational system envisioned that universal doctoral training would raise the level of pharmacy practice by clinically preparing all graduates for greater involvement in direct patient care. Opponents of the change were concerned that some students would be over-trained and under-utilized for the distributive practices that awaited them on graduation. Others disputed the rationale of attempting to train all students to be clinical practitioners because societal preferences and the nature of pharmacy practice provided contradictory evidence of such a need. The purpose of this report is to review, from a historical perspective, how the all-Pharm.D. decision evolved and explore whether the profession might be better served by a different educational system moving forward. It is difficult to find a compelling reason for having eliminated the tiered degree system that existed prior to the all-Pharm.D. The 5-year Bachelor of Science (B.S.) in Pharmacy and the 2-year post-B.S. Pharm.D. degrees served useful academic purposes and proved to be beneficial for students in each respective program. Some pharmacy schools currently lack sufficient resources to provide advanced clinical training and may be better suited to offering a baccalaureate degree. The nursing model of tiered degrees culminates with the terminal Doctor of Nursing Practice (DNP), which, in large part, justifies the prescribing privileges and provider status afforded to nurse practitioners. A single entry-level degree system over-trains many students and undermines the potential of pharmacists to earn prescribing privileges and provider status in recognition of the clinical expertise they possess. A tiered degree system seems better suited to the diverse nature of pharmacy practice. Successfully executing such academic reform would require unity of purpose and collaboration across the profession.

KEYWORDS

history of pharmacy, pharmacy education, pharmacy services

1 | BACKGROUND: EVOLUTION OF THE ALL-PHARM.D

1.1 | Perspectives on the all-Pharm.D. experience

Two decades ago, pharmacy was poised to redefine itself as a health care profession and elevate the status of pharmacists as providers of patient care. Academia was at the forefront of that bold new vision, about to unleash an army of highly trained clinical practitioners. Unfortunately, despite isolated pockets of success, the promise of transformational practice change has not been fulfilled. The 21st century ushered in a new era of pharmacy education that dramatically altered the landscape of the academy and the profession, though not in the manner intended.

As of 2000, due to an accreditation mandate, schools of pharmacy eliminated the baccalaureate pharmacy degree in favor of one entry-level doctoral program, the “all-Pharm.D.” Coincidentally, new schools of pharmacy began to proliferate, and existing programs started to expand class sizes. The goal of enhanced academic quality was undermined by contradictory forces within an academy that grew too fast and stretched its resources too thin. The pharmacy academy of today bears little resemblance to what it was just 20 years ago.

Some still question the wisdom of collapsing all pharmacy degrees into one. Many of the pharmacists who graduated after 2000 are largely unaware of the controversies that surrounded the decision to eliminate the baccalaureate degree. The purpose of this report is to review how the all-Pharm.D. decision came to pass and explore how that decision might have unintentionally hindered the advancement of pharmacy practice. The issue is not so much whether the all-Pharm.D. decision was right or wrong, but whether the profession might be better served by a different educational system moving forward.

1.2 | Origins of the Pharm.D. degree

The Doctor of Pharmacy (Pharm.D.) degree dates back to 1915, but it was discontinued in 1938 due to a lack of curricular standardization. At that time, pharmacy education consisted of a 4-year baccalaureate degree. The 5-year baccalaureate originated in 1948, at which time the American Association of Colleges of Pharmacy (AAP) re-authorized the Pharm.D. as a 6-year program.¹ In 1950, the University of Southern California became the first school to adopt a 6-year entry-level Pharm.D. degree. Four years later, AAP made the decision to phase out the 4-year baccalaureate.¹

From the mid-1960s through the 1980s, the predominant pharmacy degree was a 5-year baccalaureate (Bachelor of Science [B.S.] in Pharmacy), though a handful of schools offered a 6-year Pharm.D. that included one additional year of clinical training. In the 1970s, an increasing number of schools began to offer a post-baccalaureate Pharm.D., which consisted of 2 to 3 additional years of clinical training beyond the B.S. in Pharmacy.^{2,3}

