Working Title: Unifying a Profession and a Health Care System: Building the Case for a "One Pharmacy" Global Community

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Word Count (December 17 Draft Version): **2,033**
Figures: 1
Tables: 1
References: 10

Introduction: A Global Pharmacy Practice Collaboration and Innovation Summit Begins a Movement

Despite differences in health care across countries, the rational use of medicines to achieve better patient outcomes remains a uniting, universal concern. Innovative health systems pursue the multidisciplinary engagement of pharmacists across settings to address shortages in the primary care workforce, needs of aging populations, and challenges of access to quality care. In meeting these demands, pharmacy practice is rapidly evolving from product-centered to patient-centered care. Both domestically and internationally, pharmacy schools and associations are ideally placed to elevate pharmacy practice standards and prepare future pharmacists to be global agents of change.

To catalyze this collaborative effort for change, the PharmAlliance, a unique partnership among three leading schools of pharmacy at the University of North Carolina at Chapel Hill (United States), Monash University (Australia), and University College London (United Kingdom), convened a Global Summit of Pharmacy Practice Innovation in November 2017 to bring together the leaders of the professional associations of the three countries. Summit attendees (Table 1) worked to identify innovative best practices in the three countries across care settings that establish collaboration and drive unification. The Summit focused on: pharmacy practice innovations within the three countries, strategies for implementing best practices, and opportunities for collaborating across organizations and countries.

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This paper describes the resulting framework of "One Pharmacy Community", conceptualized from the overarching theme of the Summit: despite national differences in health care systems, pharmacy faces similar challenges across the three countries. Recognizing and articulating these similarities into a One Pharmacy Community framework enables the development of a consistent global nomenclature of pharmacy services. A consistent approach to optimizing medications across care settings could dramatically improve health outcomes and lower costs at the system level, and demonstrate the impact of unified pharmacy services as a clear benefit to clinical and economic goals.

We present the four primary pillars of the One Pharmacy Community that emerged from the deliberations at the PharmAlliance Global Summit of Pharmacy Practice Innovation (Figure 1). Each pillar, education, research, practice and collaboration, is equally essential and codependent on the others to enable pharmacy practice to meet the global requirements of patient-focused health care design and delivery.

One Pharmacy Education

Universities train and educate students to be active contributors to society. Graduates work in positions connected to their training, contributing to the communities in which they live. While this mission has held true for decades, the academic landscape is rapidly changing from governments reducing their financial support for education to students questioning the value of certain degrees. Pharmacy schools are focused on developing graduates into not only pharmacists who dispense medicines, but also into clinicians who advance the profession to improve patient health outcomes. During the Summit, conversations among the PharmAlliance schools of pharmacy and the leaders of the professional associations, identified opportunities to promote pharmacy education:

- Schools could collaborate to offer core content, either by one school or in concert with others, and share resources. Beyond offering core content, schools could collaborate on more effective content delivery approaches. Examining the effectiveness of instructional design techniques and disseminating best practices could aid development of the next generation of pharmacy and practitioners[1]. For example, educational research has helped demonstrate the effectiveness of e-learning and simulation in pharmacy curricula across countries while also showing the impact of different active learning pedagogies[2].
- Greater collaboration among academic institutions and professional associations would advance the development of students and members across the continuum of undergraduate education to clinical practice. Incorporating new educational modalities into all training, and studying its impact could improve patient care. Educational models, both within the curricula and for continuing education, should mirror the interprofessional approach of health care delivery. Increasing the connectivity between interprofessional education, continuing education, and workplace learning across disciplines can help further improve patient care and collaborative practice[3]. Professional associations can assist by further modeling the importance of interprofessionalism in their educational activities as continuing interprofessional education evolves.
- Students and pharmacists need training to become agents of change. Pharmacists can be leaders in the safe and rational use of medications. Leadership can be a trained trait, and without dedicating time for developing leaders at all levels of the profession, patients will not get the best care pharmacists can provide. Many pharmacy curricula have embedded leadership as a core competency, while professional associations have called leadership a professional obligation for all[4].

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Academia and associations can work together in building training initiatives, as student participation in professional organizations is a key element of developing sustainable leadership in pharmacy[5].

Recognizing that pharmacy schools and professional associations engage in professional education, the One Pharmacy Education framework recommends pursuing opportunities for sustained collaboration and communication to advance pharmacy education.

One Pharmacy Research

Two factors have driven the global evolution of pharmacy practice: the demand to optimize medication use through collaboration; and the unmet need to engage and educate patients around appropriate medication use. Presentations showcasing evaluation of newer pharmacy services at the Summit demonstrated that, if implemented correctly, these drivers can both improve patient outcomes and control the overall cost of health care. Research and evaluation therefore play a vital role in creating the evidence for the evolution, expansion, and adoption of innovative pharmacy services globally.

To be relevant to practice realities, real-world research in care delivery 'laboratories' and use of implementation science approaches are critical. Using implementation science not only measures the effectiveness of interventions and services, but also provides a roadmap for the implementation and assess fidelity of those interventions. Creating real-time evidence on effectiveness and implementation empowers payers and policymakers to make better decisions around payment and delivery reforms.

