

## ADVANCED PHARMACIST PRACTITIONER SERIES

# Role of the US Veterans Health Administration Clinical Pharmacy Specialist Provider: Shaping the Future of Comprehensive Medication Management

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## INTRODUCTION

Providing access to high-quality care is one of the top priorities of the US Veterans Health Administration (VHA). The VHA is the largest integrated health care system in the United States, providing care at 1255 health care facilities, including 170 VHA medical centres and 1074 outpatient sites for care of varying complexity. However, substantial shortages of primary and specialty care providers exist across the nation, including within the VHA.<sup>1</sup> The deployment of clinical pharmacists in various roles may be one way to address gaps in care. As advanced practice providers, clinical pharmacists have improved medication safety, quality of care, and clinical outcomes for veterans, as well as the general population. Hundreds of studies, many of which were conducted in the VHA setting, have been published in the peer-reviewed literature and have demonstrated benefits of pharmacist-directed patient care.<sup>2,3</sup> For example, in their comprehensive systematic review, Chisholm-Burns and others<sup>4</sup> evaluated 298 studies of the effect of US pharmacists, working as members of care teams, on patient care and found positive results in terms of therapeutic and safety metrics. The most frequently reported therapeutic outcomes included reductions in hemoglobin A1c, low-density lipoprotein, and blood pressure. Clinical pharmacist care has also improved humanistic components of patient care related to patient satisfaction, adherence to therapy, and knowledge of medications. The authors of a 2008 literature review of the economic impact of clinical pharmacist providers endeavoured to quantify the benefit-to-cost ratio.<sup>5</sup> Among studies reporting data suitable for determining the benefit-to-cost ratio ( $n = 15$ ), the pooled median value revealed that for every dollar

invested in a clinical pharmacist, US\$4.81 was achieved in cost reductions or other economic benefits.<sup>5</sup>

The current review article highlights the VHA's efforts to utilize pharmacists as direct patient care providers to increase quality of and access to care for the veteran patient in a value-based payment model.

## BACKGROUND: VHA Clinical Pharmacy Practice and the Clinical Pharmacy Specialist

Within the VHA, all pharmacists have the professional designation of "clinical pharmacist". In addition, a subset of pharmacists with the title Clinical Pharmacy Specialist (CPS) exist who operate as advanced practice providers, providing comprehensive medication management (CMM), with authority to initiate, discontinue, or modify medication under a defined scope of practice. The scope of practice for VHA CPS providers is similar to a collaborative practice agreement between a pharmacist and a physician provider, as used outside of the VHA; however, the VHA CPS scope of practice is specific to the facility, not with an individual provider. Notably, a scope of practice is not required to perform routine activities, such as dispensing, patient counselling, medication reconciliation, teaching, chart reviews, or the provision of monitoring or assessment recommendations related to a patient's medication therapy. However, only CPS providers with a scope of practice are allowed to perform medication management activities, which include but are not limited to prescribing medications, ordering laboratory assessments, and performing physical examinations. In 2010, the VHA Pharmacy Benefits Management Services created the Clinical

Pharmacy Practice Office (CPPO), which is responsible for developing interventional and proactive approaches to support, sustain, and spread clinical pharmacy practice throughout the VHA. The CPPO targets and supports initiatives to improve veterans' access to care and the quality and cost-effectiveness of care provided, while aligning current VHA clinical pharmacy practice with policy, developing processes to support pharmacy leadership, and ensuring that the VHA's clinical pharmacy workforce is recognized as a foundational necessity. As of August 2019, the VHA employed more than 8517 clinical pharmacists, of whom 4359 (51%) had a scope of practice authorizing them to provide CMM services with autonomous prescriptive authority.

