ACCP COMMENTARY

Innovation in Clinical Pharmacy Practice and Opportunities for Academic–Practice Partnership

American College of Clinical Pharmacy
Paul O. Gubbins,* Scott T. Micek, Melissa Badowski, Judy Cheng, Jason Gallagher, Samuel G. Johnson, Jason H. Karnes, Kayley Lyons, Katherine G. Moore, and Kyle Strnad

Clinical pharmacy has a rich history of advancing practice through innovation. These innovations helped to mold clinical pharmacy into a patient-centered discipline recognized for its contributions to improving medication therapy outcomes. However, innovations in clinical pharmacy practice have now waned. In our view, the growth of academic–practice partnerships could reverse this trend and stimulate innovation among the next generation of pioneering clinical pharmacists. Although collaboration facilitates innovation, academic institutions and health care systems/organizations are not taking full advantage of this opportunity. The academic–practice partnership can be optimized by making both partners accountable for the desired outcomes of their collaboration, fostering symbiotic relationships that promote value-added clinical pharmacy services and emphasizing continuous quality improvement in the delivery of these services. Optimizing academic–practice collaboration on a broader scale requires both partners to adopt a culture that provides for dedicated time to pursue innovation, establishes mechanisms to incubate ideas, recognizes where motivation and vision align, and supports the purpose of the partnership. With appropriate leadership and support, a shift in current professional education and training practices, and a commitment to cultivate future innovators, the academic–practice partnership can develop new and innovative practice advancements that will improve patient outcomes.

Key Words clinical pharmacy, innovation, academic–practice partnership, collaboration, pharmacy education, pharmacy practice, research.
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Is there a lack of innovation in contemporary clinical pharmacy practice? The early days of clinical pharmacy were a pioneering era when clinical pharmacists continuously innovated and extended the frontiers of pharmacy practice. Early clinical pharmacists changed professional perspectives and attitudes by positioning themselves as frontline clinicians and valuable drug information experts. However, as the profession evolved and practice became more sophisticated, so-called clinical pharmacy became the norm, spreading from academic health science centers to community-based health care facilities. Concurrently, the health care system became more complex, fragmented, and specialized. As the population has aged, the demand for health care has increased, but resources to support the advanced training of health care professionals to meet this growing demand have not kept pace. Furthermore, pharmacy's professional degree

This document was prepared by the 2013 ACCP Task Force on Practice Innovation: Paul O. Gubbins, Pharm.D., FCCP (chair); Scott T. Micek, Pharm.D., FCCP, BCPS (vice chair); Melissa Badowski, Pharm.D., BCPS, AAHIVP; Judy Cheng, Pharm.D., MPH, FCCP, BCPS; Jason Gallagher, Pharm.D., BCPS; Samuel G. Johnson, Pharm.D., BCPS; Jason H. Karnes, Pharm.D., Ph.D., BCPS; Kayley Lyons, Pharm.D., M.S. candidate; Katherine G. Moore, Pharm.D., BCPS, BCAP; and Kyle Strnad, Pharm.D. candidate.

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*Address for correspondence: Paul O. Gubbins, American College of Clinical Pharmacy, 13000 West 87th Street Parkway, Suite 100, Lenexa, KS 66215; e-mails: accp@accp.com; gubbinsp@umkc.edu.

programs have implemented a more clinical curriculum that emphasizes increased experiential education, requiring more teaching and precepting time from clinical faculty members who might otherwise create new roles that advance the profession. Ironically, the success of clinical pharmacy may have slowed its pace of innovation.

During the early years of clinical pharmacy, innovating was a necessity. Early clinical pharmacists seeking to improve patient care and maximize their impact forged new models of practice. However, as advocates for the American Society of Health-System Pharmacists' (ASHP) Pharmacy Practice Model Initiative point out, the innovation curve of pharmacy is approaching its 40th year, and more needs to be done to fully realize the development of clinical pharmacy practice and the application of clinical pharmacists' professional skills.[1] Many of the past innovations that fueled the emergence of modern practice emanated from academic teaching hospital environments, where scholarly and creative endeavors are expected and rewarded. However, to continue serving as an incubator of innovation, academia today often forms partnerships with health care systems and organizations. Thus as the profession seeks to play a more integral role in the delivery of health care, it is prudent to look to the future and ask whether today's academic–practice partnerships are producing the desired degree of innovation among contemporary clinical faculty or if they simply are maintaining the status quo.