As of 1987, 10 of the 74 pharmacy schools offered a 6-year Pharm.D. as the only degree.⁴ Thirty-four schools (46%) offered only

a B.S. in Pharmacy and 26 schools (35%) offered both the B.S. in Pharmacy and a post-B.S. Pharm.D. In that year, 5164 graduates received a B.S. in Pharmacy and 690 received a Pharm.D., of which 212 were post-B.S. Pharm.D.s.⁴ The three California schools (University of California at San Francisco, University of Southern California, and University of the Pacific) accounted for more than half of the nationwide total of entry-level Pharm.D. graduates.

In 1977, the American Pharmaceutical Association, which is now the American Pharmacists Association (APhA), adopted a policy supporting the 6-year Pharm.D. as the sole entry-level pharmacy degree.² It was not until 1989 that the American Council for Pharmaceutical Education, which is now the Accreditation Council for Pharmacy Education (ACPE), announced its intention to establish the Pharm.D. as the sole entry-level degree.¹ In 1997, ACPE adopted Standards 2000, which mandated that as of the year 2000, pharmacy schools could only enroll students into an entry-level Pharm.D. program, with B.S. in Pharmacy programs having to be phased out by 2005.¹

1.3 | Controversies surrounding the all-Pharm.D. decision

Disagreements over whether the profession should establish a single entry-level doctoral degree were widespread and contentious throughout the 1970s and well into the 1990s, even after the decision had been finalized. There was scant empiric evidence to support the notion that a single doctoral degree would enhance the level of practice, and many felt the decision to enact the all-Pharm.D. was based primarily on unverifiable assumptions.⁵ Whatever consensus existed at the time resulted more from persuasive coercion than substantive debate.⁶ The controversy exposed a deep divide among various factions of the profession.

Three major pharmacy organizations jointly advocated for the all-Pharm.D., the National Association of Retail Druggists (NARD), which is now the National Community Pharmacists Association (NCPA), the American Society of Hospital Pharmacists, which is now the American Society of Health-System Pharmacists (ASHP), and APhA.⁷ They also supported a degree transfer process that would enable pharmacists with a baccalaureate degree to exchange it for a Pharm.D. Degree transfer was intended to ensure “professional equity, equal professional opportunity, and the avoidance of real or perceived professional or career barriers.”⁷

Two organizations, whose members represent opposite ends of the pharmacy practice spectrum, stood in opposition to the all-Pharm.D. The National Association of Chain Drug Stores (NACDS) opposed the all-Pharm.D., but supported the Pharm.D. as part of a two-tiered system that maintained the baccalaureate option, which it deemed appropriate for preparing graduates for community practice.⁷ The American College of Clinical Pharmacy (ACCP) adopted a position that the baccalaureate degree should be maintained as an entry-level degree and used as a prerequisite for admission to a Pharm.D. program.⁸ A survey of ACCP members showed 79% opposition to the all-Pharm.D.⁵

Faculty, deans, and organization leaders who understood the shortcomings of the all-Pharm.D. argument were called out by Evans, because they did little to make their objections known.⁵ He further expressed frustration that such decisions are not normally reached by democratic consensus, but by the outspoken urgings of a few “visionaries” who force their opinions on those who actually know better, yet choose to remain silent. Nichols concluded that appearances of a groundswell of support for the all-Pharm.D. were misleading.⁹ He believed that only a minority of the profession supported it, but those in the minority were able to advance their agenda using anecdotal evidence, persuasive opinion, and peer pressure. Many faculty succumbed to that pressure, feeling that there was nothing they could do to stop it.⁹

The AACP House of Delegates rejected an all-Pharm.D. proposal in 1978 and again in 1985.^{1,5} Delegates did not approve the policy until 1992, 3 years after ACPE had already announced its all-Pharm.D. intentions.¹⁰ A 1990 Gallup survey of 1000 pharmacy faculty reported that 60% favored continuing the 5-year baccalaureate degree.⁶

