

**Interns' Experiential Training Perspectives with Pharmacist Prescribing Protocol Development**

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ABSTRACT

Pharmacist intern impressions on prescribing roles and protocol development in the course of their advanced experiential training experiences are described. The objectives of this qualitative study were to: 1) Identify core protocol requirements, 2) Compare/Contrast protocols from U.S. states with extensive pharmacist prescribing protocol history and 3) Design a pharmacist prescribing protocol based on integrated or collaborative care theory. Feedback on prescribing protocol development and pharmacist prescribing roles was gathered from a focus group of pharmacist interns' activities that included 1) review of the local State Pharmacy law requirements (TX); and 2) comparison of these requirements with six other states or territories (CA, MD, DC, KS, VA, WA) where services are provided by the experiential training site and/or that state has a long history of experience with collaborative drug therapy management; 3) review of local state and out-of-state sample protocols; and 4) key general discussion questions. Prescribing protocols were obtained via Freedom of Information Act (FOIA), known samples, and data on hand. A concise, comprehensive prescribing protocol was developed for application of collaborative chronic care. Core protocol requirements identified were State Pharmacy and Medical Board approval and guidelines; pharmacist and physician licensure; specified prescribing-related and medication-management activities to be delivered by the pharmacists; how medication-management decisions would be made, documented and evaluated. Differences across U.S. states included the issuance of Pharmacist DEA numbers, pharmacist educational requirements, treatment algorithms, state/local guidelines and protocols. Interns' shared experiences led to a perceived underutilization of pharmacists in meeting existing patient health service access needs and addressing medication-related problems. They also identified potential implementation challenges such as time and staffing limitations, provider status recognition, third-party reimbursement, overcoming multidisciplinary stereotypes of pharmacists' roles, unfamiliarity with pharmacist prescribing as compared to other providers, educational needs for reinforcement on patient diagnoses, laboratory value orders/interpretations, medical record and claims documentation, and interprofessional communication. A positive interest in prescribing roles and protocol development was identified in contributing to patient health service needs. Implementation can be facilitated with an understanding of core protocol requirements, state laws, treatment guidelines and algorithms, potential service implementation challenges, and educational strategies for clinicians, administrators and policy-makers. Educational preparedness should consider the incorporation of these experiences, especially across multidisciplinary settings, to improve collaborative care.

Keywords: Pharmacist Prescribing, Collaborative Care, Experiential Training

INTRODUCTION

The practice of pharmacy in community and outpatient settings continues to evolve and change, just as the wider health professional community. Community pharmacists are now more than ever becoming actively involved in improving drug therapy as a part of patient care and focusing on patient outcomes much like the transition seen in institutional pharmacy in the 1990s and early 2000s. Ambulatory care pharmacists are actively involved in monitoring and adjusting drug therapy as part of collaborative practice agreements (CPA) and retail pharmacists are involved in providing immunizations and medication therapy management (MTM) consults as a part of their practice. As we embrace a new era of advanced pharmacy practice, it will not only be important for pharmacy students to have the appropriate training and experience to participate effectively, but also the necessary leadership skills to continue to move the practice forward. Hard skills such as clinical skills, as well as soft skills such as ability to collaborate and adjust quickly to change will also be necessary. Pharmacist interns, community pharmacists, and pharmacy faculty will have to question what role they will play in this process in order for it to be a success for the profession.

One growing aspect of practice that is not altogether new, yet much less known in community pharmacy sites as compared to inpatient, ambulatory care settings is prescribing, typically via collaborative practice protocols. In addition to the District of Columbia, 48 states reportedly allow for and/or have collaborative practice protocols.¹ At one community practice site, advanced pharmacy practice experience (APPE) interns in Ambulatory Care (Psychiatry) were asked to share and gather information on their experiences and impressions on prescribing among themselves and as part of a small focus group of interns.