This commentary highlights the pioneering era of clinical pharmacy, surveys the current landscape of innovative practices, and assesses the gaps in, and perceived barriers to, innovation. It identifies opportunities for academic institutions to collaborate more optimally with health care systems and organizations to develop new and innovative advances in practice, education, training, and research and cultivate individuals who can maximize their academic freedom to pursue entrepreneurial and innovative practices.

Historical Perspective: The Pioneering Era of Clinical Pharmacy

Early pharmacy practice innovators, including Harvey A.K. Whitney, Paul Parker, and Eugene White, used their determination and zeal to advance the role of pharmacists in patient-oriented care while overcoming preconceived notions of the limitations of pharmacy practice. The past 50 years reflect a period of continuous and prolific innovation. Figure 1 illustrates a timeline of innovative accomplishments that have resulted in the advancement of clinical pharmacy practice. In the late 1950s, fewer than 4 of 10 hospitals employed the services of a pharmacist.[2] Today, essentially all hospitals retain the full-time services of pharmacists, and pharmacy practice has continued to expand.[3] In the 1960s, Eugene White opened the first office-based pharmacy practice and created the first patient medication profiles, an innovation that is now routine.[4] Drug information centers were pioneered by the universities of Kentucky and Iowa during this decade as well. The 1970s witnessed the development of innovative programs to increase the pharmacist's clinical role through clinical pharmacokinetic monitoring and collaborative drug therapy management (CDTM) services, empowering pharmacists with prescriptive authority in some cases.[5] Clinical research in the ensuing decades provided important documentation of the value of pharmacists as members of the health care team, and the literature is replete with data supporting the positive effects of clinical pharmacy services on patient outcomes. This body of literature has led to heightened recognition of the clinical pharmacist's value, which is reflected in many states by statutes and regulations that increase the pharmacist's role in managing patients' medications.[6, 7]

During this pioneering era, rapid growth in drug development and medical research produced significant advances in pharmacotherapy. Drug products became more pharmacologically complex, and the emphasis on achieving cost-effectiveness and optimizing patient outcomes increased. Clinical pharmacist innovators contributed to the development of health-system pharmacy by addressing the increasing health care needs of patients. Professional organizations and early pharmacy leaders concurrently facilitated the evolution of practice standards to stimulate pharmacists to assume important roles in the increasingly complex health care system. Clinical pharmacists led the development of formularies and pharmacy and therapeutics committees, adverse drug event reporting, drug-use evaluations, and drug-use monitoring. In addition, clinical pharmacists began routinely providing specialized services including nutritional support and anticoagulation monitoring and intervention. This growth in the breadth and scope of practice fostered the advent of the