1.4 | Rationale behind the all-Pharm.D. opposition

The ACCP Board of Regents adopted a position statement in 1991, stating that baccalaureate programs adequately prepare graduates for contemporary pharmacy practice, and societal expectations do not justify training all pharmacists at the doctoral level.⁸ The statement emphasized that both baccalaureate and doctoral programs are needed to ensure that pharmacists are able to meet the full spectrum of society's drug therapy needs. It went on to state that Pharm.D. training should produce graduates capable of practicing as “sophisticated, advanced-level clinical practitioners.”⁸

Bussey argued that the academy would have been better off reforming the B.S. in Pharmacy and the post-B.S. Pharm.D., rather than forcefully homogenizing both into a single degree that minimizes the redeeming qualities of each.¹¹ Nichols stated that not all pharmacy students aspire to advanced clinical practice and pharmacy education does not need to be reduced to the lowest common denominator.⁶ Student enrollment into a doctoral pharmacy program should be highly competitive, and Pharm.D. graduates should be viewed by other health care providers as the best that pharmacy has to offer—the “cream of the crop.”⁹

Nahata summed it up by stating that if pharmacy schools intensify the clinical training of all students, there would have to be a corresponding increase in the opportunity to apply such clinical skills in all practice settings.¹² In many community pharmacies, pharmacists have limited opportunities to apply their knowledge to direct patient care. From this perspective, entry-level Pharm.D. training could exacerbate the frustrations that many pharmacists experience from their routine job functions and that requiring all students to complete Pharm.D. training would leave some of them feeling over-trained and disenfranchised.⁹

Kovacs expressed that Pharm.D.-level training should be of sufficient depth and breadth, both didactically and experientially, to earn the trust and respect of the medical community and the Pharm.D. should be a terminal, not an entry-level, degree.¹³ The entry-level Pharm.D. hinders pharmacists from being viewed by the medical community as clinical practitioners. Earning a Pharm.D. degree should be a special rite of passage that affords recipients a higher level of responsibility.¹³

2 | HARBINGERS OF THE NEED FOR ACADEMIC CHANGE

2.1 | The dichotomous nature of pharmacy practice

Pharmacy is a profession with broad diversities of practice. It has become increasingly specialized and differentiated, with distinct differences among pharmacists related to the level of responsibility, the nature of patient care, and the scope of practice.¹⁴ It is unrealistic to expect all pharmacists to function in the same way in all practice settings, which is not to imply that one aspect of practice is inherently superior to another. All professional services provided by pharmacists contribute in one way or another to the health and well-being of the patients they serve, but not all pharmacists provide the same services and not all function at the same level. For this reason, a “one-size-fits-all” approach to pharmacy education is not optimal. Education must be sufficiently flexible to provide comprehensive instruction in practice modalities that are vastly different.

Pharmacy has been in the process of shifting from a product orientation to a patient orientation for more than 50 years, though in some practice settings the transition has been imperceptible. The dichotomy of practice is not as simple as contrasting distributive functions from direct patient care. Pharmacists cannot treat the product and the patient as though they were mutually exclusive entities. The drug use process includes many elements that require professional expertise and are essential to achieving optimal patient outcomes.¹⁵ Drug distribution is not an inherently unprofessional activity, and the dispensing of a drug should not be depicted as a menial, purely technical function that can be fully relegated to technicians or robotics.¹⁵

The quintessential dichotomy of contemporary pharmacy practice, that which ultimately distinguishes between pharmacists who require doctoral clinical training and those who do not, is found in the nature of the decisions they are called on to make. It is not so much a matter of what pharmacists do, but what type of problems they are required to solve. Most pharmacists routinely make important professional decisions that impact patient care, but only a select few are granted the authority to independently determine patient-specific therapy. Pharmacists who decide therapy must have greater therapeutic expertise, a deeper understanding of the scientific and clinical foundations of therapy, and a willingness to assume greater responsibility and liability for therapeutic outcomes. The ability to engage in pharmacotherapeutic decision-making is the professional distinctive

that defines which pharmacy students require advanced clinical instruction at the doctoral level.

