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# Assessment of pharmacy students' knowledge of health care models: Before and after interprofessional education

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**Abstract**

A faculty pharmacist from the University of Missouri at Kansas City collaborated with an adjunct professor of Social Welfare at the University of Kansas to engage 21 third-year pharmacy students on an Introductory Pharmacy Practice Experience (IPPE) rotation at a Patient-Centered Medical Home (PCMH) ambulatory care clinic in interprofessional education. The learning session consisted of a PowerPoint presentation, patient care scenarios, and group discussions. The aim was to assess the pharmacy students' knowledge of various health care models, reiterate principles of the medical pathology model, introduce a complementary patient care approach utilized in social work known as the strengths perspective, and facilitate application of concepts to patient care scenarios. Pre- and post-learning session questionnaires, group discussions, and student reflections were utilized to assess students' knowledge of various health care models and perceived applicability to clinical practice. The questionnaires revealed that even though students have been exposed to various health care models through didactic coursework and experiential rotations, they may not be able to define or associate health care models with patient care experiences. Although the strengths perspective model was a new education concept, the students were able to identify the benefits, types of patient strengths that should be evaluated through assessments, and practice implications for using the model. Additionally, students reflected upon ways to integrate the strengths perspective approach into future patient interactions, identified barriers for integrating the model into their workplace and future rotations, and provided examples of patient interactions in which the strengths perspective would be a useful tool.
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*Keywords:* Interprofessional education; Patient-Centered Medical Home; Pharmacy student; Primary care; Social work; Strengths perspective

## Background

Many of the current problems in U.S. health system performance can be traced to the weak primary care foundation that currently characterizes American care delivery.[1] Fragmentation in the U.S. health care delivery system contributes to frustrating and dangerous experiences, especially for patients obtaining care from multiple providers in a variety of health settings. Additionally, it leads to waste and duplication, hindering providers' ability to deliver high quality, efficient care. Moreover, the fragmented system rewards high cost, intensive medical intervention over higher-value primary care, including preventative medicine and the management of chronic illness.[1]

The Patient Protection and Affordable Care Act (PPACA) is a landmark health reform legislation that includes key provisions intended to implement measures to lower health care costs and reduce health care inefficiencies by placing greater value on primary care and less reliance on specialty care.[2] It incentivizes models such as a Patient-Centered Medical Home (PCMH) that transforms how whole person health care is coordinated and delivered through integration of an interdisciplinary team-based approach.[3] This model is designed to improve quality of care by treating the many needs of the patient at once, increasing access to care, and empowering the patient to be a partner in their own care.[4] Additionally, PPACA provides

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funding opportunities for PCMHs to establish interdisciplinary, interprofessional health teams that support primary care providers by incorporating prevention initiatives, patient education and care management resources into the delivery of health care.[3] According to the Department of Health and Human Services (HHS) Agency for Healthcare Research and Quality (AHRQ), "The primary care medical home is accountable for meeting the large majority of each patient's physical and mental health care needs, including prevention and wellness, acute care, and chronic care. Comprehensive care requires a team of providers."[5]

While it is not yet possible to conclude which precise element or elements drive positive outcomes, evidence suggests that on the whole PCMHs improve patient experiences and outcomes by increasing access to care, encouraging the receipt of recommended preventative services, and facilitating better management of chronic conditions.[2] The traditional approach to patient care is the medical pathology model which emphasizes pathology, symptom-based assessment and treatment of illness, focusing on patient's problems and failures. It has tended to yield short-term, expensive solutions that have proven to be non-sustainable over the long-term.[6]

In contrast, the strengths perspective model utilized in social services allows practitioners to acknowledge that every individual has a unique set of strengths and abilities to rely on to overcome problems.[7] It focuses on the mental and social well-being of patients. The strengths-based approach does not ignore problems nor pretend that weaknesses and deficits do not exist. Rather, a strengths approach is about working with strengths to deal with problems and deficits. It is about working with people, teams, and systems to get the most out of what is important and meaningful to them and restoring the centrality of the provider–person relationship to promote health and facilitate healing to enhance professional medical practice.[6] The strengths perspective demands a different way of looking at individuals, families, and communities. All must be seen in the light of their capacities, talents, competencies, possibilities, visions, values, and hopes, however, dashed and distorted these may have become through circumstance, oppression, and trauma. It requires composing a roster of resources existing within and around the individual, family, or community. Extremely important sources of strength are cultural and personal stories, narratives, and lore.[8] Prior to the learning session, none of the pharmacy students had exposure to the strengths perspective model through didactic or experiential curricula.

The Accreditation Council for Pharmacy Education (ACPE) Standard 11, Interprofessional Education (IPE),[9] requires the curriculum to prepare all students to provide entry-level, patient-centered care in a variety of practice settings as a contributing member of an interprofessional team. Key element 11.2, interprofessional team education, specifies for the didactic and experiential curricula to include opportunities for students to learn about, from, and with other members of the health care team and gain an understanding of the abilities, competencies, and scope of practice of team members through interprofessional education activities.[9]

Recognizing the importance of interdisciplinary collaboration to the ever-changing health care system, the contributions that the medical pathology and strengths perspective model provide to whole person care, and the importance to comply with ACPE accreditation standards were all contributing factors to the development of an interactive learning session for Introductory Pharmacy Practice Experience (IPPE) students. The project protocol was declared exempt by the institution's investigational review board.

A faculty pharmacist from the University of Missouri at Kansas City collaborated with an adjunct professor of Social Welfare at the University of Kansas to engage 21 third-year pharmacy students in an interactive learning session at a National Committee for Quality Assurance (NCQA) recognized PCMH. Ten IPPE students participated in the learning session in the spring and 11 IPPE students in the fall of 2014. At the time of engagement, the spring students had eight months of practice site exposure and three semesters of pharmacotherapy emphasizing principles of the medical pathology model through case-based examinations. In comparison, the fall students were just beginning the IPPE at the practice site and had completed one semester of pharmacotherapy.

## Educational activity

The interdisciplinary interactive learning session was conducted at a PCMH ambulatory care clinic and consisted of a slideshow presentation, patient care scenarios, and group discussions. Students were not required to review any materials in advance of the learning session. The session was limited to three hours in duration to accommodate the IPPE students' didactic schedule. This time frame was sufficient to deliver the content, facilitate application of the information to patient care scenarios, and engage in group discussions. The strengths perspective case-based activities had been successfully utilized previously in the social work didactic setting to demonstrate principles and prompt student discussion.

The slideshow presentation was designed to incorporate key health care concepts specifically applicable to the ambulatory care clinic and the interprofessional team practice model that students would be engaged in throughout the rotation. All materials utilized for the learning session were chosen because they came from credible sources, were free to access, and the amount of information was feasible to cover in the 3-hour time frame. The cumulative time devoted to collecting resources and developing the entire presentation was approximately two full working days. Resources utilized to create the presentation and accompanying discussions included the following: