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Beyond the Pharmacists' Patient Care Process: Cultivating Patient Care Practitioners by Utilizing the Pharmaceutical Care Framework

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Beyond the Pharmacists' Patient Care Process: Cultivating Patient Care Practitioners by Utilizing the Pharmaceutical Care Framework

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Abstract

The adoption of a standard pharmacists' patient care process (PPCP) for the profession, and inclusion of the PPCP in the ACPE Standards 2016, are positive steps for pharmacy education and creates consistency among pharmacy practitioners, regardless of practice setting. The PPCP, and its implications for practice, needs to continue to be embraced by educators and emphasized with students. The PPCP should be the patient care process taught to students and integrated throughout didactic courses and experiential experiences. However, teaching the PPCP or a particular service, such as Medication Therapy Management (MTM) or Comprehensive Medication Management (CMM), is not enough. The patient care process must be taught as one component of pharmaceutical care. Without also learning the philosophy of practice and practice management systems, student pharmacists will not be prepared for the realities of practice. Pharmacists are taking on new roles, getting paid in new ways, and in positions to take responsibility for a patient's medication-related needs. Student pharmacists need to be in a position to take advantage of these opportunities as they progress throughout their careers.

Keywords: Pharmacists' Patient Care Process, Pharmaceutical Care, Pharmacy Education

Introduction

Pharmacists work with the healthcare team and patients to optimize medication use and improve outcomes. However, there is a lack of consistency across Pharm.D. curricula in preparing students to take on this role as a patient care practitioner in healthcare. Cultivating patient care practitioners requires a consistent and intentional curriculum that prepares student pharmacists for practice. This paper advocates for a framework to ensure students pharmacists are prepared to be patient care practitioners. This framework includes a philosophy of practice, the pharmacists' patient care process, and practice management systems.

Importance of Patient Care Practitioners

Components of Pharmacy's Professional Practice

Pharmaceutical care, is the professional practice of pharmacy and is defined as "the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life."[1] Pharmacy's professional practice has a similar structure to other health professions' practices, yet the specific elements of the practice are unique to pharmacy. All professional practices, pharmacy included, consist of three foundational components:

> *"(1) a philosophy of practice, which is the ethical foundation for the practice and prescribes appropriate professional behavior; (2) a patient care process, which organizes the knowledge and decisions that need to be made and the actions that need to be taken; and (3) a practice management system, which allows the services to be delivered in an organizational structure that assures quality, accountability, and payment in order to sustain the long-term viability of the practice."*[2]

Each health professions' patient care process is unique and pharmaceutical care is no different. The pharmacists' patient care process includes ensuring medications are appropriately indicated, effective, safe, and convenient for the patient to take as intended (e.g. patient-centered adherence). This is the unique and essential contribution pharmacists provide for the patient and the interprofessional care team.

Although pharmaceutical care mirrors other professional practices in these three components, most other professions had their practices defined prior to establishment of their profession.[2] Only within the last 30 years has pharmaceutical care been adopted by the profession of pharmacy in response to the profession's evolution from a product-focused to a patient care profession. Additionally, the profession of pharmacy adopted pharmaceutical care as a concept well ahead of the adoption of these foundational components of the philosophy of practice, patient care process, and practice management systems.[3]

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As the healthcare system continues to progress and demand that more pharmacists provide direct patient care, it is concerning that this framework may not be the driving force of education at colleges and schools of pharmacy. If the desire is to prepare pharmacists to be able to provide pharmaceutical care, pharmacy curriculum must be grounded in the three foundational components of a professional practice. This then becomes the framework from which all content, teaching, and assessment decisions are made.

Traditionally, pharmacy education has emphasized how medications work, how they are used, and how they interact with other medications and the human body to produce both positive and negative effects. Even though pharmacists were educated to possess an expert body of medication knowledge, the application of this knowledge in practice was not standardized nor was it embedded in a consistent manner across the pharmacy curriculum. In lieu of this, the practice setting was often used as a means of organizing and standardizing the application of knowledge and skills in practice. However, a variety of practice settings exist, so this presents a challenge to ensure student pharmacists graduate with a uniform way to apply their skills and knowledge to meet the drug-related needs of any patient regardless of the setting in which a patient interaction takes place.