Research can and should inform policy. For example, a National Health Service (NHS) project aims to integrate pharmacy and medication optimization into the Sustainability and Transformation Partnerships (STP) in the UK[6]. The project seeks to enhance pharmacy patient care services by deploying pharmacists to work with interdisciplinary teams. A similar study in the US tests the implementation and effectiveness of comprehensive medication management (CMM) by embedding pharmacists within primary care physician practices. Researchers developed a CMM implementation system to ensure consistent application of the intervention and inform sustainability and reimbursement[7]. Another US example is from The Centers for Medicare and Medicaid Services (CMS), who implemented a hospital readmissions reduction program that withholds a portion of Medicare payments for excessive readmissions[8]. A pharmacy research project, Pharm2Pharm (P2P), was implemented and evaluated to inform this CMS policy. P2P demonstrated how intradisciplinary collaboration can improve outcomes and reduce hospital readmissions. Originally implemented in Hawaii, P2P built communication protocols between hospital pharmacists and local community pharmacists to provide patients with a 'warm handoff' upon hospital discharge to optimize medication regimens going forward. These initiatives illustrate how real-world research can demonstrate the impact of enhanced pharmacy patient care services to inform health care delivery reforms and policy.

Deploying a One Pharmacy Research agenda hinges on three imperatives: recognizing growth in collaborative team-based care approaches at the local level; improving access to real-world practice 'laboratories' to evaluate interventions; and bridging research and pharmacy practice through implementation science to enable scalability and sustainability.

One Pharmacy Practice

Nowhere is the need for a One Pharmacy Community more prevalent than in the evolving demands on the practice of pharmacy. As health care continues to transform globally with the introduction of

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cutting-edge digital health technologies, approval of new and complex medications, as well as advances in and pressures on the care delivery system, pharmacy profession must step up and meet these challenges and opportunities to ensure the profession is a part of the solution. As such, this will require pharmacists to coordinate and develop synergistic services that ensure medication regimens are optimized across care settings.

Examples of progressive medication management programs that demonstrate better patient care and clinical outcomes exist within and across care settings. A lack of knowledge outside the pharmacy community of these successes, however, hinders broader adoption. As pharmacists demonstrate their ability to optimize the appropriateness, safety, and the effectiveness of drug therapy at the patient level, they create advocates among those who benefit. As the pharmacy community better aligns around enhanced pharmacy practice, other collaborative services emerge including educational programs, preceptor training, transitions of care initiatives, medication adherence packaging, and home delivery. Exploring opportunities of enhanced practice creates a natural framework for the One Pharmacy Community.

As identified through the Social, Technological, Economic, Environmental, or Political (STEEP) framework[9], the critical actions to be prioritized and scaled up within a One Pharmacy Practice framework are:

- Respond to delivery system changes to promote proactive and coordinated care by integrating pharmacy practice services into population health management models that will prevent chronic condition exacerbations and reduce down-stream health care costs.
- Expand interdisciplinary and team-based care with primary care and general practice physicians by incorporating reimbursable medication management services into comprehensive primary care[10].
- Connect pharmacy services across and within care settings using health information technology to connect and facilitate collaboration among patients, providers, and pharmacists.
- Expand pharmacist competencies to enable enhanced practice activities like implementation of evidenced-based interventions and best practices that enable sustainability and scalability of evolving services.

Ultimately, the payers, providers, patients, and other stakeholders will judge the value of enhanced pharmacy services, requiring that enhanced services address their needs and desired outcomes.

One Pharmacy Collaboration

Individual organizations and academic institutions, represented at the summit, discussed their current areas of focus in the education, research, and practice domains, as well as the challenges in achieving them without collaboration within academia, practice, and professional organizations. Participants recognized several aspects of collaboration central to a One Pharmacy Community framework:

- Pharmacists, no matter where they work, collaborate with other health care professionals and other pharmacy sectors for patient care. Preparing the pharmacy workforce to reflect real-world, interprofessional practice, requires understanding methods to operationalize collaboration, and incorporating them into the curriculum.
- Multiple models of collaboration between academia and professional organizations are required:
  - *Similar professional associations across countries* recognized the similarities in both challenges and current goals at the Summit. Collaboration on their similar initiatives allows

for combining resources and increases the likelihood of success. For example, one organization shared its success on a project that another organization had identified as a new goal. Neither knew of the other's interest and experience before the Summit.

- o *Educational institutions collaboration,* as exemplified by the successful collaboration among three pharmacy schools represented by the PharmAlliance, may be replicated by other schools of pharmacy.
- o *Different organizations in the same country*, while recognizing that collaboration among them presents difficult challenges, (many participants) noted that this collaboration is the most critical. To maximize the value of pharmacy services to the patients and health care systems generally, demonstrating both inter- and intra-professional collaboration is crucial. Combining resources, talent, connections, and momentum enable and accelerate success. Achieving the goals of the profession is broader than those of any one organization, and requires identifying ways to overcome limitation the business of organizations may present.
- o *Collaboration across academia and professional associations*, though occurs frequently, often involves one-time, project-based initiatives. Developing sustained activities that benefit all institutions involved would fuel success and advance the profession globally.