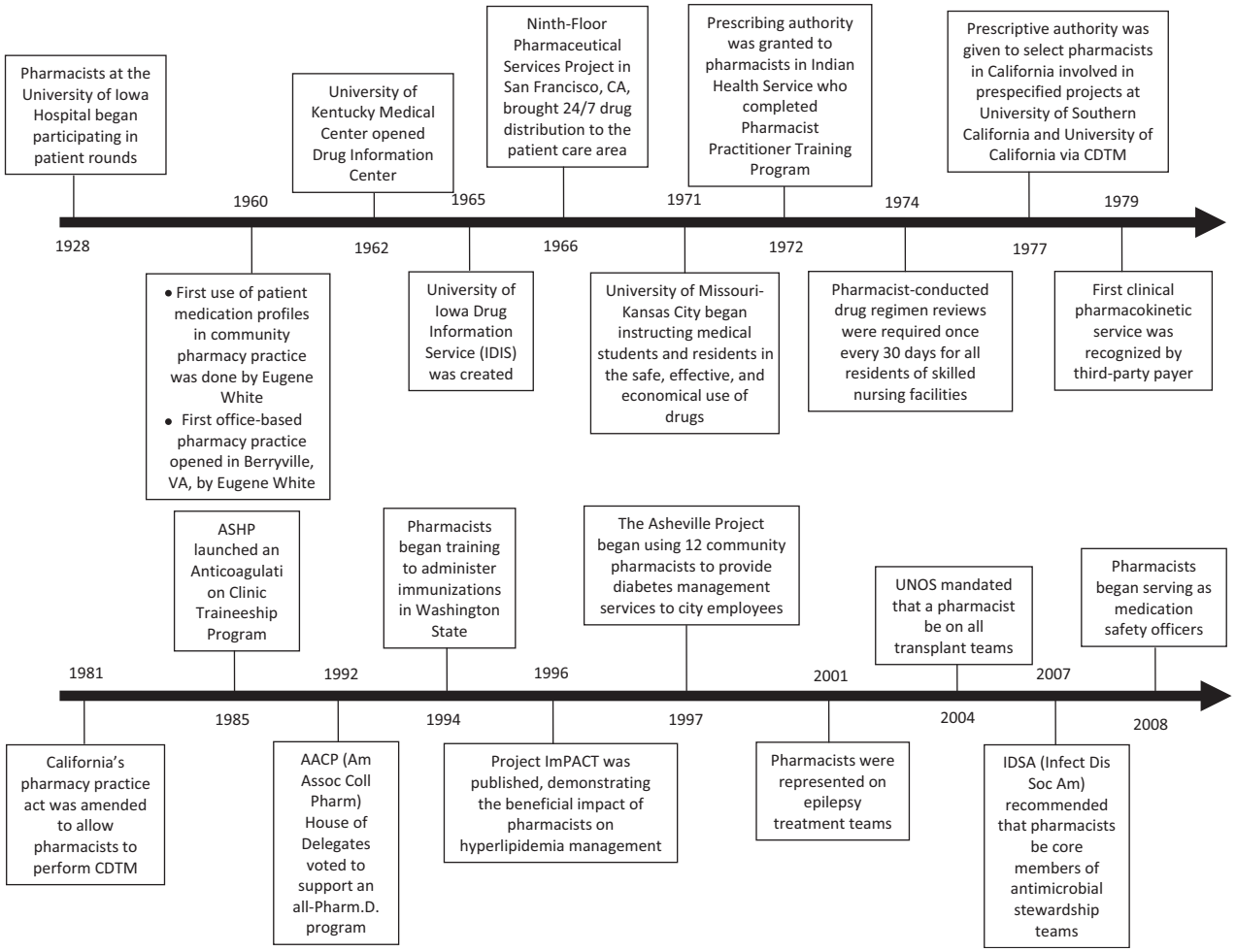

Figure 1. The clinical pharmacy innovation timeline. AACP = American Association of Colleges of Pharmacy; ASHP = American Society of Health-System Pharmacists; CDTM = Collaborative Drug Therapy Management; IDSA = Infectious Diseases Society of America; UNOS = United Network for Organ Sharing.

doctor of pharmacy (Pharm.D.) degree to meet the educational needs of modern pharmacy practice.

Historically, the development of clinical pharmacy practice was shaped by innovators who were continuously reinventing themselves and their practices. Contemporary clinical pharmacy practice has advanced to address important patient and societal needs including curtailing growing health care expenditures, reducing medication errors and adverse drug reactions, and managing the clinical use of narrow therapeutic index drugs. As the profession of pharmacy evolves, it is essential to recognize new opportunities that will drive the next innovations in clinical pharmacy practice. The growing opportunity for collaboration among academic pharmacy institutions and independent health systems cannot be overstated as a means to provide new incentives and resources for individual clinical pharmacists to change their practice paradigms. In the process, academic–practice partnerships can serve as incubators of innovation for a new generation of pioneering clinical pharmacists.