Recently, steps have been taken by the profession to define a uniform patient care process for educators and practitioners. In 2014, the Joint Commission of Pharmacy Practitioners (JCPP) published the Pharmacists' Patient Care Process (PPCP), informed by the patient care process component of pharmaceutical care.[4] The PPCP consists of a five-step process in a wheel surrounding patient-centered care. The steps are Collect, Assess, Plan, Implement, and Follow-up: Monitor and Evaluate, with ongoing communication, documentation, and collaboration linking the steps together throughout the process (See Figure 1a).[4] The wheel aligns directly with the patient care process in pharmaceutical care practice as described by Cipolle, Strand, and Morley,[2] which includes Assessment (includes Collect, Assess), Care Plan (includes Plan, Implement), and Follow-up evaluation (See Figure 1b). In addition, Standard 10.8 of the Accreditation Council for Pharmacy Education (ACPE) Accreditation Standards 2016 requires teaching of the PPCP as described by JCPP[5] However, teaching the PPCP, or the patient care process component of pharmaceutical care, alone is not sufficient. The PPCP needs to be taught in the context of professional practice, which includes the philosophy of practice and practice management systems, and it needs to be taught as the foundational framework of the Pharm.D. professional curriculum.

Figure 1a. Joint Commission of Pharmacy Practitioners Pharmacists' Patient Care Process[4] (used with permission)

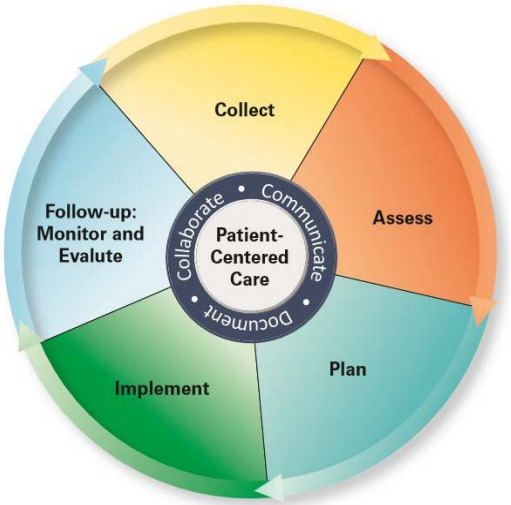
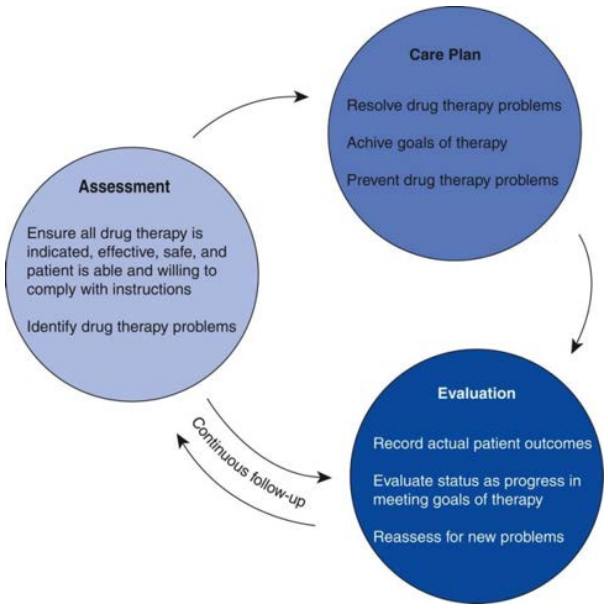


Figure 1b. Pharmaceutical Care Patient Care Process[2] (used with permission)



In addition, teaching the PPCP or a particular service, such as Medication Therapy Management (MTM) or Comprehensive Medication Management (CMM), is not enough. The patient care process must be taught as one component of pharmaceutical care practice. Without learning the philosophy of practice or practice management systems, pharmacy students will not be prepared for the realities of practice. Pharmacists are taking on new roles, generating revenue for their services, and have the opportunity to take responsibility for a patient's medication-related needs. Graduating pharmacists need to be in a position to take advantage of these opportunities as they progress through their careers. This means they must be prepared to not only provide care for patients, but embrace the philosophy of practice and the components of practice management.