Given the CPPO's transformational strategy for clinical pharmacy practice, VHA policy had to be modernized to accurately reflect the practice roles and settings where CPS providers function. Therefore, in 2015, the *VHA Handbook 1108.11: Clinical Pharmacy Services* was created to provide specific direction, policy, and procedures related to clinical pharmacy.<sup>6</sup> The policy modernized the activities included within the CPS scope of practice, defined the credentialing process for VHA CPS providers, and also defined the procedures for initiation and renewal of the scope of practice, along with the components of peer review (otherwise known as professional practice evaluation), both initial and ongoing, for pharmacists possessing a scope of practice.<sup>7</sup> Prescriptive authority outlined in the scope of practice applies only to noncontrolled substances and is outlined on the basis of VHA policy, rather than by the pharmacy practice legislation for the state where the pharmacist is licensed. If the CPS provider is licensed in a state that allows prescriptive authority for controlled substances and has obtained a DEA (Drug Enforcement Administration) number, the CPS provider's scope of practice may include authority to prescribe controlled substances. Pharmacy practice legislation at the state level typically uses the term "collaborating agreements", "collaborative practice", or "collaborative practice agreement". The VHA CPS scope of practice is the collaborating agreement through which the CPS provider enters into a formal agreement with a facility's medical staff to perform CMM. The scope of practice is overseen by the Executive Committee of the Medical Staff and holds VHA CPS providers to a higher level and frequency of quality review standards than most state-level legislation, as evidenced by the components of professional practice evaluation outlined in the *VHA Handbook 1108.11: Clinical Pharmacy Services*.<sup>6</sup>

VHA CPS providers who possess a scope of practice are highly trained: 73% of VHA CPS providers have advanced residency training (postgraduate year 1 [PGY-1] and/or PGY-2), and 53% have board certification (e.g., Board Certified Pharmacotherapy Specialist, Board Certified Psychiatric Pharmacist, Board Certified Ambulatory Care Pharmacist) or certification in another discipline, such as geriatrics or diabetes care. In total, 84% of VHA CPS providers have advanced

residency training and/or certification. VHA CPS providers recorded over 6 million patient care visits in fiscal year 2018 (October 1, 2017, to September 30, 2018). Nationally, CPS provider roles vary in type and setting, including management of complex anticoagulation clinics, treatment of chronic disease states (e.g., diabetes, hypertension, dyslipidemia, chronic obstructive pulmonary disease, heart failure, pain), and acute and chronic management of specialty care conditions in areas such as hepatitis C, mental health, and cardiology.<sup>8</sup>

In the sections below, we review VHA CPS practice and provide an overview of current CMM activities in various clinical areas, based on internal data from the VHA CPPO.

## **CPS AND DISEASE STATE INTERVENTIONS: The Pharmacists Achieve Results with Medications Documentation (PhARMD) Project**

Although in the past the number of CMM patient care visits indicated the breadth of practice across the VHA system, this number did not describe the types of activities performed during these direct care encounters. In response to that need, an electronic tool for documenting interventions was developed, which is now available at all VHA medical centres. This project, known as the Pharmacists Achieve Results with Medications Documentation or PhARMD project, has been described in detail elsewhere.<sup>9</sup>

In fiscal year 2018, a total of 4 070 609 disease state interventions were documented by 5360 CPS providers using the tool. The tool allows evaluation of intervention capture by disease state/condition, as well as by type of intervention. Some of the most common disease state interventions are listed in Table 1. Interventions are further subdivided into those intended for purposes of medication management (e.g., initiating, modifying or changing, discontinuing, or monitoring a medication), those unique to the process of identifying drug-related problems or performing risk evaluation (e.g., suicide risk assessment performed, drug-drug interaction identified, adverse drug event identified, polypharmacy evaluated), and those related to education or referrals for care. Nationwide, in fiscal year 2018 the tool was used during 52% of all CPS patient care visits. Use of the tool was as high as 89% at an individual VHA facility.