The Current Landscape of Innovative Clinical Pharmacy Practice

The transformation of pharmacy practice in the past century allowed the profession to achieve recognition of its contributions to the health care team toward improving patient outcomes. Recognition of clinical pharmacy's important contribution is reflected in national reports and important legislation. In addition, the widely publicized Institute of Medicine (IOM) report *To Err Is Human* brought new focus to the patient morbidity and mortality caused by medication errors.[8] Clinical pharmacy services

in hospitals nationwide grew substantially from 1989 to 2006 as such services were recognized as an effective means of reducing both the incidence and the severity of adverse events.[3, 9] A study of hospitals with large Medicare patient populations showed clinical pharmacy services could have a direct impact on lowering the rate of medication errors.[9] In 2000, the Department of Health and Human Services released Healthy People 2010 that contained four goals relevant to clinical pharmacists. These goals fueled the expansion of pharmacy informatics, not only for disseminating drug information but also for establishing reliable systems to ensure appropriate and safe medication use (e.g., electronic prescribing, clinical decision support systems). Then, 3 years later, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 established medication therapy management as a covered benefit for Medicare patients with several chronic diseases who were taking multiple covered prescription medications. The IOM report in 2000 and the National Quality Forum 2009 consensus report on "Safe Practices for Better Healthcare" recognized pharmacists' authority and accountability for the provision of medication management systems across an organization, as typified by the role of today's medication safety officer.[9]

In recognizing the value and role of pharmacists, these reports and legislative actions drove innovation, often providing the impetus for clinical pharmacy services to expand to other therapeutic areas and different patient settings beyond the traditional inpatient and outpatient clinical services. Thus recent innovations in pharmacy practice may be better characterized as an expansion of services driven more by stakeholders than by individual practitioners. For example, the United Network for Organ Sharing bylaws recognize specialized transplant pharmacists as essential members of the patient care team, and the mandate of the Centers for Medicare & Medicaid Services requires every transplant program to include a designated expert in transplant pharmacology to qualify for reimbursement. Likewise, the National Committee for Quality Assurance's patient-centered medical home model of care delivery includes pharmacists as an integral part of the interdisciplinary health care team.

Although the expansion of clinical pharmacy services has produced advances in practice and improvements in patient care, it is important for the profession to continue imagining and propagating innovation. A contemporary example of this type of innovation is the pharmacist-led services in genomic science, together with the application of genomics to drug response, that have been used to ensure maximal medication efficacy and safety.[10] Although innovations in pharmacy practice have positioned many pharmacists to assume responsibility for medication outcomes, many opportunities are still available to pursue practice innovations that would advance the profession. However, the pursuit of these opportunities can be stifled by financial, labor, time, technology, and other constraints that may exist in many pharmacy practice settings. Some of these constraints may be eased through the formation of academic–practice partnerships.

Innovation and Its Components

The process of "disruptive innovation" refers to an innovation that helps create a new market and value network that eventually disrupts existing products or services.[11] Examples from the private sector include companies such as Redbox that have "disrupted" Blockbuster and the creation of tablets that have "disrupted" laptops. These innovations take root at the bottom of the marketplace and move up to eventually displace established market leaders because they simply improve the "job needing to be done." In clinical pharmacy, the job needing to be done is defined by both the Joint Commission of Pharmacy Practitioners' vision of what practice should be in 2015 and ASHP's Pharmacy Practice Model Initiative.[12] These visions provide a blueprint for clinical pharmacists to engage in disruptive innovation to propel the profession forward. Technology and expanded roles for technicians are potential disrupters to the status quo of performing traditional pharmacy services. If the profession embraces these two disruptions, it could allow the redistribution of resources to clinical pharmacy services, which then could drive more disruptive innovation within the profession.

Certain individual and organizational characteristics contribute to innovation. One report described five discovery skills that distinguish great innovators: questioning, associating, observing, experimenting, and networking (Table 1).[13] Like any other professional, clinical pharmacists can grow complacent and find themselves trapped in their own silos, insulated from their environment. Clinical pharmacists are

Table 1. Five Discovery Skills That Distinguish Great Innovators[a]

Discovery skill	The idea in brief	How to practice the idea in pharmacy
Associating	Connecting seemingly unrelated questions, problems, or ideas from different fields to cultivate insight	Leave the pharmacy "bubble" through field trips, seminars, literature, and experiences in other professions
Questioning	Playing devil's advocate by asking "why," "why not," and "what if": challenging the status quo	Spend 15–30 min each day asking "why" and "what if" questions that challenge the status quo of your practice
Observing	Detecting small behavioral details, in the activities of customers, suppliers, and other companies, that suggest new ways of doing things	Spend time observing "the job needing to be done" by your customer (nurses, patients, doctors, other pharmacists)
Experimenting	Trying new experiences and exploring the world	Approach life and work with a hypothesis-testing mindset, implementing interventions and evaluating the result
Networking	Networking with individuals from diverse backgrounds, gaining radically different perspectives	Contact the five most creative people you know and ask them how they stimulate creative thinking. Hold idea meetings to bounce ideas off each other

[a]Adapted from reference 13.

detail oriented, analytical, and possess a comprehensive knowledge of drug therapy; however, to be innovative, they must also consider the big picture and create strategies for the future. Applying the five discovery skills can allow clinical pharmacists to escape their silos. At the organizational level, innovation begins with the right people. Organizations that have gone from "good to great" did not first ask "where to?" but rather "who?"[14] To foster innovation, an organization should first identify and attract innovators—both internally and externally. Once this human resource is in place, empowering innovators to address and resolve barriers with the assistance, vision, and support of leadership can enable high levels of execution and achievement.

Barriers to Innovation

Innovation in health care is often stifled by financial, cultural, and regulatory challenges. Financial barriers include lack of monetary resources to fund innovation (e.g., lack of reimbursement for clinical pharmacists, inadequate capital for expansion or reinvestment) and economic disincentives (e.g., billing systems that discourage provision of care through reduced reimbursement). Cultural barriers encompass both individual and organizational challenges, such as the fear of failure (i.e., "playing not to lose," rather than playing to win) and the complexity of change (e.g., the multifaceted issues that arise with the implementation of electronic health records and associated clinical decision support tools). Regulatory barriers, including statutory and legislative actions (e.g., state pharmacy practice acts, state and federal laws), as well as pressures potentially exerted by other health professional organizations (e.g., medical and nursing associations) regarding scope of practice, may stifle innovation by limiting clinical pharmacist activities.

These barriers may potentially be overcome by planning and implementing pilot or "proof-of-concept" projects to first study the impact of process change on a small scale. If a pilot innovation shows promise, its further dissemination can be encouraged. Moreover, this can minimize the impact of financial, cultural, and regulatory barriers, particularly in the short term. Unfortunately, in practice, few innovations are successful initially, underscoring the importance of commitment to rapid-cycle change as well as flexibility among key stakeholders (which can demand an organizational culture shift in some instances). Once an innovation demonstrates value to an organizational process, it has potential to achieve scalability and sustainability, which are important to extending the impact of any innovation. These innovation projects require organizational ownership, support, and a commitment to continuous quality improvement.

The role of the clinical pharmacist continues to expand, but in many settings, the historical demands for balance among professional efforts (e.g., practice, service, research, and scholarship) remain. These demands, coupled with additional barriers such as lack of time, resources, or incentives to advance their practice, can leave clinical pharmacists feeling overwhelmed, sometimes leading to career paralysis. Individually, these competing demands are barriers to innovation; collectively, they exert a significant negative impact on clinical

pharmacy's advancement that can induce complacency and lead to missed opportunities (i.e., increased opportunity cost) for individuals and organizations alike.

Gaps in Practice Are Opportunities for Innovation

Gaps arising from logistical, financial, personnel, or geographic limitations in clinical pharmacy practice still exist. However, such gaps may spur innovation including deploying technological solutions, such as telemedicine services, to address the deficits. Current initiatives to develop new and innovative practice models and legislative efforts to expand the use of CDTM agreements suggest gaps in clinical pharmacy practice where the profession missed opportunities to innovate and now must "catch up." Alternatively, gaps may represent opportunities to learn from other professions and adopt new paradigms through innovation.

The Academic–Practice Partnership Can Foster Innovation

In many instances, health care systems and organizations are not optimally collaborating with academic institutions.[15, 16] Yet several opportunities exist to optimize the academic–practice partnership. This will require visionary leadership that sets a direction and establishes performance targets that are measurable, meaningful, and mandatory. First, however, collaboration is needed to generate innovation and achieve greater performance. Collaboration between academia and health care systems is often discussed but not executed; therefore, it is critical that performance metrics be established to hold both partners accountable for the success of the collaborative effort and to induce behaviors consistent with the delivery of high-quality care. For example, during their experiential training, health systems experiencing high readmission rates or frequent errors because of poor medication reconciliation may collaborate with an academic partner program to use both its faculty and its students to create a process whereby outcomes are improved. With continual coverage by students, faculty, and staff, metrics can be defined to assess the program and ensure outcomes are being met. Such a partnership can be financially beneficial for the health system while advancing the mission of the academic partner.