METHODS

Feedback on prescribing protocol development and pharmacist prescribing roles was gathered from a focus group comprising of 9 interns (7 APPE PharmD candidate interns, and 2 post-PharmD extended interns). The interns were asked general, open-ended discussion questions on this subject. Three of the interns also engaged in the following activities: 1) review of the local State Pharmacy law requirements (TX); and 2) comparison of these requirements with six other states or territories (CA, MD, DC, KS, VA, WA) where services are provided by the experiential training site and/or that state has a long history of experience with collaborative drug therapy management; 3) review of local state and out-of-state sample protocols. Local state protocol samples were obtained via Freedom of Information Act (FOIA), and from known protocols and outcomes data on hand.

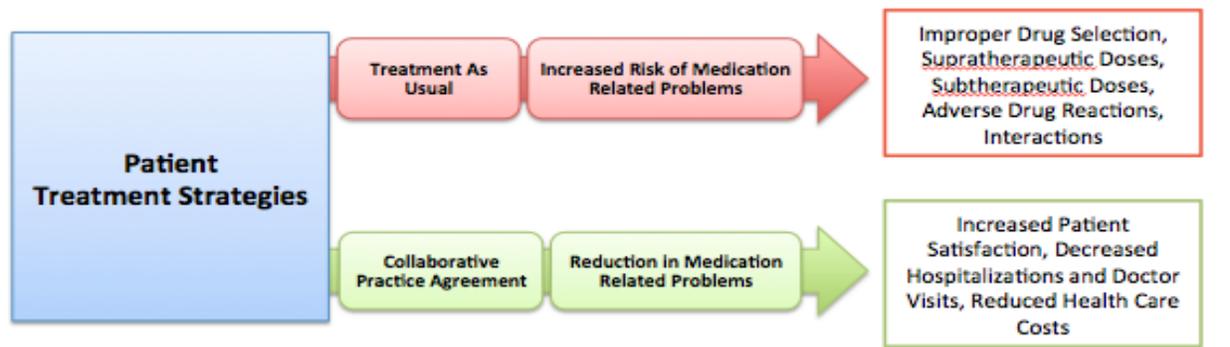
Interns' feedback was gathered by a series of continued interactive discussions through all aspects of the data collection and review process. Key questions included in the discussion were: 1) How prepared do you currently feel about participating in a collaborative pharmacy practice setting? 2) What was your knowledge base previously about collaborative pharmacy practice agreements? 3) What do you feel were the main strengths that you gained from your pharmacy education that prepared you for prescribing roles and advanced pharmacy practice in a community setting? 4) What were some of the gaps or growth opportunities you identified in preparing for practice in this type of setting? 5) What would you like to see occur in future rotation sites to prepare you for prescribing and advanced pharmacy practice in the community? 6) What do you anticipate may be some challenges in moving this part of the profession forward? 7) What ideas do you have on preparing yourself for these challenges and participating in this process?

Figure 1. Role of Pharmacist Prescribing in Medication-Related Service Delivery



Pharmacists Help Bridge the gap between patient and provider care to allow for successful treatment outcomes.³

Figure 2



With the use of Collaborative Practice Agreements, pharmacists can play a vital role in reducing medication-related problems seen in usual treatments.⁴

Table 1. Comparison of Targeted State Pharmacist Prescribing Guidelines. State, State Law & Year Initiated⁵

