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 Acute Care
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Executive Summary:

The Acute Care Subject Matter Expert (SME) Workgroup designed this fact sheet to address the growing evolution of acute care clinical pharmacy practices toward a comprehensive, team-based, patient-centric care model within Veterans Affairs (VA). This document is meant to be a tool for local facilities to assess their own practice model, compare themselves with current trends in progressive national practices, and work to address key issues toward change implementation. The ideal practice model in the acute care setting must focus on providing patient-centered care, and the Comprehensive Care Model (CCM) provides the means to pursue and achieve this goal. The transformational change that needs to occur results from demands on the health care system for value driven care. Today's highly trained pharmacists are in a unique position to provide clinical services, improve healthcare outcomes, increase medication adherence, and facilitate complicated transitions of care. To accomplish these outcomes requires the elevation of all pharmacists to practice at the top of their training and licensure by promoting a team-based care model that provides prospective medication therapy management targeting high risk individuals, preventing adverse drug events, and fostering continuity of care for discharged patients.

Key Takeaways:

- The CCM is the most advanced clinical pharmacy program that provides the optimal access to clinical pharmacy services and promotes all pharmacists to work at the top of their licensure.
- Core tenets of the CCM include pharmacists who practice in a team-based care practice model, providing comprehensive medication management (CMM) services and who are responsible for integrated clinical and operational activities.
- This document establishes the framework of the role clinical pharmacist practitioner (CPP) in the CCM centered around integration of high-level clinical care and accountability of the entire medication use system in addition to adequate documentation and work load capture, all while maintaining certain operational responsibilities to the local pharmacy department.
- Essential elements of support that are required to successfully progress to a CCM include an appropriate approach to change management and addressing operational considerations that must occur to reposition and broaden the pharmacist role.
- Progression to an acute care CCM has benefits in improving overall pharmacist satisfaction while improving the recruitment and retention of highly trained pharmacists.
- Strong practice examples from various CCMs provide insight into pathways toward practice model advancement and show realistic time frames for planning of transformational change

Background:

As reimbursement rates continue to decline and quality becomes an epicenter of healthcare, pharmacists' roles have expanded dramatically. The CCM exemplifies the active involvement of pharmacists in the healthcare setting and positions pharmacists as direct patient care providers. Numerous experimental studies have shown that pharmacists' roles are essential in improving a wide variety of patient care as well as cost-saving in acute care settings.[2,3,4] Marr et al. demonstrated that pharmacy interventions, such as medication reconciliation, inpatient medication therapy management (MTM) consultations, and discharge counseling, resulted in a significant reduction of emergency department visits by 86.5%.[2] Similarly, Leary and colleagues showed that

pharmacist involvement in comprehensive, continuous patient care significantly reduced length of stay in medicine, hematology/oncology and pediatrics units (P<0.011).[3] These improved outcomes have led to multiple leading healthcare organizations to support the inclusion of pharmacists in the interprofessional team, including the Institute of Medicine (IOM), the National Quality Forum, The Agency for Healthcare Research and Quality, The Institute for Healthcare Improvement, the Leapfrog Group, the Society of Critical Care Medicine, the American Academy of Emergency Medicine, and the American Heart Association (AHA). The VA provides unique opportunities for pharmacists to practice at the top of their license, with a high level of autonomy and independent decision-making, through a scope of practice in accordance with VHA Handbook 1108.11, Clinical Pharmacy Services. The CCM aligns directly with the core value of veteran-centric care and allows our pharmacists to provide direct patient care as the drug therapy expert, with a proven impact on patient outcomes and healthcare costs.

The Role of Clinical Pharmacist Practitioner (CPP) in Acute Care (CCM – Desired State)

Both clinical pharmacists (CP) and clinical pharmacist practitioner (CPP) play an essential role in the acute care practice setting as defined in the PBM Guidance Pharmacy Business Rules for Acute Care. This section will focus on dedicated acute care CPPs in the CCM. The Acute Care CPP serves in many key roles in the inpatient setting as a highly-trained comprehensive medication management (CMM) expert functioning with a scope of practice. The primary role of the Acute Care CPP is to serve as a core member of the multidisciplinary team, serving their patients in the acute care setting through the provision of CMM services.