## **CPS PROVIDER ROLES: Current Status and Relevant Evidence**

### **Primary Care**

The VHA used the principles of the patient-centred medical home model to design its patient-aligned care team (PACT) for delivery of primary care. The PACT model was introduced within the VHA in 2009 and its implementation across the health care system began in 2010. Each VHA PACT is broken down into 2 components: the core team and the expanded team. The core

**Table 1. PhARMD Disease State Interventions, Fiscal Year 2018\***

| Disease State                         | No. of PhARMD Interventions |
|---------------------------------------|-----------------------------|
| Anticoagulation                       | 1 365 931                   |
| Diabetes, type 2                      | 975 154                     |
| Mental health                         | 298 544                     |
| Hypertension                          | 274 054                     |
| Pain management                       | 254 861                     |
| Lipids                                | 136 299                     |
| Antimicrobial stewardship             | 127 365                     |
| Hepatitis C virus                     | 107 241                     |
| Tobacco cessation                     | 95 819                      |
| Oncology                              | 66 269                      |
| Congestive heart failure              | 33 911                      |
| Anemia                                | 32 316                      |
| Chronic obstructive pulmonary disease | 14 192                      |
| Transplant                            | 12 771                      |
| Chronic kidney disease                | 11 642                      |
| Hypothyroidism                        | 11 314                      |

PhARMD = Pharmacists Achieve Results with Medications Documentation project.

\*Fiscal year 2018 = October 1, 2017, to September 30, 2018.  
 Only the most common types of interventions are listed.

team comprises the patient, primary care providers (i.e., physician, physician's assistant, and nurse practitioner), registered nurse care manager, clinical staff assistant (i.e., licensed practical nurse or medical assistant), and an administrative staff member (i.e., scheduling clerk/front staff). The expanded team involves providers in clinical specialties, including a CPS, to be utilized according to each veteran's specialized medical needs (VHA model concept paper concerning patient-centred medical homes, unpublished). A total of 6373 primary care providers serve 6 272 901 veterans in the VHA. The CPPO set forth a defined ratio of one PACT CPS supporting 3600 primary care patents (based on an assumption of 1200 patients per primary care provider). Currently, 1836 pharmacists VHA-wide are functioning within the primary care practice setting.

Each PACT CPS provides CMM services in between typical visits to the PACT primary care provider, to initiate, modify, or discontinue medications, as well as to provide disease management. Multiple studies have demonstrated improved quality of care for primary care patients when VHA CPS providers are involved.<sup>10-13</sup> PACT CPS providers may provide transitions of care or postdischarge follow-up clinics, ensuring safe transitions between inpatient care and follow-up with the primary care team. The volume of certain types of encounters for fiscal year 2018 can be seen in Table 2. The care modality of these encounters was varied, with virtual care (e.g., telephone, clinical video telehealth) accounting for 60% of the encounters. Since 2015, there has been a 42% increase in CPS providers practising in primary care. For fiscal year 2018, the top 4 disease-related interventions involved type 2 diabetes care, anticoagulation, hypertension management, and lipid management.

**Table 2. Clinical Pharmacy Specialist (CPS) Encounters Completed, According to Practice Area, Fiscal Year 2018\***

| Practice Area                          | No. of CPS Providers | No. of Encounters |
|--|----------------------|-------------------|
| Primary care/patient-aligned care team | 1836                 | 1 465 970         |
| Mental health                          | 426                  | 340 106           |
| Pain management                        | 242                  | 160 817           |
| Inpatient                              | 4805                 | 887 106           |

\*Fiscal year 2018 = October 1, 2017, to September 30, 2018.

For a typical panel of 1200 patients, VHA PACT primary care providers have only enough appointment slots to see each patient on average 2.5 times per year. Optimizing the utilization of primary care CPS providers to see patients for CMM in between their visits to the primary care provider visits allows the return interval to be stretched out. The "Increasing Access to Primary Care Using Pharmacist Providers: Diffusion of Excellence Gold Status Practice" project demonstrated that 27% of return appointments to a primary care provider could be averted following integration of CPS providers into the system.<sup>14</sup> Applying this approach across an entire VHA facility was equivalent to creating more than 850 new appointments per quarter. The increase in access VHA-wide would result in more than a quarter of a million newly opened appointments annually.

