U.S. Department of Veterans Affairs
Veterans Health Administration
Pharmacy Benefits Management (PBM) Services
Clinical Pharmacy Practice Office (CPPO)

Clinical Pharmacist Practitioner (CPP) Role in Neurology
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The Clinical Pharmacist Practitioner (CPP) is an integral provider in the provision of comprehensive medication management (CMM) services in neurology service across the continuum of care and how full integration of the CPP in team-based settings significantly improves access to care, quality and safety for Veterans.

Key Takeaways include:

- The Neurology CPP is a core team member providing CMM expertise to our Veterans and Neurology teams to improve the quintuple aim of healthcare by providing high quality care, reducing healthcare costs, improving patient experience and provider well-being, and achieving health equity.[1,2]
- The Neurology CPP improves access primarily when providing CMM through direct patient care. There are several strong practices within the Department of Veterans Affairs (VA) where Neurology CPPs practice in General Neurology, Specialty Neurology (e.g., epilepsy, movement disorders, multiple sclerosis (MS), amyotrophic lateral sclerosis (ALS), stroke, headache), and inpatient/acute care Neurology (e.g., neurology, neurosurgery).
- As a component of CMM, the Neurology CPP applies the principles of team-based care and population management to identify patients who could benefit from CMM services.
- Demand for Neurology providers with CMM expertise continues to increase across the nation because of increased Veteran care needs in Neurology. Facilities have a significant opportunity to utilize highly trained Neurology CPPs to meet this demand.

Background

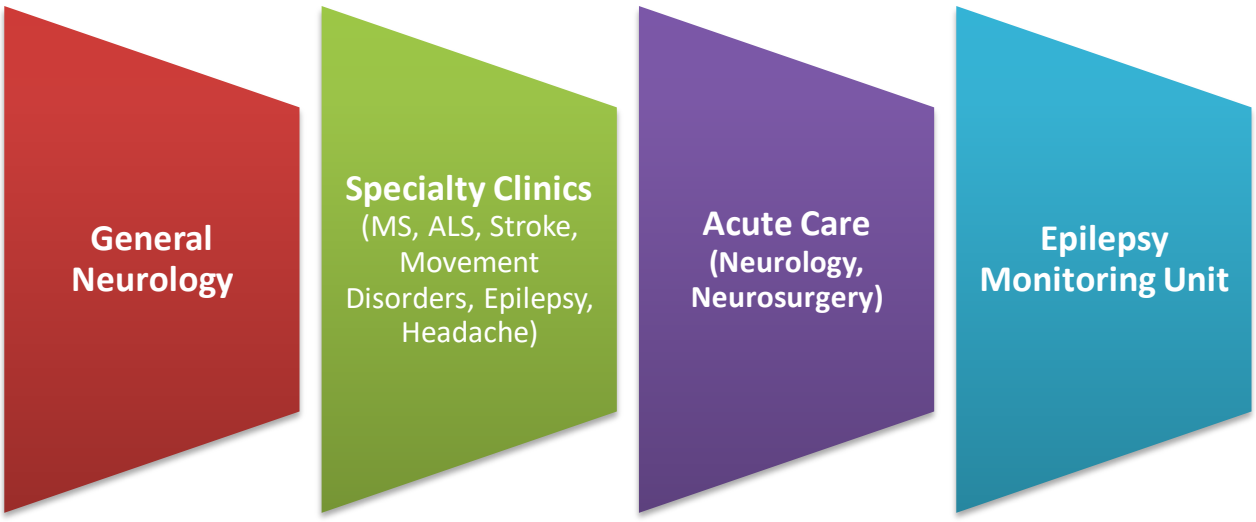
Neurology is a complex specialty requiring patient-centered care and often delivered by a multidisciplinary team. Providing access to high quality health care is one of the Veterans Administration's (VA) top priorities. Within the VA, there is a national shortage of general neurology physician staff with many VA healthcare systems listing neurology among their shortage occupation selections.[3] New and innovative services, such as tele-neurology, have been employed to combat these shortages, but there continues to be cost, reimbursement, technological, examination, and regulatory limitations.[4,5] Demand for neurologic services exceeds the supply, posing a threat to providing high quality patient care and to the specialty of neurology.[6] As the aging population increases, a dramatic rise in common neurogenerative diseases including stroke, Parkinson's disease, and dementia is expected.[6] With the demand for neurologic care increasing and innovations in medical treatment along with numerous new drug approvals for neurologic conditions, incorporating the expertise of the Neurology Clinical Pharmacist Practitioner (CPP) will increase access to comprehensive medication management (CMM) services. The Neurology CPP is a core team member who provides CMM expertise to Veterans and the Neurology team. Neurology CPPs provide CMM in neurological care through the quintuple aim of healthcare by providing better care, reducing healthcare costs, improving