State, State Law & Year Initiated ⁵		
Texas ^{6,7}	Texas Occ. Code 157.101, 157.001, 551.003; 22 TAC 15 (295.13), Chapter 295	1995
California ⁸	California Bus. and Prof. Code 4052.1, 4052.2; SB 493	1981, 2002
DC ^{9,10,11,12}	DC Code 3-1201.02, 3-1202.08, 3-1204.12; Collaborative Care Expansion Amendment Act, B19-657	2012
Kansas ^{13,14,15}	Kansas State Ann. 65-1626a, 65-1635a; Collaborative Practice Law, HB 2609; Kansas Pharmacy Practice Act, HB 2146	2014
Maryland ^{16,17}	Maryland Code Ann. Health Occupations 12-101, 12-6A-01 to 12-6A-10; Maryland Code Regs. 10.34.29.01 to .09; Senate Bill 346	2012, 2013
Virginia ¹⁸	Virginia Code Ann. 54.1-3300, 3300.1, 3303, 38.2-340, 38.2-4221; Virginia Admin. Code 110-40-10 to 110-40-70; Practitioner Self-Referral Act; Code of Virginia and Regulations; HB1501	1999, 2013
WA ^{19,20}	Washington Rev. Code Ann. 18.64.011; Washington Admin. Code 246-863-100, 246-863-110, 246-863-095	1979, 2013
Type Of Agreement		
Texas	Physician Delegation of Authority for Drug Therapy Management, Collaborative Drug Therapy Management	
California	Collaborative Practice Agreement	
DC	Collaborative Drug Therapy Management	
Kansas	Collaborative Drug Therapy Management, Collaborative Practice Agreement	
Maryland	Collaborative Drug Therapy Management Agreement	
Virginia	Collaborative Practice Agreement, Collaborative Pharmacy Practice Agreement	
WA	Collaborative Drug Therapy Agreement	
Organization Approval Required		
Texas	Texas State of Board of Pharmacy, Texas Medical Board, Texas DPS Registration, Pharmacist Valid DEA	
California	California Board of Pharmacy, Medical Board of California, Advanced Practice Pharmacists, Pharmacist Valid DEA	
DC	DC Board of Pharmacy, DC Board of Medicine	
Kansas	Kansas Board of Pharmacy, Kansas State Board of Healing Arts	
Maryland	Maryland Board of Pharmacy, Maryland Board of Physicians	
Virginia	Virginia Board of Pharmacy, Virginia Board of Medicine	
WA	Washington State Board of Pharmacy, Washington State Board of Medicine, Pharmacist Valid DEA	
Curriculum Preparation		
Texas	At least 6 hours of continuing education related to drug therapy offered by a provider and approved by the American Council of Pharmaceutical Education—Must update each year	

California	Advanced Practice Pharmacist (APP) Recognition. Training program on emergency contraception + at least 1 hour of approved Continuing Education on Emergency Contraception Drug Therapy prior. Immunization training program endorsed by the CDC or Accreditation Council for Pharmacy Education. Either successfully completed clinical residency training or demonstrated clinical experience in direct patient care delivery
DC	No additional educational requirements
Kansas	No additional educational requirements
Maryland	See "Required License(s) and Training"
Virginia	No additional educational requirements
WA	No additional educational requirements
Required License(s) and Training	
Texas	Licensure as a pharmacist with the Texas State Board of Pharmacy; licensure as a physician with the Texas State Board of Medical Examiners
California	Licensure as a pharmacist/physician; APP Recognition (valid for 2 years)
DC	Licensure as a pharmacist/physician
Kansas	Licensure as a pharmacist/physician
Maryland	Licensure as a pharmacist/physician. Possess relevant advanced training as indicated by one of the following: certification as a specialist related to the disease state specified by the protocol by: The Board of Pharmacy Specialties, The American Society of Consultant Pharmacist's Certified Geriatric Practitioner certification program, or another credentialing body approved by the Board of Pharmacy; OR successful completion of: a residency accredited by the American Society of Health-Systems Pharmacists, a body approved by the Board of Pharmacy or offered by a body accredited by the Accreditation Council for Pharmacy Education, a certificate program approved by the Board of Pharmacy, a National Association of Boards of Pharmacy credentialing examination, or an examination approved by the Board of Pharmacy. Successfully complete 1,000 hours of relevant clinical experience or 320 hours in a structured experience program approved by the Board of Pharmacy, and document training related to the disease state specified in the protocol.
Virginia	Includes nurse practitioners, physician assistants, and physician's office
WA	Licensure as a pharmacist/physician
Scope of Prescriptive Authority	
Texas	Drug therapy implementation or modification; performing routine drug therapy related patient assessment procedures (temperature, pulse, respiration); ordering laboratory values
California	Initiation, adjustment and discontinuation of drug therapy; patient assessment; patient referrals to other providers; training, consultation, and education about disease management and drug therapy; ordering and interpreting laboratory tests to monitor drug safety
DC	Initiation, modification and discontinuation of drug therapy treatment; management of drug therapy under the guidance of a physician; immunizations; vaccinations; ordering laboratory tests and evaluating the results
Kansas	Retail pharmacy can prescribe and dispense under a written guideline for naloxone. Not permitted to alter a physician's orders or directions, diagnose or treat any disease, independently prescribe drugs, or independently practice medicine/surgery
Maryland	Modification, continuation, and discontinuation of drug therapy; ordering of laboratory tests; other patient care management measures related to monitoring or improving the outcomes of drug or device therapy.
Virginia	Implementation, modification, continuation, discontinuation of drug therapy following diagnosis by prescriber
WA	Authorizing prescriber shall determine the scope of practice delegated and shall set any limitation of the prescribing that has been delegated
Guideline or Plan for Prescribing Decision(s)	
Texas	Must have statement of procedures, decision criteria, or plan the pharmacist shall follow
California	Must be in accordance with standardized procedures developed and approved by the Board and Medical Board of California in consultation with the American College of Obstetricians and Gynecologists, California Pharmacists Association. Clinical Guidelines
DC	Physician-approved guidelines