Provider satisfaction and reduction of burnout for the primary care provider will continue to be areas of focus as staff shortages reach a critical level. In a study performed within the VHA, PACT staff were surveyed with a tool that evaluated perceptions of increased access and clinician satisfaction in relation to integration of CPS providers into primary care. Using a Likert-scale rating system to indicate current perceptions of the CPS contribution to increasing provider job satisfaction (where 1 = no contribution and 5 = major contribution), physicians and nurse practitioners rated CPS involvement at 4.59 and 4.67, respectively.<sup>15</sup>

## Mental Health

The mental health CPS provider is a core team member offering CMM expertise to veterans and within the mental health team. These comprehensive teams include psychiatrists, psychologists, nurse practitioners, and social workers, as well as a variety of other clinicians. The mental health CPS providers function as primary mental health providers, and their practice is spread across the continuum of care in general and specialty mental health clinics, behavioural health clinics embedded in primary care, residential rehabilitation facilities, specialty mental health programs, and inpatient mental health units.<sup>16-27</sup> The mental health CPS provider offers same-day access for veterans' needs related to medication management and has been an integral provider for timely postdischarge follow-up appointments. Additionally, the mental health CPS provider embedded in

primary care provides CMM for depression, anxiety, and post-traumatic stress disorder.<sup>28,29</sup> This care has been demonstrated through an electronic consult system for primary care providers, which allows them to utilize the medication expertise of the mental health CPS provider while maintaining management of the veteran in the primary care setting.<sup>20</sup> The mental health CPS provider regularly screens for suicide risk and performs comprehensive suicide risk evaluations for veterans. For these evaluations, the CPS provider collaborates with the psychiatrist or other designated team member in determining the patient's disposition and documents accordingly. The mental health CPS provider meets population metric goals by managing at-risk veterans within their own subset of the team's panel, but also by seeing veterans who have been discharged from hospital and have been identified as having a high risk for suicide. These veterans may require more frequent follow-ups, and the CPS provider must ensure that safety plans are completed in a timely manner.

Within the VHA, there are 426 CPS providers with a mental health scope of practice and relevant prescriptive authority, working at 119 VHA facilities, a growth of more than 134% since October 1, 2014. The mental health CPS providers are a highly trained workforce: 84% have completed a PGY-1 residency, and 61% have completed a PGY-2, with 59% specifically completing a PGY-2 in psychiatry. In addition, 67% report advanced board certification, with 53% of these individuals recognized as Board Certified Psychiatric Pharmacists (BCPPs). The VHA graduates 75 specialized PGY-2 mental health pharmacy residents annually. The number of mental health encounters for fiscal year 2018 is shown in Table 2. The modalities of these encounters included face-to-face, telephone, clinical video telehealth (home- or clinic-based), group appointments, electronic consults, and secure messaging, giving veterans opportunities to access care that meets their needs and schedules.

In the face of current psychiatrist shortages and the projected increase in this deficit (estimated to reach a 25% deficit by the year 2025), mental health CPS providers deliver timely access to care and offer a solution to psychiatrist shortages and concerns about access to mental health services.

## **Pain Management**

Veterans suffer more often from chronic pain conditions than those in the non-veteran population, with veterans typically experiencing higher complexity pain conditions, which in turn results in higher health care utilization rates.<sup>30,31</sup> VHA facilities often report difficulty in recruiting providers with expertise in pain medication management, which puts CPS providers in a position to play a critical role in improving access to pain care. Pain management programs in which CPS providers perform pain management services have demonstrated improvements in opioid prescribing, lower costs associated with opioid adverse effects, and increased patient satisfaction.<sup>32-39</sup> Many VHA facilities utilize CPS

providers for chronic pain medication management across practice settings. Primary care providers specifically benefit from such practices through assistance with both opioid and non-opioid medication management and monitoring.