In summary, collaborations within and across health care professionals are needed to enable and strengthen a One Pharmacy Community.

Conclusion

At the PharmAlliance Global Summit, participants identified current challenges and opportunities facing the health care delivery and the role pharmacy profession can play for the benefit of patients. As such, four foundational pillars of a One Pharmacy Community framework were proposed: Education, Research, Practice, and Collaboration. Efforts to move from the framework's concepts to implementation will follow. As a first step, Summit participants recommended the development of a virtual, online platform to facilitate ongoing collaboration and discussion, such as sharing of projects, research, tools, and best practices. Developing an online platform will inherently enhance interaction within the profession and between academia and practitioners. In addition to facilitating professional collaboration on innovative pharmacy services, the platform can enable sharing resources to help the academic institutions and associations prepare the future workforce and develop future research programs. To move this vision from an idea to a reality, the UNC Eshelman School of Pharmacy is currently building a pharmacy community sharing platform called Optimizing Medication for Better Health. It is envisioned that this website, scheduled for launch in the summer of 2019, will be adapted for the global One Pharmacy Community and supported by the PharmAlliance institutions. Ultimately, One Pharmacy Community will not only unify the profession, but help to unify fragmented health care delivery systems to the benefit of patients globally.

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Figure 1: One Pharmacy Community Framework

Framework goals aim to achieve significant improvements in patient-centered care and outcomes on a global level by unifying the profession of pharmacy and enabling pharmacy services integration within an evolving health care delivery ecosystem.
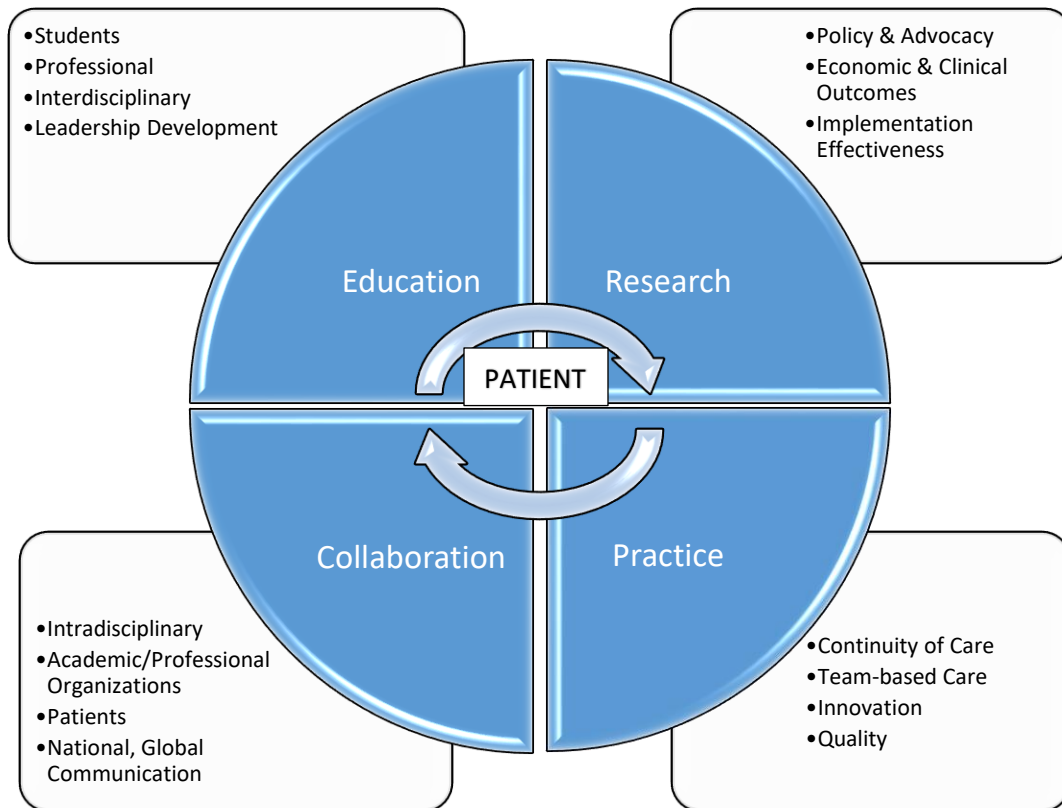

Table 1: Organizations Represented at the Global Pharmacy Practice Collaboration and Innovation Summit Convened by PharmAlliance

Australia	United Kingdom	United States
Monash Health	UCL School of Pharmacy	UNC Eshelman School of Pharmacy
Australian Pharmacy Council	Health Education England - London and South East Pharmacy	American Association of Colleges of Pharmacy
Monash University - Faculty of Pharmacy and Pharmaceutical	Royal Pharmaceutical Society	American College of Clinical Pharmacy

Sciences		
Pharmaceutical Society of Australia	National Pharmacy Association	American Society of Health-System Pharmacists
The Pharmacy Guild of Australia	UK Clinical Pharmacy Association	American Pharmacists Association
		National Community Pharmacists Association
		UNC Health Care
		University of Rochester Medical Center

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