2.2 | Trends of declining student ability

Concerns about whether every applicant admitted to pharmacy school is capable of succeeding at the doctoral level have become more pronounced in recent years. Larger entering cohorts place greater strain on Pharm.D. programs to prevent progression rates from falling and attrition rates from rising. Anecdotally, some faculty have noticed a growing trend of students experiencing academic difficulty. Such trends raise legitimate questions about whether the pharmacy academy can attract sufficient numbers of qualified applicants into its many Pharm.D. programs.

Pharmacy College Application Service (PharmCAS) data demonstrate a consistent annual increase in the percent of applicants who are granted admission (Table 1).¹⁶ In the early days of PharmCAS, only about a third of applicants were admitted. That value has exceeded 80% in recent years. Some students recently admitted to pharmacy school would have been denied admission in years past. Twenty years ago, it was highly unusual for an applicant with a cumulative grade point average (GPA) below 3.0 to be admitted. Today, many schools have lowered the minimum GPA requirement to 2.5 and some grant admission to students with even lower GPAs.

Increasing numbers of pharmacy graduates are finding it difficult to pass the North American Pharmacist Licensure Examination (NAPLEX). Table 2 lists the mean pass rates for first-time takers dating back to 2007.¹⁷ There has been a precipitous downturn in overall NAPLEX performance since 2016, the year the exam underwent significant change. Prior to 2015, more than 90% of programs consistently achieved a mean pass rate above 90%. In 2019, just over half of

the programs were able to reach that threshold, and almost 20% of schools had pass rates below 80%.¹⁷ Some schools, however, remain unaffected, and continue to produce NAPLEX pass rates above 95% every year.¹⁷

Progression and attrition problems also tend to affect some schools more than others. The decline in student ability is not a universal phenomenon, affecting all levels of students in all programs to the same extent. Generally, students who rank in the upper half of their respective programs seem to be as academically capable as in years past. In contrast, there appears to be a growing subset of academically challenged students who lack the capacity to succeed in doctoral coursework.

2.3 | A growing disruptive tension

Pressure is building from within the profession for an educational system that is more in line with the nature and scope of pharmacy practice. In 2015, Romanelli and Tracy sounded a warning that pharmacy might be facing a period of seismic disruption because so many over-qualified pharmacists are currently practicing in predominantly dispensing roles.¹⁸ They proposed a new two-tier practice paradigm, characterized by pharmacists practicing in either a dispensing or non-dispensing capacity. This practice model calls into question the necessity of all students to be trained at the Pharm.D. level and raises the issue of whether pharmacy would benefit from re-establishing the baccalaureate degree. Romanelli and Tracy further cautioned that pursuing a path of disruption is not without consequence, which could include collateral damage that jeopardizes the stability of some academic programs.¹⁸ Nevertheless, failing to adapt academic programs to the realities of pharmacy practice can also lead to serious, widespread repercussions.

Admission cycle	Verified applicants	Accepted applicants	% Applicants accepted
2003-04	13 722	4683	34%
2004-05	14 433	4570	32%
2005-06	14 650	4932	34%
2006-07	14 869	5448	37%
2007-08	15 908	6581	41%
2008-09	16 246	8168	50%
2009-10	17 330	9447	54%
2010-11	17 451	10 429	60%
2011-12	17 405	10 804	62%
2012-13	17 617	12 247	70%
2013-14	17 225	12 438	72%
2014-15	16 858	13 086	78%
2015-16	16 369	13 015	80%
2016-17	16 204	13 185	81%
2017-18	15 886	13 139	83%
2018-19	15 335	12 708	83%

TABLE 1 Total pool of verified PharmCAS applicants and the number (%) of applicants accepted per admission cycle: 2004 to 2019¹⁶

Abbreviation: PharmCAS, Pharmacy College Application Service.