patient experience and provider well-being, and achieving health equity.[1,2] Many times, the disease states within neurology require regimens with complex pharmacokinetic profiles and drug interactions. The Neurology CPP addresses access to neurological care and specialty medications, identifies barriers to adherence, performs comprehensive medication reviews, manage/monitor laboratory results, provides patient education, and provides expertise for medications-related concerns including drug-interactions, contraindications, and adverse reactions.[7-13]

Role of the CPP in Neurology

The VA CPP is an Advanced Practice Provider authorized, under a scope of practice, to autonomously prescribe and provide CMM services in a variety of practice settings as described in VHA Handbook 1108.11 Clinical Pharmacy Services. The types of activities, in addition to prescribing, include executing therapeutic plans, physical and objective disease assessment, patient education, utilizing quantitative assessments to monitor medication effectiveness and neurological disease conditions, ordering labs, taking independent corrective action for identified drug-induced problems, ordering consults to maximize positive drug therapy outcomes, obtaining and documenting informed consent for treatments and procedures if applicable, and completing pharmacology consultation with other team members. These activities focus on treatment appropriateness, effectiveness, safety, and adherence for neurological and non-neurological conditions.

The Neurology CPP is a core team member providing CMM expertise to our Veterans and Neurology teams across the continuum of care including General Neurology, Specialty Neurology including the Centers of Excellence for Parkinson's Disease, Epilepsy, Multiple Sclerosis (MS) and Headache, and inpatient/acute care Neurology (e.g., neurology, neurosurgery). Impact of the Neurology CPP has been reported in the literature (see Evidence Bibliography) and is further described related to access and quality.



Access Impact

Given the national shortage of neurologists, deploying the Neurology CPP for CMM leverages access to a neurologist to address additional patient care issues focused around evaluation and diagnosis. Nationwide, CPPs are providing care for many neurologic conditions. During FY22, there were 24,409 patient care encounters by a CPP in a neurology-based clinic. The number of CPPs providing this care

grew from 77 to 91 within that year (**Figure 1**). In looking at CPPs with practice focused in providing neurology care for 25% or more of their time during FY22, 12 Neurology CPPs recorded 6,092 patient care encounters, with 4,290 Veterans served, which is a 20% increase in encounters from the previous year (4,884 encounters in FY21) (**Figure 2**). Modalities of patient care encounters by those providing any encounter related to Neurology were primarily telephone encounters, then face-to-face, then by VA Video Connect (VVC) (**Figure 3**). Interventions identified through the PhARMD (Pharmacists Achieve Results with Medications Documentation) Tool provided information on medication management activities within neurology, which totaled 30,692 in FY22.

The Neurology CPP meets population metric goals by managing Veterans in their own subset of the team's panel, but also working beside those Veterans hospitalized for neurological conditions. The Neurology CPP has been utilized in a variety of ways to effectively improve access to care, improve medication related monitoring and education needs.