Kansas	Currently under consideration
Maryland	Must establish guidelines concerning the use of protocols
Virginia	Treatment protocols that are clinically accepted as the standard of care within the medical and pharmaceutical professions
WA	Must include plan, decision criteria or guideline for making prescribing decisions
Documentation	
Texas	Within a reasonable amount of time of each intervention and may be performed on the patient medication record, patient medical chart, or in a separate log book
California	Must provide written documentation to the patient's primary care provider or enter the information into a patient record system shared with the prescriber. Any change, adjustment, or modification of an approved preexisting therapy is to be provided in writing to the physician within 24 hours.
DC	Must document in the medical progress notes and flow sheet of the patient's chart. Information must be communicated to the primary provider for review.
Kansas	Within 48 hours of making a drug or drug therapy change, the pharmacist shall initiate a communication to a physician identifying the change
Maryland	Must document every interaction and be accessible to the physician and pharmacist. Unless otherwise stated, the pharmacist needs to inform the physician within 48 hours if dose/agent modifications are made or if an abnormal result is detected from an assessment activity.
Virginia	Patient's medical record within 24 hours following each intervention (reviewed and co-signed by practitioner)
WA	Documentation may occur on the prescription record, patient drug profile, patient medical chart, or in a separate logbook.

DPS = Department of Public Safety; DEA = Drug Enforcement Administration; CDC = Center for Disease Control and Prevention.

- APP Recognition--Complete 2/3 Criteria: Earn certification in a relevant area of practice; complete a postgraduate residency program; provide clinical services to patients for one year under a collaborative practice agreement or protocol with a physician, APP pharmacist, Collaborative Drug Therapy Management pharmacist, or health system.²¹

Table 2 – Table 1 Interns' Comparative Review of Specific Protocols

State (Protocol Type) & State Law		
California ²²	Primarily Psych	Bus. and Prof. Code (Sections 4050-4052); California Code of Regulations Title IX (Section 1810.225)
Texas ^{23,24}	Primarily Psych	Vernon's Texas Civil Statutes (Articles 4495b, 4542a-1)
Texas ²⁵	Primarily Psych: APN and PA	Tx Occupations Code (Ch 157, 204); Tx Admin Code (Ch 185, 193)
Texas ²⁶	Primarily Psych: Interdisciplinary w. MD and NP	Tx Admin Code (Ch 222.8)
Texas ^{23,24,27}	Primarily Family Practice: Integrated Health	Vernon's Texas Civil Statutes (Articles 4495b, 4542a-1)
Type Of Agreement		
California (Primarily Psych)	Collaborative Mental Health Care Program	
Texas (Primarily Psych)	Physician Delegation of Authority For Drug Therapy Management	
Texas (Primarily Psych: APN and PA)	Quality Assurance Plan Related to the Supervision of Physician Assistants and Advanced Practice Nurses	
Texas (Primarily Psych: Interdisciplinary w. MD and NP)	Collaborative Drug Therapy Management	
Texas (Integrated Health - Primarily Family Practice)	Physician Delegation of Authority For Drug Therapy Management	
Required Training		