TABLE 2 National mean first-time NAPLEX pass rates: 2007-2019¹⁷

Year	National mean pass rate	Schools with mean $\geq$ 90 (%)	Schools with mean in 80s (%)	Schools with mean < 80 (%)
2007	95.6%	78 (88%)	11 (12%)	0
2008	97.0%	84 (94%)	5 (6%)	0
2009	96.4%	86 (92%)	6 (7%)	1 (1%)
2010	94.4%	89 (91%)	4 (4%)	5 (5%)
2011	95.3%	91 (90%)	10 (10%)	0
2012	96.8%	102 (94%)	7 (6%)	0
2013	95.7%	103 (90%)	9 (8%)	2 (2%)
2014	94.9%	107 (90%)	10 (8%)	2 (2%)
2015	92.4%	90 (73%)	27 (22%)	6 (5%)
2016	86.3%	49 (39%)	54 (42%)	24 (19%)
2017	87.9%	61 (47%)	46 (36%)	22 (17%)
2018	89.1%	72 (54%)	47 (35%)	14 (11%)
2019	87.9%	73 (54%)	36 (27%)	26 (19%)

Abbreviation: NAPLEX, North American Pharmacist Licensure Examination.

In 2008, DiPiro described how Abraham Flexner, in a report on medical education published in 1910, highlighted the importance of integrating the scientific method into elements of medical practice, as well as raising academic standards to ensure that graduates are adept at problem solving and critical thinking.¹⁹ He equated Flexner's concerns about the weaknesses of medical education to the status of the pharmacy academy in the 21st century, especially relating to the proliferation of pharmacy schools that are not integrated with a medical center and whose faculty are not actively engaged in research or the provision of direct patient care. DiPiro highlighted the need for a critical examination of all Pharm.D. programs in the United States, on a Flexner-like scale, to determine whether certain aspects of pharmacy education have been allowed to deteriorate into something more akin to trade school education.¹⁹

2.4 | Insights to be gained from nursing

Nursing has been successful at reconciling the various levels of practice within its ranks. There is explicit acknowledgement that not all nurses have been equally trained, not all nurses possess the same expertise, and not all nurses function at the same level of practice. Nursing, like pharmacy, reflects broad diversities of practice, but unlike pharmacy, nursing accommodates those differences and accepts the reality of stratified practice roles.

In reiterating his view that the diversity of pharmacy practice should preclude reliance on education limited to a single entry-level degree, Bussey noted that nursing relies on a hierarchical system of education that distinguishes nurse practitioners as being uniquely qualified to perform clinical functions independently.¹¹ Nursing has successfully leveraged a tiered degree educational system that not only accommodates a broad diversity of practice, but also justifies the advanced privileging granted to a subset of nurses who have completed commensurate training.

Pharmacy must be doing something wrong if society deems nurse practitioners more qualified to prescribe drugs than pharmacists. It is no

coincidence that CVS MinuteClinics are staffed by nurse practitioners or physician assistants, not pharmacists. Provider status has eluded pharmacy, despite decades of scientific evidence validating pharmacists' effectiveness as providers of patient care, dating back to the groundbreaking outcomes of the Asheville Project.²⁰ Pharmacy would be well advised to examine how nurse practitioners have become so widely accepted as drug prescribers throughout the health care industry.