Acute Care CPP CMM functions include, but are not limited to:

- Acute disease state management. Core services include:
  - Anticoagulation management
  - Antimicrobial stewardship
  - Nutrition support
  - Pharmacokinetics dosing services and management
  - Pain management and Opioid Overdose Education and Naloxone Distribution
- Transitions of care
- Participation in interdisciplinary patient care rounds or meetings
- Ordering laboratory and other diagnostic studies necessary for evidence-based care
- Participation in or publication of evidence-based research, clinical reviews, drug information topics or quality improvement projects
- Participation on emergency response teams (e.g., code, rapid response, stroke, pulmonary embolism)

Provision of Clinical Services. Acute Care CPPs are expected to function at the top of their licensure and training, providing the highest quality clinical services to all patients. Pharmacists within the VA system are able to practice with a high level of autonomy and perform independent decision-making within the parameters of a scope of practice (SOP) as defined by the individual medical facility and VHA Handbook 1108.11, Clinical Pharmacy Services. Pharmacist scope of practice designates the pharmacist as an Advanced Practice provider authorizing them to provide CMM services which includes medication prescriptive authority in accordance with VHA Handbook 1108.11, Clinical Pharmacy Services. Although both Acute Care CPs and CPPs may possess a SOP, it is important to note that the CPP should perform these functions and autonomously provide comprehensive medication management services in the acute care setting. In the CCM, the Acute Care CPP should be dedicated to the multidisciplinary team with main role of providing CMM services with a global scope of practice in direct

patient care environments. Facilities should complete an annual review of services provided under a scope of practice and identify opportunities for expansion beyond the core activities listed above.

Literature to support the clinical pharmacy specialist's role[9] has been documented in a variety of specific patient populations, but generally should involve the following expectations: assessment of the patient, evaluation of medication therapy, development and implementation of a care plan, participation in patient care rounds, follow-up evaluation and medication monitoring, documentation in the electronic health record, continued professional development and maintenance of competence, quality improvement activities, didactic teaching and research.

Description of Acute Care Practice Models:

Multiple practice models are utilized within the acute care setting. These four different practice models that exist within VA acute care pharmacy practice are expanded upon in this document. They serve to describe the method by which the local VA facility prioritizes, organizes, deploys and allocates their pharmacy resources to deliver patient care.

Table 1: Acute Care Practice Models

Distributive Model
This practice model is defined by its focus around drug distribution activities. Most of the clinical pharmacist's time is spent in operational duties such as order verification and product verification. Clinical services are generally limited to activities such as answering drug information questions and making clinical interventions during the order verification process. These pharmacists are traditionally located within the central pharmacy area.
Tiered Model
This practice model is defined by a clear separation of duties between two tiers of pharmacists: clinical pharmacists focused on drug distribution activities and decentralized clinical pharmacists or clinical pharmacy specialists focused on clinical services. The clinical pharmacy specialists are not involved in the operational/distributive tasks and their specialized clinical services are generally limited to normal business hours. CPP clinical services may be completed under a scope of practice but at times may be provided as recommendations. These CPP traditionally have additional responsibilities for clinical program development, research, and education.
Integrated Model
This practice model is defined by decentralized pharmacists who provide both clinical and operational services. The clinical services may be provided via a scope of practice or outlined in a policy. Because most of the pharmacists are trained in similar clinical services, the hours clinical services offered are likely to be expanded compared to the tiered model. There are typically limited or no clinical pharmacy specialists in this model and therefore program management, research, and education activities are limited.
Comprehensive Care Model
This practice model is defined by deploying a mix of both clinical pharmacists and clinical pharmacy specialists providing integrated clinical and operational services in a team-based, prospective manner by pharmacists utilizing a scope of practice. All pharmacy operational duties that do not require a pharmacist are carried out by technicians and technology/automation. Core pharmacist-managed clinical services are maintained outside of business hours. In an ideal state, clinical pharmacy specialists provide support to all acute care patients, however, it is recognized that this is not easily implemented. In this model, clinical pharmacy services may be provided by resident trained clinical pharmacists supporting medicine teams and clinical pharmacy specialists to support other specialized areas (i.e. critical care, surgery, cardiology, nutrition, transplant, nephrology). Clinical pharmacy specialists have additional expectations to lead clinical program development, research, and education in their practice area. In the CCM, it is incumbent on each facility to evaluate the mixture,

makeup, overall training, and competency of their pharmacist to ensure that maximal opportunity is given to cover as many inpatient services as possible.