California (Primarily Psych)	One of the following: successfully completed clinical residency training, received Board Certification as a Psychiatric Pharmacist, or demonstrated clinical experience in direct patient care delivery
Texas (Primarily Psych)	At least six hours of continuing education related to drug therapy offered by a provider approved by the American Council of Pharmaceutical Education. Updated each year.
Texas (Primarily Psych: APN and PA)	No special licensing or training is required other than licensed PAs and APNs.
Texas (Primarily Psych: Interdisciplinary w. MD and NP)	NP and MD full licensure. NP needs a valid prescription authorization number.
Texas (Integrated Health: Primarily Family Practice)	Physician licensed in Texas in compliance with the Medical Practice Act. Properly qualified and trained pharmacist under the Texas Pharmacy Act.
Patients Eligible to Receive Services	
California (Primarily Psych)	Clients referred and evaluated by primary care physicians, social workers, and psychologist. Diagnosis of a primary psychiatric or substance use disorder according to the most recent version of the Diagnostic and Statistical Manual of Mental Disorders.
Texas (Primarily Psych)	Patients with depression, bipolar disorder, anxiety, post-traumatic stress disorder, schizophrenia, smoking cessation, substance abuse
Texas (Primarily Psych: APN and PA)	Adults and children with psychiatric disorders
Texas (Primarily Psych: Interdisciplinary w. MD and NP)	Patients must be in a qualifying site with a physician delegating prescriptive authority in that site
Texas (Integrated Health: Primarily Family Practice)	Patient should be delegated to a pharmacist by a written protocol from a physician licensed in Texas in compliance with the Medical Practice Act.
Drug Categories	
California (Primarily Psych)	Medications used in the treatment or management of mental illness or substance abuse, and for the treatment of side effects of these medications.
Texas (Primarily Psych)	Psychotropic, anticonvulsant medications, anticholinergics, medications needed to manage drug-induced adverse effects
Texas (Primarily Psych: APN and PA)	All categories of dangerous drugs and medical devices, including: antipsychotics, antidepressants, anxiolytics, mood stabilizers, other medications indicated for psychiatric use, and medications which have been shown to be of clinical utility in the management of psychiatric disorders
Texas (Primarily Psych: Interdisciplinary w. MD and NP)	Allows physicians to delegate prescriptive authority for: Schedules III-V
Texas (Integrated Health: Primarily Family Practice)	Authorized by the physician through the physician's order, standing medical order, standing delegation order, or protocol as defined by board rule.
Scope of Prescriptive Authority	
California (Primarily Psych)	May initiate, change, or discontinue medications and obtain laboratory tests; can also review laboratory results, obtain medication histories, and provide medication education and care coordination.
Texas (Primarily Psych)	Services targeting mental health discharge follow up, primary behavioral care, psychopharmacology consults, medication reconciliation, monitor drug response (DISCUS, AIMS, EPS, Mental Status); order, obtain and interpret medical data; order new, adjust, or discontinue current psychotropic and anticonvulsant medication.
Texas	Establish diagnoses and plan of care for short-term psychiatric problems.