Second, symbiotic academic–practice partnerships that allow value-added clinical pharmacy services must be fostered. These partnerships generate opportunities that neither partner alone can provide. Beyond serving as practice sites, health care systems and organizations are a conduit for expanding access to additional patient populations, promoting opportunities for clinical research and other scholarly activity, and stimulating new ways in which to improve patient outcomes. Personalized medicine represents one opportunity for future innovative, symbiotic academic–practice partnerships. Clinical implementation of pharmacogenomic testing is rapidly increasing as the costs associated with genetic testing decline. To fully realize the benefits of precision therapeutics with pharmacogenomics, the evidence base must continue to grow, clinical guidelines and decision support tools must be developed, and academic institutions must adequately prepare the health care workforce of the future. For example, the University of Colorado School of Pharmacy and Kaiser Permanente Colorado have established a collaboration around pharmacogenomics that focuses on research, teaching, and experiential training involving clinical pharmacists. Other academic institutions provide opportunities for health care facilities and organizations by contributing their expertise to securing extramural support for systems improvement or clinical service expansion, increasing access to wider networks of experts, providing teaching opportunities, and maximizing interprofessional education and practice. Such opportunities are exemplified by the partnership between the Texas Tech University Health Sciences Center School of Pharmacy and the Veterans Affairs North Texas Health Care System (VANTHCS).[17] In this partnership, VANTHCS purchases faculty professional services to augment its clinical specialist staff. Through this partnership, VANTHCS has expanded clinical pharmacy services to multiple specialty areas. The partnership has also increased clinical teaching capacity (i.e., experiential education and resident training) to the benefit of both partners.[17] This collaboration clearly enhances the ability of both institutions to better meet their teaching, research, and practice goals in a cost-effective manner.[17]

Third, academic–practice partnerships must emphasize continuous quality improvement and continually strive to improve the delivery of medication management services. A partnership between the Temple University School of

Pharmacy and its university hospital exemplifies this point. As part of this collaboration, all third professional year pharmacy students provide inpatient anticoagulation and smoking cessation counseling at the hospital as an introductory pharmacy practice experience (IPPE). This program also provides the hospital pharmacy department with coverage of a mandated service without increasing departmental labor and exposes students to principles of continuous quality improvement that they can apply in their future careers. In another example of an academic–practice partnership, the University of Illinois at the Chicago College of Pharmacy collaborates with the Illinois Department of Corrections using telemedicine to bring the clinical expertise of the academic institution to the patient population of the practice partner. In this partnership, clinical pharmacists use technology to provide access to quality human immunodeficiency virus and hepatitis C care to prisoners at reduced costs. This multidisciplinary practice involves clinical pharmacy support and patient management at different locations. Telemedicine practice is expected to continue to grow and evolve with the technology—from desktop platforms to mobile wireless devices—which will further improve patients' ability to access care and significantly affect the future of health care.[18] This area represents a potential opportunity for the academic–practice partnership to foster innovation.

Although the institutions in the preceding examples have found optimal ways to collaborate, it may take a *culture change* within academia and its partner organizations to optimize the academic–practice partnership on a broad scale. To effectively collaborate, the culture on both sides of partnerships must embrace individuals who dedicate their time to the pursuit of innovation. An effective infrastructure that supports both partners can facilitate clear communication and serve as an incubator for innovative ideas. Both parties must recognize where their motivations and visions align and support each other in pursuit of the purpose of the partnership. Incentives to overcome the previously mentioned barriers and promote collaboration may help to launch a successful academic–practice partnership; however, leadership, passion, and continued focus on performance are necessary to optimize partnership and foster innovation. To succeed, the incentives for individuals and organizations must align with patient-centered outcomes and high-quality medication management, such as the transition-of-care medication reconciliation program or the telemedicine initiatives mentioned earlier.

Key Ingredients for the Academic–Practice Partnership to Foster Innovation

Leadership Support

Innovation will fail without a clear vision and support from leadership. Leaders in academia, health care systems, and organizations must recognize mutually beneficial opportunities and share their visions for a partnership. They should be mutually accountable for ensuring that the desired innovations are aligned with the mission of each partner. Through strategic planning processes, plans can be developed, prioritized, and implemented to achieve the vision.

The Patient Protection and Affordable Care Act (commonly referred to as the ACA) is an example of an opportunity for leaders in academia, health care systems, and organizations to set a clear vision and establish partnerships based on opportunities for the profession that this legislation may create. Many health care stakeholders and leaders believe the ACA represents a paradigm shift in health care delivery. Consequently, the legislation offers a significant opportunity for the profession to position pharmacists as integral members of a new patient-centered, team-based health care system. Because the ACA will mandate a reimbursement model that incentivizes delivery of care to achieve quality outcomes, it is critical to demonstrate the contributions and impact of medication management by pharmacists practicing in team-based care environments. Academia can provide the expertise in point-of-care research methodology, and health care systems and organizations can provide the expertise to analyze the practical applications and identify barriers to implementation.

Shift in Current Practices in Professional Education and Training

With the changing health care landscape, education must now, more than ever, continue to strive to be one step ahead. The environments in which students will practice tomorrow will be different from those of today. Academic pharmacy must embrace changing models of care delivery and lead innovation to expand practice opportunities. This will require exposing students to

learning environments that promote interdisciplinary teamwork and helping them develop the abilities necessary to adapt to changes in practice. One recently implemented innovation in education is "flipping the classroom," whereby students learn course material at home and then use class time to apply their knowledge through case studies, team-based exercises, and other interactive activities.[19] Academic pharmacy is facing an era of unprecedented opportunity to teach future pharmacists how to practice within a team of health care professionals and use information technology to advance patient care. What if pharmacy students and other health care students routinely learned material online and then convened to apply the material, solve simulated or real problems, and communicate with each other? Or what if they were consistently asked to address the problems of our health care system, such as the creation of decision support tools that are integrated with computerized order entry systems to optimize safe and effective medication use in specific patient populations? Activities such as these are changing the learning environment and may help develop the next generation of innovators. Regardless, changes in education and training are creating a future workforce of clinical pharmacists well positioned to practice within highly functioning interprofessional teams.

An example of an innovative interprofessional learning experience is the Health Mentors Program (http://www.jefferson.edu/interprofessional_education/programs/health_mentors_program.html) at the Thomas Jefferson School of Pharmacy. In this interprofessional educational program, teams of health care students from pharmacy, medicine, nursing, occupational therapy, and physical therapy work as a team on a patient experiencing a variety of health-related issues. Each semester involves a visit with the mentor and completion of assignments including obtaining a comprehensive medical, life, and health history; performing a home visit to assess safety issues; and developing an evidence-based wellness and self-management support plan. This program encourages teamwork and provides an in-depth understanding of how health care professionals can work together to improve patient care by facilitating interaction among the disciplines to complete specific patient care assignments. The program occurs early in the curriculum, thereby providing a practical introduction to health care that can stimulate critical and innovative thinking. Many other efforts are being made to increase interprofessional and advanced learning opportunities; however, for practice innovation to be self-sustaining, the pharmacy profession needs more of these interprofessional educational processes.

Experiential education (i.e., advanced pharmacy practice experiences and IPPEs) and graduate pharmacist training (i.e., residencies and fellowships) are perhaps the most common form of academic–practice partnerships in pharmacy. The medical education and graduate medical education models have been more successful in integrating medical students and residents into practice. At present, the accrediting bodies that oversee pharmacy professional education and postgraduate residency training do not stipulate that the training of Pharm.D. students and pharmacy residents must be integrated. However, some suggest that postgraduate pharmacy residency training should include direct involvement with Pharm.D. students and exposure to teaching.[20] The University of North Carolina (UNC) Hospitals and the UNC Eshelman School of Pharmacy built a "Partnership in Patient Care" through a joint strategic planning process. Through this process, it was recognized that their motivations and outlooks aligned in the area of experiential education; thus they developed a shared vision to make pharmacy students an indispensable and vital part of patient care at the hospital. This shared vision produced a "layered learning practice model" in which pharmacy practice residents team with students to serve as clinical pharmacist extenders, providing patient education, medication reconciliation, and patient profile review. An approach like the layered learning practice model has many potential benefits including the improved integration of pharmacy students and trainees into team-based care and perhaps an easing of current supply/demand concerns related to experiential education and residency training.[20]