A Note on Nomenclature

While the JCPP has created a standard patient care process for pharmacists, additional challenges arise from a lack of consistent terminology in the profession. For example, inconsistencies exist in the names given to the patient care services provided to patients. Many terms and definitions, such as Medication Therapy Management (MTM),[6] Comprehensive Medication Management (CMM),[7] Medication Management Services (MMS),[2] Comprehensive Medication Review (CMR),[8] have been used to describe these direct patient care services provided by pharmacists within pharmaceutical care practice. For the purposes of this paper, a specific term for the services provided within the practice of pharmaceutical care has not been adopted. However, providing patient-centered pharmaceutical care services (i.e. taking responsibility for meeting *all* a patient's drug-related needs by ensuring all medications are appropriately indicated, effective, safe, and convenient) is what bridges the philosophy of practice to the patient care process, and is what is meant by direct patient care services provided by pharmacists. The Patient-Centered Primary Care Collaborative's definition of CMM aligns with the services provided within pharmaceutical care.[7] Regardless of the specific service or nomenclature, adopting pharmaceutical care as the framework of a Pharm.D. curriculum will prepare graduates to provide any of these patient care services aforementioned.

Evolving Pharmacy Practice

The quickly evolving United States healthcare system has an increased focus on health outcomes, quality, and changing payment models, and the need for pharmacists on the healthcare team has never been greater. Pharmacists in all healthcare settings (e.g. ambulatory, inpatient, long term care) have continued to demonstrate a positive and unique impact on improving healthcare quality, decreasing overall healthcare costs, and enhancing the patient experience (i.e. the Triple Aim).[9] Research has demonstrated increased adherence,[10] decreased healthcare utilization costs,[11] prevention of adverse effects,[12] and increase in treatment guideline adherence.[13] However, even with data showing the impact pharmacists can make to improve patient care, the standards of practice pharmacists use and patient care interventions provided vary dramatically.

In a sample of three articles describing pharmacists' impact on patient care, only a vague patient care process is defined when describing the interventions performed.[6-9] The philosophy of practice guiding the prioritization of issues and decision making in practice is absent entirely, as are the practice management systems supporting the work done by the pharmacists. Often philosophy of practice can be overlooked as it is challenging to articulate the meaning in a tangible, practice-based manner. However, the philosophy of practice establishes the standards of professional behavior within a practice. It is specific to the professional practice and not the individual.[2] The philosophy of practice sets forth the guideposts for prioritizing decisions within the patient care process and is grounded in a set of standards of professional behavior that are observable and measurable, just as the patient care process is reinforced by standards of practice.

Practice management systems include all of the resources, services, and tools that are required to bring the service to patients and the healthcare team.[2] Understanding the way to identify patients, talk to them about the value of meeting with a pharmacist, and document the care provided is essential for solvent, sustainable pharmaceutical care practice, as is understanding the manner in which revenue is generated, and the reporting and evaluation requirements of individual practices.

Starting with Education

Without having the philosophy of practice and practice management systems defined alongside the patient care process and as a standard throughout the profession, it is hard to analyze and compare varied interventions.[14] This could be compared to being presented a map (patient care process) without being given any compass (philosophy of practice), or landmarks, (practice management systems), to ensure you are traveling in the direction you intend. If pharmacy curricula continue to operate in this manner, it could be argued students will graduate knowing how to provide care through the patient care process, but unable to practice due to the lack of a thoughtful philosophy to drive patient-centered decision making or understanding of the systems in which they must function. A lack of standardization in teaching the practice of pharmacy in pharmacy curricula creates challenges and prevents pharmacists from having a greater impact on patient care. In order for pharmacists to ensure consistent, reproducible outcomes, a complete professional practice needs to be taught.