The Bachelor of Science in Nursing (BSN) qualifies recipients for basic nursing practice and serves as a gateway to further education, such as the Master of Science in Nursing (MSN).²¹ The MSN degree leads to specialty practice or a focus on education or administration. Nursing's terminal degree, the Doctor of Nursing Practice (DNP), generally requires the MSN as a prerequisite for admission, though some programs accept candidates holding a BSN. The DNP is the standard credentialing degree required of nurse practitioners (NPs).²¹

There are almost 300 000 NPs licensed in the U.S. They are granted prescribing privileges (including controlled substances) in all 50 states.²² This raises an interesting question about the merits of the ultimate pharmacy disruption—tiered licensure. Society acknowledges the difference between a registered nurse (RN) license and a NP license, and that difference has been critical to the privileges enjoyed by NPs. Perhaps pharmacy should call on all states to offer an additional licensure option for pharmacists, beyond the registered pharmacist (R.Ph.), such as Registered Pharmacotherapy Practitioner (RPP). Tiered licensure is beyond the scope of this report, but it certainly warrants further discussion.

3 | THE RETURN OF PHARMACY DEGREE OPTIONS

3.1 | Rationale for a tiered degree system

Throughout the 1970s and 1980s, major advances in clinical pharmacy were accomplished by a relatively small group of pioneers, many

of whom were the product of post-baccalaureate Pharm.D. programs. Pharmacy benefitted from having an educational system that targeted a small subset of outstanding, highly motivated students for advanced clinical training. Entry into such programs was highly competitive and the training was intense. This approach was in stark contrast to the current philosophy of training every student at the doctoral level based on the assumption that every pharmacy graduate is capable of functioning as a clinical practitioner.

When it comes to pharmacy education, a one-size-fits-all approach is not sustainable. Not every student is well suited for doctoral training and not every student is destined to provide advanced levels of patient care. The best and brightest that pharmacy has to offer should not be relegated to the same educational training as those who are content to merely get by. Education should be adaptable, to accommodate the unique academic abilities, personal talents, and professional interests of students, rather than forcing them all into the same mold.

Schools in which clinical faculty function primarily as visiting preceptors at their practice sites, rather than playing an integral role as direct patient care providers, are probably under-resourced to offer clinical training at a doctoral level.¹⁹ This is reflected by a trend among some pharmacotherapy instructors to gloss over the science foundations of therapeutics, while encouraging students to memorize and recite clinical practice guidelines.²³ Under-resourced Pharm.D. programs, many of which have opened since 2000, might be better equipped to provide baccalaureate training that is geared toward a basic level of practice. Moreover, a shift toward the baccalaureate degree would ease the burden currently imposed on practice sites to meet the excessive demand of experiential training for Pharm.D. students.

3.2 | Framework for a tiered degree system

It is ironic that the best path forward, in moving away from the all-Pharm.D., might be a return to the system that preceded it (Table 3). The 1980s model of two entry-level degrees, a 5-year B.S. in Pharmacy and a 6-year Pharm.D., along with an “add-on” 2-year Pharm.D. option, is a good place to start. However, there is a need to address a longstanding concern that only 1 year of education separates a 5-year B.S. in Pharmacy from a 6-year Pharm.D. Adding 1 year of advanced training to the current Pharm.D. curriculum would ensure that it is truly at a doctoral level and bring it in line with the total number of years required to earn a 2-year post-B.S. Pharm.D. Applicants to a 7-year Pharm.D. program would be subjected to higher admission standards than those applying to a B.S. in Pharmacy program. Students who enroll in a B.S. in Pharmacy program initially, and subsequently choose to pursue a Pharm.D., would have to apply separately and earn admission to a post-B.S. Pharm.D. program. A variety of master's degree options would also be available to all pharmacy graduates, providing a vast array of opportunities to develop specialized skills (Table 3).