Figure 1. CPP Encounters by Fiscal Quarter for Neurologic Conditions

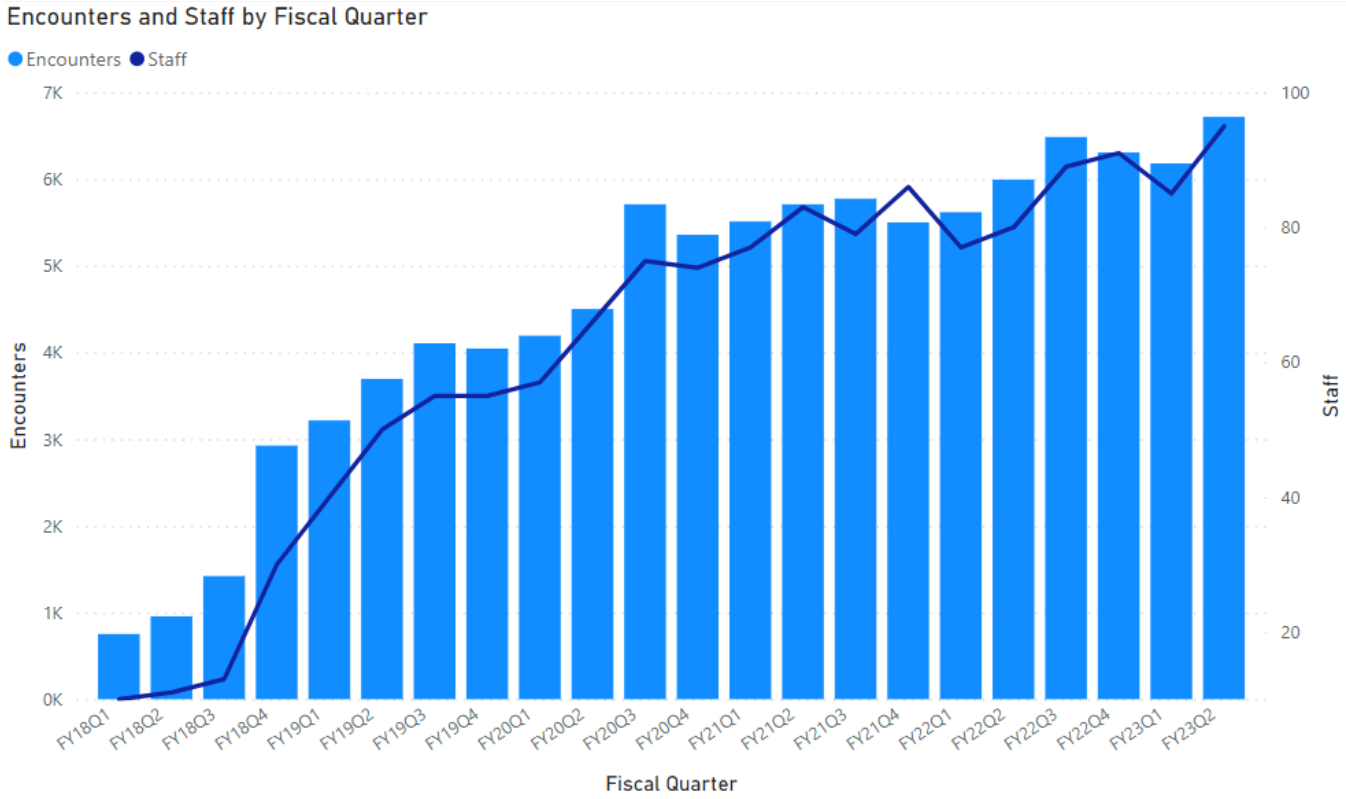


Figure 2. Neurology CPPs (≥ 25% providing Neurology Care), Patient Care Encounters and Patients Served