Curricula often do not ground decision-making and problem solving in an overarching philosophy of practice. As a result,

the mentality "this is how we do it here," is accepted and universal practice standards have not been adopted. A philosophy of practice includes, "(a) a description of the social need for the practice, (b) a clear statement of individual practitioner responsibilities to meet this social need, (c) the expectation to be patient-centered, and (d) the requirement to function within the caring paradigm."[2] Since a professional curriculum must lead to the development of an individual with a very particular set of knowledge, skills, and ethics,[15] all decisions in curriculum design should be an intentional means to this end. By using the definitions of philosophy of practice, patient care process and practice management systems, a curriculum can be built to prepare student pharmacists to practice pharmacy, regardless of setting.

Cultivating a Patient Care Practitioner

Traditional Education Model

Although stated as the mission of pharmacy education since 1990, pharmaceutical care has often been taught as a topic or course within a pharmacy curriculum.[3] Pharmacy educators and accreditation organizations have tried to implement educational standards regarding pharmaceutical care. This has included adding course work without a critical curricular restructuring to align the three components of pharmaceutical care: philosophy of practice, patient care process, and practice management systems, as the foundation for an entire curriculum.[15]

While various aspects of a patient care process are being taught in colleges and schools of pharmacy, a comprehensive educational process does not exist. Using MTM as the model, Kuhn and colleagues describe an elective course focused on patient care and learning how to conduct a comprehensive medication review.[16] Many examples exist of patient care being taught in laboratory settings including teaching the MTM model,[17] conducting an MTM visit with a live[18] or virtual patient,[19] and using the pharmaceutical care model in disease state management activities to complement didactic teaching.[20] Teaching pharmacy students patient care has also been accomplished by incorporating MTM into Introductory Pharmacy Practice Experiences (IPPE)[21] and Advanced Pharmacy Practice Experiences (APPE)[22,23] settings. The publication of the PPCP is a step toward a more consistent teaching process. Rivkin describes intentionally teaching the PPCP in the first semester of the first year within an introductory pharmacotherapy course.[24] Incorporating the PPCP into an existing course early in the first year is a start, but ultimately pharmaceutical care, not only the PPCP, needs to be integrated throughout an entire curriculum. In addition, a discussion of best teaching practices with a broader focus on pharmaceutical care is still needed among pharmacy educators.

A Comprehensive Approach to Teaching Pharmacy's Professional Practice

The University of Minnesota College of Pharmacy's (UMN-COP) philosophy for teaching pharmaceutical care is to teach the practice early, often, actively, and with authenticity. Starting with the first course of the curriculum, Becoming a Pharmacist, and a Foundations of Pharmaceutical Care (FPC) course in the fall of the first year, students begin to learn the three components of pharmaceutical care practice. Teaching all three components of pharmaceutical care serves as the framework for all subsequent coursework, as teaching is threaded throughout every semester of the didactic and experiential portions of the curriculum.

In the FPC course students are introduced to the philosophy of practice by reflecting on and writing their approach toward patient-centeredness after each patient encounter. In addition, students practice their patient care skills with their classmates in simulated settings and individually with real patients in the community throughout the semester to learn the patient care process. Finally, students document their patient care process using the Pharmacotherapy WorkUp© Notes. They learn the components of practice management systems while simultaneously learning the importance of documentation in providing care and obtaining reimbursement for services.[2]

As students progress through the curriculum, they participate in a Foundations of Social and Administrative Pharmacy course that emphasizes the practice management systems and a Pharmaceutical Care Skills Lab sequence to internalize the philosophy of practice and patient care process. The Pharmacotherapeutics sequence, taught in all three years of the didactic curriculum, also emphasizes the components of pharmaceutical care. In this subsequent coursework, students continue to apply the patient care process to care for patients in increasingly complex scenarios, and document their assessments, care plans, and plans for follow up evaluation.