In 2013, the CPPO recognized the need to expand the CPS workforce in pain management. Lectures and coursework were developed, and more than 200 CPS providers have been trained and authorized since then to treat pain through their scope of practice. Currently, 242 CPS providers perform pain management within the VHA, representing a 600% growth from 2015. In addition, the VHA partnered with the Office of Academic Affairs to add 7 new positions for PGY-2 pain management and palliative care residencies for academic year 2019. The focus of these new PGY-2 positions is on training and skills development for chronic pain management, palliative care, and substance use disorders. The VHA currently offers 12 of the 23 PGY-2 pain management and palliative care residencies across the United States.

The VHA pain management CPS provides CMM focused on treatment appropriateness, effectiveness, safety, and adherence. Pain management CPS providers perform pain assessments, assess for both suicide risk and substance use disorders, and develop individualized treatment plans. The care offered by the CPS providers includes all facets of medication prescribing to address pain care needs, as well as initiating and monitoring opioid tapers, making needed referrals, and ensuring universal precautions. Pain management CPS providers deliver care through traditional face-to-face appointments (individually or in groups), but more than half the time, care is delivered virtually by telephone or video telehealth, chart consultation, or electronic messaging (e.g., secure e-mail). Pain CPS providers rely heavily on population management to target high-risk patients for intervention. Population management strategies driven by pain CPS providers include, but are not limited to, identifying patients for overdose education and naloxone distribution, performing CMM directed toward high-dose opioid dose reduction, performing urine drug testing, responding to prescription drug monitoring program queries, and other forms of risk mitigation for veterans and the community, including facilitating addiction treatment.

From a more global perspective, CPS providers are often designated as pain and opioid stewardship champions who work, outside of their direct patient care role, with other facility leaders (e.g., pain and mental health champions) to foster facility-wide initiatives to ensure the safety of pain care. In this role, the pharmacist stewardship champion leads efforts for both ambulatory and acute care to guide change across practice settings.

## **Substance Use Disorders**

CPS providers collaborate with other members of the treatment team in various practice settings to deliver care for veterans with substance use disorders. CPS providers in the VHA have demonstrated improved access to treatment for alcohol use



disorder, opioid use disorder, tobacco use disorder, and other illicit substance use disorders. In addition, evidence shows that CPS-managed care improves medication-assisted treatment retention rates for opioid use disorder, tobacco abstinence, and prescribing rates for pharmacotherapy for alcohol use disorder.<sup>40-43</sup>

The PACT, pain, and mental health CPS providers independently address and treat alcohol use disorder and tobacco use disorder in their respective care settings, with the mental health and pain CPS providers also being commonly integrated in collaborative care models for treating opioid use disorder with medication-assisted treatment. There are distinct differences in management between opioid use disorder and other conditions, given the data waiver requirement for buprenorphine-based products. After a veteran who is seeking treatment has been seen by a qualifying practitioner and an opioid use disorder has been diagnosed, the CPS provider works with the qualifying provider and the other members of the team to initiate and manage naltrexone long-acting injectable therapy or to provide medication management in collaborative fashion with the qualifying provider during the induction, sustainment, and maintenance phases of buprenorphine treatment. The CPS provider undertakes population management strategies to identify at-risk veterans for engagement and intervention. These activities may include prompting evaluation or treatment of opioid use disorder, determining needed risk-mitigation strategies, or providing overdose education and naloxone as part of overdose prevention. Finally, the CPS provider may perform care coordination, such as risk monitoring, ensuring participation in psychosocial therapy or psychotherapy, ensuring needed referrals, and facilitating unscheduled appointments. With significant shortages of providers who are able to deliver medication-assisted treatment for opioid use disorder, CPS providers improve access to care and help the VHA to meet its goal of providing on-demand, evidence-based addiction treatment to service members.