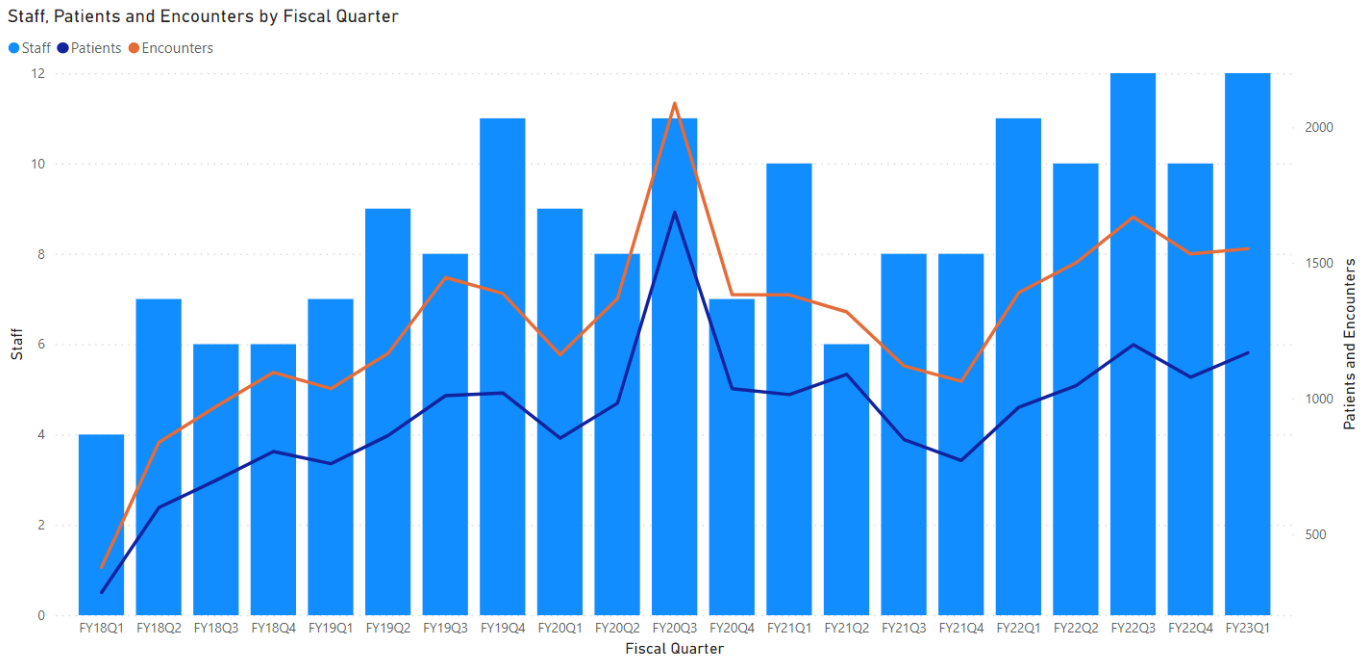
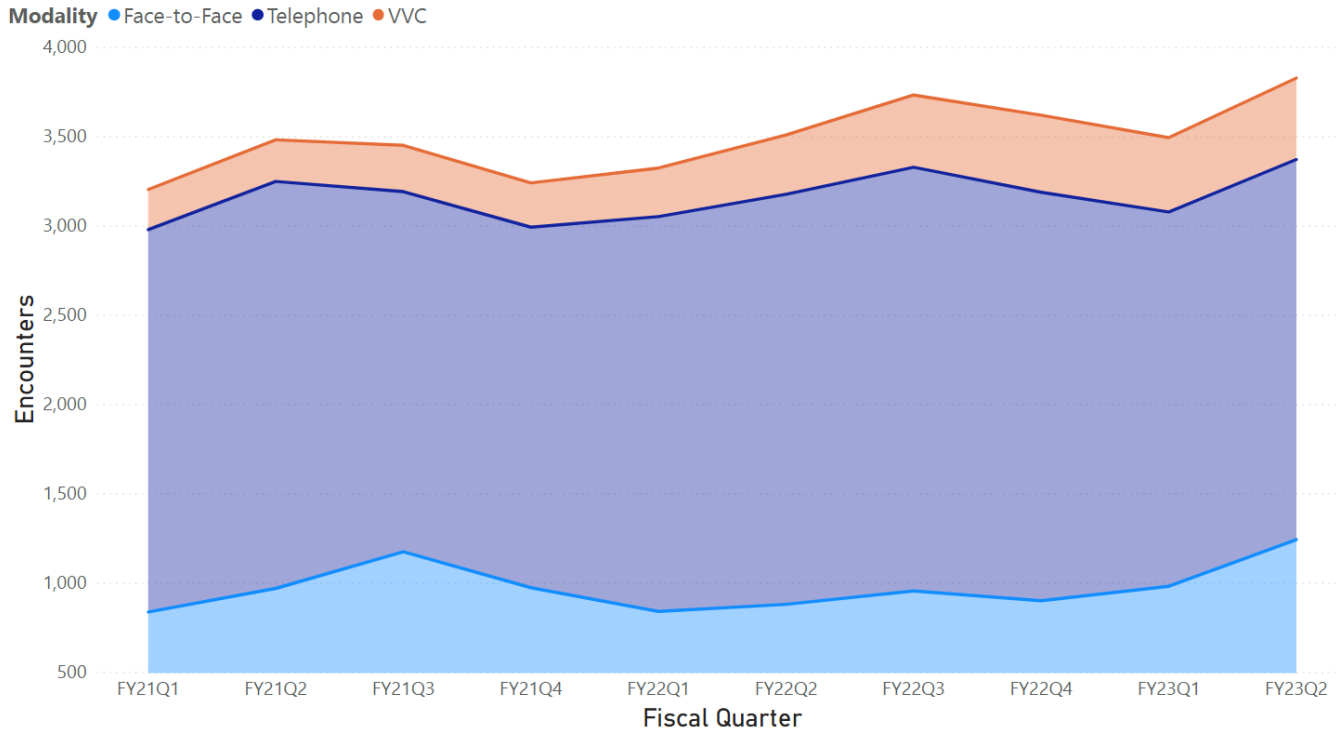