(Primarily Psych: APN and PA)	Can order and interpret blood chemistries, liver function tests, thyroid function tests, serum pregnancy tests, complete blood count, therapeutic drug levels. Write prescriptions at authorized locations. Take personal/medical histories and perform any necessary physical exams, mental status exams, and Abnormal Involuntary Movement Scales. Perform psychiatric and/or medical evaluation required for hospital admission.
Texas (Primarily Psych: Interdisciplinary w. MD and NP)	Have the authority to make a medical diagnosis and write Rx when delegated by an MD or DO. Can only prescribe a 30-day supply and must consult with the physician before authorizing a refill. Must obtain a prescriptive authorization number from the Board of Nurse Examiners.
Texas (Integrated Health: Primarily Family Practice)	Management of drug therapy, drug and device selection, drug regimen review, drug-related research, and other assigned roles under the Texas Pharmacy Act. Does not permit the delegation of medical diagnosis.
Guidelines Used for Prescribing Decisions	
California (Primarily Psych)	Medication treatment guidelines, most recent version of the Diagnostic and Statistical Manual of Mental Disorders.
Texas (Primarily Psych)	Mental Retardation Facilities, ICF-MR and Accreditation Council Guidelines
Texas (Primarily Psych: APN and PA)	Diagnostic and Statistical Manual of Mental Disorders; Kaplan and Sadock's Synopsis of Psychiatry, Behavioral Sciences, Clinical Psychiatry; Algorithms or guidelines developed by the Tx Dept of State Health Services; Child and Adolescent Clinical Psychopharmacology; Treatment of Psychiatric and Behavioral Problems in Individuals with Mental Retardation.
Texas (Primarily Psych: Interdisciplinary w. MD and NP)	Written general delegation protocols or practice guidelines
Texas (Integrated Health: Primarily Family Practice)	Written delegation protocols
Documentation	
California (Primarily Psych)	PHQ-9 used to document improved outcomes. All pharmacist medication assessments and interventions need to be documented in the patient's medical record. Documentation of medication changes must be made in electronic medical records within 24 hours.
Texas (Primarily Psych)	Progress note within patient's medical record
Texas (Primarily Psych: APN and PA)	Documentation is not required if the PA or APN is located at a primary practice site. If the PA or APN is located at a site other than the primary practice site, documentation must describe activities conducted and the names of any patients seen or case histories reviewed with the PA and APN. Then the supervising physician needs to sign the documentation at the conclusion of each site visit.
Texas (Primarily Psych: Interdisciplinary w. MD and NP)	Pharmacist should initiate a communication to the physician within 48 hours of making a drug or drug therapy change
Texas (Integrated Health: Primarily Family Practice)	Should be under written protocol and established by the board. Delegating physician receives a periodic status report on patients, including any problem or complication encountered. Pharmacist is required to maintain records of patients that are delegated by the physician for drug therapy management.

MD = Doctor of Medicine; DO = Doctor of Osteopathic Medicine; PA = Physician Assistant; ANP = Advanced Nurse Practitioner; NP = Nurse Practitioner; ICF-MR = Intermediate Care Facilities with Mental Retardation; PHQ-9 = Patient Health Questionnaire.

RESULTS

The interns' impressions are illustrated in Figures 1 and 2. Pharmacist interventions were perceived to contribute to enhanced patient care and outcomes. It was believed that expanding that level of care through the wider implementation of CPAs with trained, credentialed pharmacists would expand that potential benefit by reducing treatment complications, relieving physician workload, and providing focused care.² While Figure 2 illustrates a host of undesired outcomes which pharmacists already help to address in routine practice via consultations and MTM, all interns believed that the impact could be increased by moving beyond intervening with prescribers, to also serving themselves as collaborative prescribers in targeted populations, or by specified standing protocols.

Review of the various state prescribing protocols requirements are summarized in Tables 1 and 2. Collaborative practice agreements have been in place in some states like Washington as far back as the late 1970s, while some as recent as 2014. The interns noted the need for State Pharmacy and Medical Board approval in all states reviewed, and a few requiring approval or notification of the Drug Enforcement Agency (DEA). They also reviewed what the protocols were typically called, the kinds of prescribing-related activities for which pharmacists would be engaged, and how drug therapy management decisions would be made, documented and/or periodically evaluated. In Table 2, the interns looked more closely at specific protocols that were either between physicians and pharmacists in an integrated practice setting (i.e. management of psychopharmacotherapy in family practice), in a primarily psychiatric practice setting, or between physicians and nurse practitioners and physician assistants in a primarily psychiatric practice setting.

The focus group responses to collaborative practice agreements gravitated towards similar concerns with varying solutions. They described various activities in their respective school curricula, such as Patient Assessment Labs and Course Electives in helping prepare them for situations in which they would have the ability to independently prescribe and/or alter drug therapies. The electives provided a more focused approach to patient care; for example, one elective course highlighted specific treatment plans for patients with drug abuse and addiction. Another elective emphasized total patient care through the implementation of an interprofessional collaboration between pharmacy students, physical therapists, social workers, nurses, and optometry students. Interns expressed interest in expanding focus on diagnostic procedures and analysis, two areas where

they did not feel as adequately trained; and with the understanding of scope of practice boundaries and limits by law.