### **Inpatient Clinical Pharmacy**

The VHA applies CMM in the acute care setting, according to a team-based care model that allows for proactive delivery of clinical pharmacy services. The acute care inpatient setting supports clinical pharmacy contributions with a high level of autonomy, allowing for independent decision-making within the scope of practice of CPS providers.

As a member of an interprofessional team, the CPS provider performs direct patient care activities that may include prescriptive authority, consult submission and completion, and the ordering of related tests and diagnostic studies to support medication management. These advanced practice pharmacy providers may also perform the physical and objective assessments necessary to evaluate and monitor patients for initiation or modification of medication therapy to enhance patient safety and ensure appropriate therapeutic response. Their positive impact on patient care

may extend to decreasing the length of stay, reducing readmission rates (e.g., for congestive heart failure, chronic obstructive pulmonary disease, or hypertension), improving antimicrobial stewardship, and facilitating timely referrals for patients who have been identified as high risk through population management and who are being discharged from the acute care setting. In fiscal year 2018, inpatient clinical pharmacists and CPS providers performed a total of 887 101 inpatient encounters (Table 2). The top 5 disease-related interventions were anticoagulation, antimicrobial stewardship, type 2 diabetes management, pain management, and hypertension management.

### **CPPO Innovation and CPS Practice Expansion**

The CPPO routinely engages in partnership with other VHA program offices to align CPS practice with other efforts to improve veterans' access to needed care. One such project was initiated in late 2016, when the CPPO partnered with the VHA's HIV, hepatitis, and related conditions program with the goal of expanding veterans' access to treatment for hepatitis C virus (HCV) infection to prevent morbidity and mortality associated with HCV disease. This successful collaboration resulted in funding that accelerated access to HCV treatment through expansion of the CPS provider workforce. Subsequently, VHA best practices to cure HCV were demonstrated.<sup>44</sup> CPS providers were recognized as delivering quality care and providing timely access to HCV treatment, as measured by sustained virologic response.

In 2017, the CPPO further enhanced practice expansion by partnering with the VHA Office of Rural Health to expand access to care for rural veterans through CPS providers. Subsequently, 65 VHA facilities received funding to hire new CPS providers: 110 in primary care, 40 in mental health, and 35 in pain management. With these new positions, as of the close of fiscal year 2018, CPS providers had served 126 095 veterans for a total of 358 243 encounters. Primary care CPS providers were involved in 177 058 of these encounters, whereas mental health CPS providers recorded 54 620 encounters and pain CPS providers had 42 379 encounters. Over 50% of encounters were conducted using virtual practice delivery modalities (e.g., telephone or clinical video telehealth).

## **DISCUSSION**

CPS providers can contribute to care in multiple ways, including (but not limited to) improving the quality of care through provision of CMM services, increasing access to care, and improving team member satisfaction. Within the VHA, the role of the CPS provider has been solidified both in policy and in function, matching the core components required for CMM. VHA policy has outlined the foundational components of CPS practice in relation to professional practice and has specifically

standardized the credentialing and scope of practice of the CPS provider. The CPPO has developed guidance focused on core implementation strategies, which highlight practice management needs allowing the CPS to function as an advanced practice provider in multiple practice arenas. The dual strategy of development of policy and provision of guidance has allowed the VHA to standardize the practice area of the PACT CPS to a greater extent than any other defined role for CPS providers within the VHA. Although challenges exist, future opportunities for expansion are limitless for the CPS providers practising in the VHA. Extending CPS practice beyond what was traditionally thought of as a disease-specific provider and allowing the provision of CMM across the breadth of many care areas gives the VHA the opportunity to increase quality of care and address provider shortages that are expected to only increase with time.

## CONCLUSION

The VHA has been an advocate for the advancement and expansion of the practice of clinical pharmacy in CMM. The VHA has set standards through policy and guidance, thus providing the foundational components of CPS practice. The clinical pharmacy practice model of the VHA is one that can be replicated by other agencies, given the shift in payment model to value-based care (rather than fee-for-service).

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