Figure 3. CPP Encounters by Modality in Neurology



Quality Impact

The Neurology CPPs are faced with the task of ongoing management of processes designed to ensure that medications are used appropriately, safely, and effectively. As demonstrated by various direct and non-direct patient care efforts, Neurology CPPs support the VA's mission to improve outcomes and improve quality of life for individuals affected by neurological conditions.

The medication use evaluation tracker (MUET) is a medication use evaluation (MUE) nationwide to identify potentially at-risk patients being prescribed certain high-risk medications. Previously, dimethyl fumarate (DMF) was listed as one initiative to help identify veterans with an active prescription for DMF without a documented VA white blood cell count (WBC) lab result within 3 months of a released prescription, or with a dangerously low WBC value < 2,000/mm^3 following the earliest DMF prescription release date. The prescribing neurologist could then be alerted by the Neurology CPP to address the triggering criteria with the intervention documented within the MUET database. Other active initiatives in the MUET include anti-CD20 monoclonal antibodies (AntiCD20 AB) and hepatitis B screening. Within neurology, ocrelizumab, ublituximab and ofatumumab are approved disease modifying therapies (DMTs) in the treatment of MS that target the CD20 molecule to deplete circulating B-cells. Rituximab is also an AntiCD20 AB used off-label for MS as well as other neurologic conditions. The potential reactivation of the hepatitis B virus (HBV) is a known concern with AntiCD20 ABs, therefore baseline screening for HBV, including hepatitis B surface antigen (HBsAg) and hepatitis B core antibody (anti-HBc) is needed. The MUET alerts providers to those missing HBV screening so that the appropriate laboratory screening and risk mitigation can be ordered and discussed with the prescribing neurologist. Additionally, a MUET initiative for azathioprine, a medication that may be used as immunotherapy and potential corticosteroid-sparing agents in the management of myasthenia gravis (MG), exists to ensure appropriate hematologic, hepatic, and renal function monitoring occurs at a timely interval. Providers are alerted through this MUET if missing any of these labs so that continued medication monitoring, and safe utilization of this medication can continue.

Neurology CPPs also utilize other population health management tools, including medication safety dashboards that identify patients on high-risk neurologic medications, such as carbamazepine, azathioprine, or other MS DMTs who are due for neurology follow-up or routine laboratory monitoring, or who have had lab results that fall out of the normal range. This is accomplished as part of team-based care by either alerting other team members to address the triggering criteria or providing the management. Adherence with these high-risk medications is also tracked utilizing the medication possession ratio, and the Neurology CPP may directly impact the optimization of medication outcomes with interventions regarding adherence.