Interns perceived an underutilization of pharmacists in meeting existing patient health service access needs and addressing medication-related problems. Also identified were potential protocol and health service implementation challenges such as time and staffing limitations, provider status recognition, third-party reimbursement, overcoming multidisciplinary stereotypes of pharmacists' roles, unfamiliarity with pharmacist prescribing as compared to other providers, educational needs to reinforce patient diagnoses, laboratory orders and interpretations, medical record and claims documentation, and team-based communication within the advanced practice roles

A majority of the interns did not perceive a need for additional education requirements post-graduation, but did see the advantage of a residency to establish a comprehensive understanding of prescribing parameters. A few interns discussed what they felt was not emphasized didactically became evident clinically when their pharmacy rotations began. Several interns had the opportunity to work with a preceptor engaged in a collaborative practice agreement and were able to experience the process first hand. The interns found shadowing a great way to understand the extent of CPAs and to physically witness challenges to them; before then their exposure to CPAs had been limited to one or two courses briefly acknowledging their existence.

All interns described prescribing roles as means to meeting a need, where their medication expertise training had the potential to fill a service niche. For example, one described a patient suffering from chronic unresolved pain for which a pain specialty pharmacist was consulted to assess the patient. The pain pharmacist recommended adjusting the patient's current medication regimen according to type and level of pain experienced, and recommendations were written in the form of a progress note accessible to the attending physician. However, the progress note was overlooked and the patient experienced extended subtherapeutic treatment of severe pain. It was then pharmacist intern who brought the progress note to the physician's attention after discovering the discrepancy between patient's current medication dosages and the recommended medication dosages. The intern felt this was one instance where collaborative practice might have facilitated smoother interdisciplinary care.

It was noted in the focus group discussions that time and staffing constraints, provider status recognition, and third-party reimbursement, were challenges to overcome in moving the profession forward to

expand CPAs. Although there were no major concerns in regards to the level of preparedness participating in CPAs, there was concern about perceived challenges in moving this part of the profession forward when it came to gaining respect and acceptance from other health care providers. They felt that there was far more familiarity with pharmacist roles as medication expert resources, rather than prescriptive authority providers. The focus group felt it best to introduce and implement more CPAs as a team-based effort of integrated healthcare and not as a means to replace any other health professions.

Collaborative chronic care models have been reported to improve physical and mental health, quality of life and social role function outcomes associated with medical and psychiatric illnesses in primary care, specialty care and behavioral health settings. Such models have become components of patient-centered medical homes and accountable care organizations (ACO)²⁸, especially considering their enhanced health service access, utilization and costs. Collaborative chronic care models comprise typically of health delivery with components such as patient and family care-giver self-management support, health information systems, provider decision and organizational support, as well as transition of care or community resource linkages²⁸. Pharmacist expertise with medication dispensing and medication use processes have been a part of such models traditionally; yet there is potential for further integration and to include expanded roles. The pharmacist prescribing roles, CPA laws and protocols reviewed in this study represented a broad range of primary care, specialty chronic care, multidisciplinary prescribers (MD, RPh, NP, PA) and

behavioral health settings. This was in turn utilized to design a prescribing protocol to be used in integrated care of medical and mental health conditions in a collaborative chronic care clinic setting.

CONCLUSION

Collaborative practice agreements were perceived by the interns positively, and to have the capacity to transform disease state and medication management by providing patients with an easily accessible continuum of care. Implementation can be facilitated with an understanding of core protocol requirements, State laws, treatment guidelines and algorithms, potential service implementation challenges, and educational strategies for clinicians, administrators and policy-makers. As popularity and familiarity of CPAs propagates within the health care realm, pharmacy schools can begin to foster curricula towards patient care services that exceed the pharmacists' traditional scope of practice, with cognizance of all legal boundaries and responsibilities, resolution of challenges and barriers to CPA implementation, and full parity with other collaborative care providers.

Educational preparedness should incorporate more broadly these kinds of experiential experiences, especially across multidisciplinary settings to improve collaborative care.

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