Under a tiered degree system, only those schools that are adequately resourced to provide advanced clinical instruction would

TABLE 3 An illustrative example of a tiered degree system

Entry-level Baccalaureate (B.S. in Pharmacy)
Minimum 2 years prerequisite courses
3 years professional coursework
Master's Degrees
1–2 years beyond a B.S. in Pharmacy or Pharm.D.
<i>Examples: Business Administration (MBA), Healthcare Administration (MHA), Public Health (MPH), Health Informatics (MHI), or Master of Science (MS) in Pharmacy Administration, Managed Care, Pharmacogenomics, Drug Information, Specialty Pharmacy, Medication Safety, Education.</i>
Terminal Doctorate (Pharm.D.)^a
<u>Option 1—Traditional</u>
Minimum 2 years prerequisite courses
5 years professional coursework
<u>Option 2—Post-B.S.</u>
Completion of B.S. in Pharmacy
2 years professional coursework

Abbreviations: BPS, Board of Pharmacy Specialties; B.S., Bachelor of Science; PGY1, postgraduate year one; PGY2, postgraduate year two; Pharm.D., Doctor of Pharmacy.

^aPrivileging as a pharmacotherapy practitioner would also require completion of a PGY1 residency for general practice and PGY2 residency for specialty practice, with appropriate BPS certification.

qualify to offer the Pharm.D. degree. In a period of academic retrenchment due to declining enrollment, program redesign could be accomplished in concert with downsizing initiatives, as a means of stabilizing and strengthening some existing programs. It is difficult to predict an optimal distribution of B.S. compared with Pharm.D. programs across the academy. It would seem reasonable to begin with a target of roughly two-thirds baccalaureate and one-third Pharm.D. Assuming the pharmacist job market can accommodate about 11 000 graduates a year, that would equate to roughly 7500 B.S. and 3500 Pharm.D. graduates.

3.3 | Role of post-graduate training and credentialing

Graduates of a Pharm.D. program, whether 6 years or 7 years in length, cannot be expected to practice independently at an advanced clinical level without completing a post-graduate residency. The minimum expectation should be a post-graduate year one (PGY1) residency for general practice, with the additional requirement of a post-graduate year two (PGY2) residency for specialized practice.²⁴ Clinical practitioners should also acquire credentials appropriate to their practice through board certification.²⁵ Residency training and board certification, along with years of experience, would equate the expertise of pharmacists who possess a 6-year Pharm.D. to those with a 7-year degree. Under a tiered degree system, there should also be a variety of residency options by which B.S. in Pharmacy graduates can strengthen their practice readiness or pursue an area of specialization.

A 2011 ACCP Position Statement proposed that all pharmacists responsible for providing pharmacotherapy to patients with complex or special drug therapy needs should be board certified, and stated, "board certification is an essential element of clinical privileging."²⁵ The statement further suggested that board certification should be a prerequisite for supervising student/resident training in direct patient care, instructing students in pharmacotherapeutics, and training health providers about complex drug therapy topics.²⁵ As of 2000, a little over 2900 pharmacists had been board certified.²⁶ According to the Board of Pharmacy Specialties (BPS), there are now 14 specialty certifications, with more than 46 000 board-certified pharmacists, over 26 000 of which are in pharmacotherapy.²⁷

4 | THE NEED FOR UNITY IN A DIVIDED PROFESSION

Pharmacy consists of many factions that appear to exist in peaceful harmony but remain divided due to a lack of common purpose. Organizations pursue agendas that are directed primarily toward the priorities of their own constituents, rather than the profession as a whole. More than 30 years ago, in the midst of the all-Pharm.D. debate, Nahata foresaw that establishing a single degree would not help to unite a divided profession.¹² McLeod concurred, expressing that the all-Pharm.D. would not have much impact because pharmacy lacked a unified vision about the nature of practice, and was fractured by conflicting priorities.²⁸ Kovacs expressed a need for renewed profession-wide discussion and debate to formulate a new vision of how to achieve a meaningful expansion of pharmacist patient care responsibilities.¹³ The lack of a unified vision of pharmacy practice is still hindering progress today.

The academy has played a role in perpetuating pharmacy's divide. In a 1993 commentary, Bussey posed the question, "Could it be that individuals who think that a change in education will bring about a change in practice have placed the cart before the horse?"¹¹ The all-Pharm.D. movement is a fitting example of academia embarking on a course of educational change in order to transform the nature of pharmacy practice.³ Many practitioners believe the process should be reversed, with those in practice charting a vision for the future, and academia responding to, rather than trying to shape, the practice needs of the profession.