Finally, students are expected to apply their knowledge and ability to provide and document pharmaceutical care services under the supervision of a pharmacist practitioner throughout their experiential learning. Specifically, students participate in community pharmacy and ambulatory care APPEs with additional practice management learning activities to ensure they have a solid understanding of quality metrics and payment mechanisms to sustain a viable pharmaceutical care practice. Work is currently underway for preceptor development and APPE site evaluations to ensure students have consistent opportunities to practice and apply their pharmaceutical care knowledge and skills during experiential rotations.

It is important students learn and can demonstrate competence regarding all three components of pharmaceutical care to ensure their ability to practice upon graduation.

In addition to teaching and learning strategies, a variety of assessments are used throughout the UMN-COP curriculum to measure student learning of the components of pharmaceutical care. In addition to traditional, written examination of the three components, students complete an activity in which they view a movie focused on a health practitioner (e.g. *Patch Adams)* and compare the philosophy of practice of the practitioner presented in the movie to the pharmacist's philosophy of practice. Assessment of the PPCP begins in the first year with a series of assignments in which students identify and state drug therapy problems of live patients and make appropriate plans for follow-up using a simple documentation form. Finally, students participate in a variety of practice management learning activities throughout their first year, but few assessments have been developed specific to this component of pharmaceutical care.

As they progress through the curriculum, the assessments primarily focus on the patient care component of pharmaceutical care. Students are assessed on their care plan creation and documentation using the SOAP note format with both written cases and simulated patient encounters and participate in objective structured clinical exams (OSCEs) evaluating their therapeutic decisions, patient interactions, and documentation of the encounters. When students are on APPEs, Entrustable Professional Activities (EPAs) are used to demonstrate competency in areas directly related to pharmaceutical care practice.[25] EPAs translate competency statements into clinical practice and describe the work pharmacists do.[26] Students are expected to demonstrate the EPAs related to patient-centered care on all APPEs, regardless of practice setting.

While the UMN-COP model includes many opportunities for students to learn and be assessed on the three components of pharmaceutical care, there is room for growth within the curriculum. For example, additional effort is necessary to intentionally align teaching of the three pharmaceutical care components throughout all years of the curriculum along with deliberate integration of concepts across courses. Anticipated challenges include faculty and preceptor buy-in to embrace a focus on patient-centered pharmaceutical care practice as the underpinning of the curriculum. Aligning all curricular content within that framework may require changes in content currently being taught, including a potential need to remove content that does not align with the pharmaceutical care framework. In addition, a shift toward teaching and assessing pharmaceutical care may be challenging for students unfamiliar with evolving practice environments and the role of patient-centered care in pharmacy practice. Finally, additional experiential sites providing patient-centered care may need to be developed or modified for students to practice pharmaceutical care in an authentic learning environment.

A Call to Action

Educate Ourselves

As the PPCP is adopted into pharmacy education and practice, educators and practitioners need to know the three components of pharmaceutical care practice and the history of the practice. Specifically, individuals practicing or teaching pharmacy should understand the foundation and evolution of pharmaceutical care, the development of various terminology, and the current state of pharmacy practice. In order for pharmacists in all practices settings to provide patient care valued by the rest of the health care team, we must unite behind a common practice with cohesive terminology. This starts with educators and practitioners understanding and appreciating the evolution of pharmaceutical care and pharmacy practice and passing this knowledge on to pharmacy students.

Move Beyond Teaching the PPCP

The adoption of a standard patient care process for the profession, the PPCP, and inclusion of the PPCP in the ACPE Standards 2016, are positive steps for pharmacy education. The acknowledgement of a patient care process all pharmacists are expected to learn and utilize goes a long way toward creating consistency among pharmacists, regardless of practice setting. The PPCP, and its implications for practice, needs to continue to be embraced by educators and emphasized with students. The PPCP should be the patient care process taught to students as the framework for all pharmacy curriculum and it should be integrated throughout the didactic and experiential curriculum, but it alone is not enough to ensure a consistent, effective, and viable practice of pharmacy.