Rationale for Progression to a Comprehensive Care Model (Desired State):

The CCM is the most advanced clinical pharmacy program that provides the opportunity for optimal access to clinical pharmacy services and the ability for all pharmacists to work at the top of their training and competency in the acute care setting. There is a myriad of evidence-based literature supporting movement to a comprehensive model The CCM supports the core tenets of team-based care and integration of clinical and operational activities are the main drivers of CCMs and essential to build around for practice change and evolution.

All practice models provide advantages and disadvantages in the acute care setting which can be seen in Table 2. This table is meant to provide a more detailed description for facilities to use to describe their practice and lists both pros and cons to these approaches. Practice sites should use the following table to assess where their current practice model resides on this spectrum. It is recognized that facilities may closely associate with one or a hybrid of multiple models. Sites should review the pros and cons of the CCM to determine what are the improvement metrics to track as well as what barriers will be met with this progression. Despite the challenges involved with the implementation of a CCM, these barriers must be addressed to allow for clinical pharmacists to provide optimal patient care and achieve desired outcomes.

Table 2: Advantages and Disadvantages of the Acute Care Practice Models

Distributive Model
Advantages • Low staffing costs • No prior training required upon graduation from pharmacy school Disadvantages • Prospective actions would not occur • Reactionary order processing • Minimal or no clinical services • Minimal pharmacist accountability for clinical care outcomes • Limited interactions with other healthcare professionals • Poor retention of clinically and residency trained pharmacists due to limited clinical activities • Pharmacy trainee education limited
Tiered Model
Advantages • Allows for development and application of specialized clinical pharmacy services • CPP inclusion within the team allows for pro-active participation in pharmacotherapy management • Clinical activities are individualized toward the patient • Facilitates pharmacist's involvement in collaborative research activities • Educational role of pharmacist more easily integrated across disciplines and with pharmacy trainees • Flexibility for participation in workgroups and hospital committees Disadvantages • Increased communication between clinical and distributive pharmacists is required • Pharmacists can have selective accountability of the medication-use process

- Difficulty to maintain consistent clinical coverage (e.g. lack of clinical services off-tours; CPP on leave coverage)
- Nursing and other auxiliary personnel have to contact two different pharmacists
- Reactionary order processing
- Multiple pharmacists involved in care of individual patient simultaneously which can confuse other health care professionals
- Requires more handoff and more opportunity for miscommunication

Integrated Model

Advantages

- Promotes decentralized pharmacist practice
- Consistent pharmacy services for basic clinical services and distributive tasks
- Potential expansion of hours where clinical services are provided
- Pharmacists readily able to cross-cover in multiple practice areas
- One pharmacist for health care professionals to contact for specific patient needs

Disadvantages

- Limited or no CPP in this model
- Limited or no dedicated time for front-line pharmacists to be involved with program management, committees, education, or training
- Clinical services are limited in scope
- Limited growth / promotion opportunities for pharmacists

Comprehensive Care Model

Advantages

- Less handoffs
- Improved patient care
- Increased efficiency and productivity
- Pharmacists are co-located with teams
- Pro-active patient-care involvement
- Improved staff satisfaction
- Provides skilled positions for residency trained pharmacists and growth / promotion opportunities
- Provides consistent pharmacy services
- Incorporates advanced pharmacy technician roles
- Improved provider satisfaction
- One pharmacist for health care professionals to contact for specific patient needs
- Flexible and adaptable to institutions of varying sizes and types
- Provides opportunity for all pharmacists (CP and CPP) to function at top of license
- Increased capacity for daily documentation of clinical pharmacist interventions
- CPP able to participate in both direct patient care and program management activities, including committees, education/training, and research

Disadvantages

- Highest FTE requirement to meet a lower pharmacist to patient ratio
- May require additional clinical training/competency programs
- Pharmacists ordering under scope of practice cannot verify their own orders
- Order processing times may increase if pharmacists are performing clinical activities

Current Assessment of Clinical Pharmacy Acute Care Practice

Throughout the VA, there are currently 4, 408 pharmacists working under a scope of practice (SOP) serving as Advanced Practice Providers (APP) with prescriptive authority. The Acute Care CP and CPP functions

autonomously under a SOP and prescribes and monitors medications as described in VHA Handbook 1108.11 Clinical Pharmacy Service. In FY 19, Acute Care CPs and CPPs recorded over 930,000 encounters. Figure 1 displays the growth of CP/CPP acute care encounters by fiscal year. Figures 2 and 3 display the specific medication interventions made during patient care encounters (i.e. Pharmacist Achieve Results with Medications Documentation (PhARMD) Tool.