A 2000 ACCP White Paper on the organization's vision for the future of pharmacy acknowledged that academia has a role to play in practice innovation but that it should not direct the nature of practice.²⁶ The report stated, "Indeed, past efforts to educate and prepare graduates better for new professional activities have, ironically, distanced academia from the profession it serves. In the absence of an empowering practice environment, new graduates eventually become disenchanted by the mismatch between what they are 'taught' and what they actually 'do,' and more mature members of the profession grow increasingly convinced that academia has lost touch with the real world." The ACCP White Paper went on to call for unity, stating, "The time has come to unify the profession in pursuit of its patient

care mission.... A broad-based inclusive planning process involving all pharmacy organizations and associations will be necessary to address the profession's vast retraining needs."

5 | CONCLUSION: JUSTIFICATION FOR A DISRUPTIVE JOURNEY

This report is meant to neither criticize those who originally supported the all-Pharm.D. decision nor dispute the basic premise behind it. Raising standards of practice through universal Pharm.D. training was a noble ideal and hindsight provides a unique perspective that was not available to those who had to make tough decisions in real time. Nevertheless, based on 20 years of experience, the all-Pharm.D. educational system has not lived up to its potential and the prudence of that decision is subject to doubt. When the decision was made, pharmacy's clinical development had been progressing steadily, albeit slowly, and there was no compelling reason to alter the existing educational system so dramatically.

At this point, if there is anything to be learned from the all-Pharm.D. experience, it is that the profession should not be driven by a vocal minority of academic and organization leaders. To the contrary, it is the silent majority of rank and file pharmacists, those engaged in the arena of practice, who know what is best for their profession. It is left to the reader to conclude whether a restructuring of pharmacy education is warranted, based on the validity of the following three premises.

- Efforts to homogenize the diversity of practice undermine the profession. Pharmacy must embrace its diversity and acknowledge the importance of all patient care services delivered by pharmacists. Every pharmacist, regardless of setting, can provide services that are of value to patients, in accordance with the nature and scope of practice appropriate to the setting.
- A divided profession will never achieve the full potentiality of its patient care mission. Pharmacy leaders and organization members must temper their self-interests to forge a new unified vision of practice based on what is best for the entire profession and the society it serves. Pharmacy's various factions need to align themselves toward the common purpose of optimizing the level of patient care provided by all pharmacists in all practice settings.
- One-size-fits-all education is not well-suited to a profession with a broad diversity of practice. Pharmacy must re-examine how academic programs, post-graduate training, and specialty credentialing, can synergize to prepare pharmacists to meet a broad range of patient care roles. The academy and ACPE need to explore flexible degree options, such as the B.S. in Pharmacy and the post-B.S. Pharm.D., that once served the profession well.

Some might argue that reverting back to a tiered degree system would be too disruptive, too big of an undertaking, because the all-Pharm.D. system has become so deeply entrenched. Those with a vested interest in the all-Pharm.D. educational system have ample

reason to resist its undoing. Others might see educational reform as a worthwhile concept, but one that is impractical and unlikely to be achieved. It is easy to see how status quo can become an enticing option, especially when the alternative involves tumultuous disruption. Such a daring venture only makes sense when viewed from the perspective of what is truly in the best interest of the profession looking forward—how pharmacy can best position itself for a successful future. It is only in the future that one can find the justification to embark on a disruptive journey that begins today.

CONFLICT OF INTEREST

The author declares no conflict of interest.

ORCID

Daniel L. Brown  <https://orcid.org/0000-0001-7978-081X>

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How to cite this article: Brown DL. It is time to rethink the all-Pharm.D. educational system: Multiple tiered degrees would better serve the diverse nature of pharmacy practice. *J Am Coll Clin Pharm*. 2020;1–8. <https://doi.org/10.1002/jac5.1287>