The teaching of pharmaceutical care should employ various teaching methods (e.g. active learning, simulated patients, real patients) and assessment techniques (e.g. summative, formative, EPA). Learners also need an opportunity to practice patient care skills in authentic environments (i.e. by taking supervised responsibility for real patients). They need exposure to pharmaceutical care early and often in the curriculum and they need opportunities for feedback as they learn.

The teaching of pharmaceutical care should be intentionally integrated throughout an entire pharmacy curriculum. This will require conversation and coordination amongst all educators at a college or school of pharmacy. It is likely some faculty and preceptors may not be familiar with pharmaceutical care practice or the PPCP. Faculty and preceptor development, across all disciplines, is necessary to ensure didactic and experiential teaching is intentionally linked

to and aligned with pharmaceutical care practice and consistent language is being used throughout a curriculum. For example, the content taught by faculty in a pharmaceutics sequence should be aligned with the relevant aspects of the PPCP, such as assessing for side effects of a medication or the convenience of a dosage form. In addition, preceptors providing patient care instruction should be able to articulate pharmacy's philosophy of practice. Finally, as more pharmacy educators and students engage with pharmaceutical care and the PPCP, it is even more imperative for consistent and intentional language to be used across the profession. Consistent language is needed to communicate among those in the profession so educational methods and best practices can be studied and shared among faculty and preceptors. It is also needed as more colleges and schools participate in interprofessional learning opportunities. Other health professions need to be able to understand the role pharmacists play and the contributions they can make to the care of a patient in order to fully collaborate as a team.

Connect with Others

The recently defined Pharmacists' Patient Care Process has created an opportunity for innovation in teaching and learning spaces. Pharmacy educators and the academy need to take advantage of this moment to learn from each other and share resources. While innovative methods for teaching and assessment need to be implemented, studied, and disseminated through peer-reviewed publications, the academy also needs to be able to engage in modes of communication that allow more rapid sharing of ideas and discourse for individual schools to collaborate, share ideas, and learn from each other. "AACP Connect" from the American Association of Colleges of Pharmacy (AACP) may serve as a real-time communication platform across the academy to serve this purpose. In addition, *Pulses*, a scholarly blog from Currents in Pharmacy Teaching and Learning is publishing 400-800 word articles related to teaching and learning in pharmacy education, serving as another opportunity for dialogue.

In 2016 the AACP Council of Faculties and Council of Deans initiated a program for catalyzing adoption of the PPCP with thirty-six participating schools using "Basecamp" (https://basecamp.com/) as the platform for communication and information sharing. Initial steps have included setting up the basecamp and conducting a survey to determine the extent to which the PPCP is currently being used by colleges and schools of pharmacy, in order to identify gaps as well as greater opportunities for PPCP incorporations into curricula. Time will tell the utility of this platform for collaboration, idea-sharing, and learning beyond the PPCP.

Regardless of the mode, pharmacy educators at all levels, including classroom and lab instructors, preceptors, and administrators, need to commit to teaching pharmacy students all three components of pharmaceutical care. Now is the time to create a new wave of scholarly teaching and scholarship around the Pharmacists' Patient Care Process and pharmaceutical care, in order to drive practice and education forward. Engage with many different colleagues at your institution. Bring together practitioners in your community. Collaborate with colleagues at other schools. Develop research and scholarly questions around teaching, learning, and assessing all three components of the practice of pharmaceutical care and disseminate your results. Student pharmacists need to be prepared to be patient care practitioners ready to advance pharmacy practice and it starts with pharmaceutical care being the foundation of pharmacy curricula.

Summary

To ensure student pharmacists are prepared to be patient care practitioners, the Pharm.D. professional curriculum needs to be aligned using the pharmaceutical care framework, which includes the philosophy of practice, the pharmacists' patient care process, and practice management systems.

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