As new neurologic therapies are approved and utilized, Neurology CPPs collaborate with neurologists in the selection of patient specific medication therapies while considering the pharmacoeconomic implications in therapies such as CGRP (calcitonin gene related peptide) antagonists and monoclonal antibodies, VMAT2 (vesicular monoamine transporter 2) inhibitors, antiepileptics, and anti-CD20 B-cell treatments. Neurology CPPs ensure that prior to therapy initiation appropriate monitoring is conducted and ensure ongoing monitoring is followed to avoid harm. As therapy beings, the CPP provide education on the importance of compliance with administration schedule as well as follow-up neurology appointments. As a member of any neurologic interdisciplinary team (IDT), the CPP is uniquely situated to identify common side effects reported by patients or other team members to provide risk mitigation strategies.

Neurology CPPs, like other CPPs, play a crucial role in promoting health equity. They enhance healthcare

access by leveraging neurologists through the provision of CMM. CPPs contribute to health literacy by providing targeted pharmacy education to patients and other healthcare professionals and actively participating in support groups. As medication experts, they are trained in the delivery of culturally competent care to take the time to understand patients' values and preferences with regard to medications, thereby improving the dialogue for shared decision making. They engage with the community by taking part in health fairs, outreach events, and establishing partnerships with key opinion leaders or organizations both within and outside of the VA. By integrating Neurology CPPs into the team-based care model alongside neurologists, physicians, nurses, and other healthcare professionals, it fosters a diverse workforce that tailors care more effectively. By increasing the number of Neurology CPPs in the VA network, this pharmacy-centered community advocates for equity and actively participate in shaping VA policies related to Neurology.

Scalability of CPP in Neurology

Integrating Neurology CPPs has been shown to play a valuable role in the care of patients with neurological conditions. Literature review has provided examples of improved medication access and management, reduced medication related problems, improved patient and provider satisfaction, reduced hospitalizations, and improved patient outcomes with incorporating a Neurology CPP into the neurology team.[7-13] The Pharmacy Benefits Management Services Clinical Pharmacy Practice Office has partnered with the Office of Rural Health to successfully implement an Enterprise Wide Initiative, increasing access to care for rural veterans by leveraging CPPs, known as the CPP Rural Veteran Access (CRVA) Diffusion initiative. It is aimed to provide greater access to CMM for Veterans living in rural areas in Patient Aligned Care Team and Specialty Care beginning Q4FY24 and continuing over three full fiscal years (FY24-FY26). Within the specialty care focus, five new Neurology CPPs will be hired. As with past CRVA initiatives, this will provide a foundation for growth in Neurology CPPs over time with additional demonstration of improved access, quality and safety with this service expansion.

Conclusions

Neurology CPP practicing at the top of their training and expertise as a core member in Neurology team-based model can improve access, clinical outcomes and cost effectiveness for Veterans seeking neurology care. Although the neurology CPP holds great value to improving Veteran care, there is currently a paucity of CPP in the neurology practice areas. Innovative programs like the ORH funded CRVA Diffusion allow for further expansion of CPP into this practice area. Local facilities should evaluate their current neurology services and when possible support the addition of a neurology CPP.

The PBM CPPO infrastructure utilized to deploy the CRVA CPP practice expansion is a unique and robust resource that may be successfully used to scale national Neurology CPP practice expansion. Neurology CPPs have specialized training and expertise in providing care for Veterans with complex medication regimens and are able to provide CMM utilizing a scope of practice. As such, Neurology CPPs represent a key resource for complex Veteran care and as part of team-based care.

Questions related to this guidance may be directed to the Clinical Pharmacy Practice Office (CPPO) at VHAPBH Clinical Pharmacy Practice Office (CPPO) ClinicalPharmacyPracticeOfficeCPPO@va.gov.

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