Cultivation of Future Innovators

To form a true academic–practice partnership capable of producing innovation in education, practice, and research, both partners must be responsible for cultivating innovators. To innovate, individuals need creative latitude, time, and resources from the academic–practice partnership. Unlike those employed in other sectors of the profession, faculty members have a unique opportunity to exercise their academic freedom to spark innovation. Historically, individuals leveraged this academic right to help

academia serve as an incubator for innovation. Often, however, for individuals employed in health care systems and organizations, research or creative activity is not promoted because generating new knowledge is typically not one of their core missions. Yet to continually advance the profession, pharmacists in all practice settings need to be encouraged to engage in creative or entrepreneurial activities. Ideally, the goals of academic–practice partnerships will be fulfilled when the efforts of faculty and their partner-based collaborators produce innovation and successful outcomes, followed by dissemination of the results of these pursuits. This benefits academia and its partner institutions and advances the profession. For example, academic institutions can use their expertise to support patient outcomes research within an innovative practice created by their partner-based collaborators.

Together with creative latitude, irrespective of practice setting, pharmacists need protected time to foster innovation. Several possible ways that academic–practice partnerships can provide individual protected time to cultivate innovators include using or creating shared positions, devising ways to meld research and patient care efforts, and using new technology to bring efficiency to their operations. In addition, faculty and partner collaborators might be allowed to spend up to 20% of their time and effort on duties or projects not in their core job description (e.g., academic/practice consulting). During this time, individuals could be encouraged to design something new or fix something that is broken.

Clinical pharmacists also need support for skills training to create innovative practice sites, classrooms, or research efforts. Support can be provided using incentives such as individual intramural grant awards for research on innovation in clinical pharmacy practice or education. Individuals who lack the ability to innovate or who do not perceive it as their responsibility may benefit from additional resources such as toolkits, articles, programming at meetings, webinars, podcasts, or continuing education to help build their skills and change their perception. Mentorship is an additional tool that can help mold individuals into innovators. It is critically important that the clinical pharmacy discipline engage mentors and leaders within academia, health care systems, and organizations to help others bring innovation and continuous improvement to their daily professional efforts. As described previously, with the changing landscape in health care and higher education, there are many opportunities for the properly motivated and incentivized individual to pursue innovations in clinical pharmacy practice, education, and research.

Key Points

This commentary examined how academia and health care systems and organizations might collaborate more optimally to develop new and innovative practice advances that improve patient care and patient outcomes. In doing so, the following key points are worth further mention.

- Clinical pharmacy has a rich history of visionary pioneers who advanced practice through innovation. Their efforts helped develop clinical pharmacy practice into a patient-centered discipline recognized for its contributions to improved medication therapy outcomes. However, individual practitioners are less likely to drive practice innovation today.
- Opportunities to foster disruptive innovation within the profession exist at both the individual and the organizational level, but existing barriers lead to missed opportunities by encouraging or incentivizing complacency.
- "Missed" opportunities (i.e., gaps in clinical pharmacy practice) can also induce innovation. The academic–practice partnership is a mechanism to address these gaps and promote practice innovation through collaboration and symbiotic partnerships that emphasize continuous quality improvement.
- A culture change is needed to optimize the academic–practice partnership so that it is capable of addressing new paradigms of health care delivery through innovative practice. This culture change must include incentives to overcome common barriers for individuals and organizations and should align with patient-centered outcomes and high-quality medication management.
- The academic–practice partnership can foster innovation by providing effective leadership, adopting new approaches to professional education and training, and cultivating future innovators. To achieve an effective partnership, the partners must achieve a shared vision, collaborate in the education and training of the next generation of clinicians, and mutually embrace the responsibility for cultivating future innovators.

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