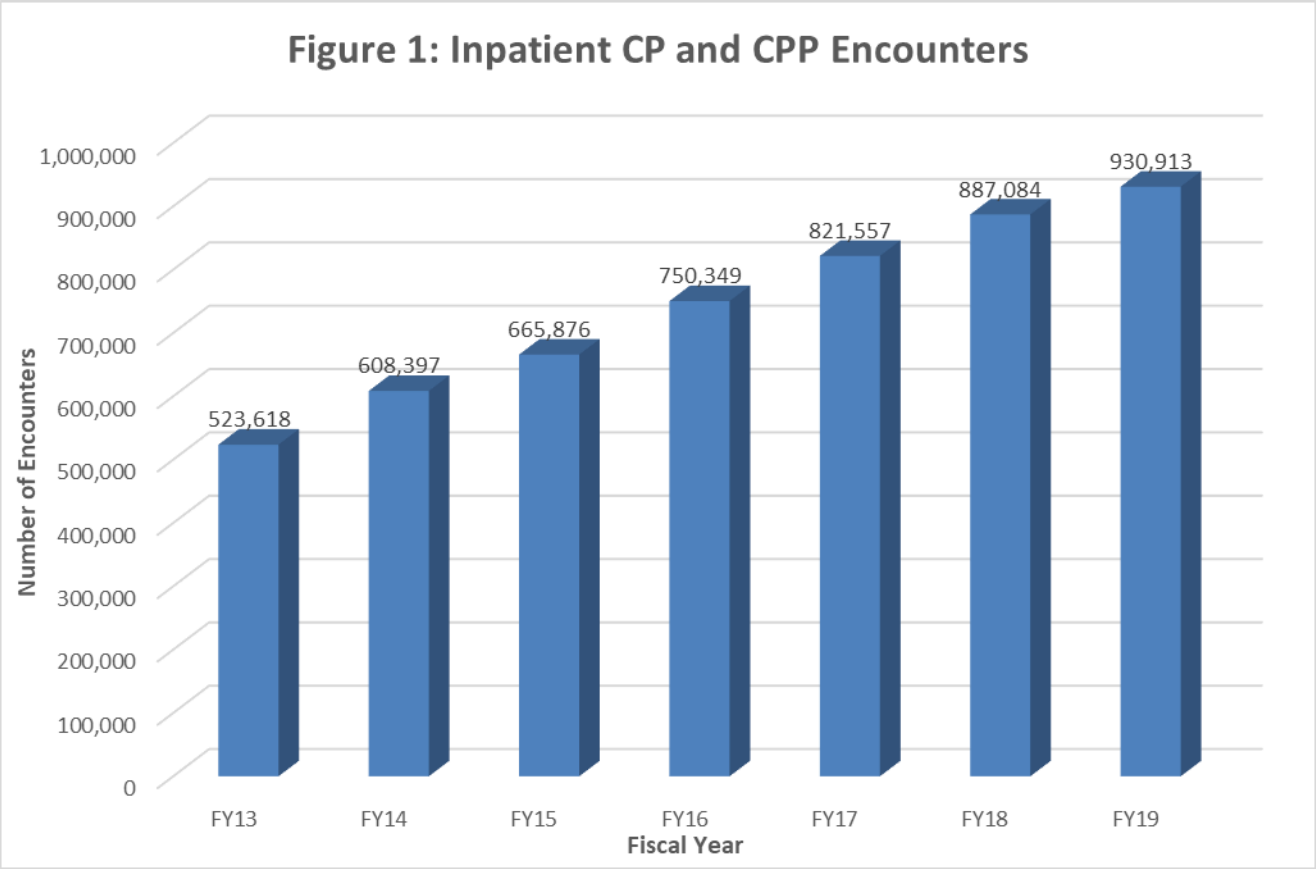


Figure 2: Inpatient PhARMD Interventions

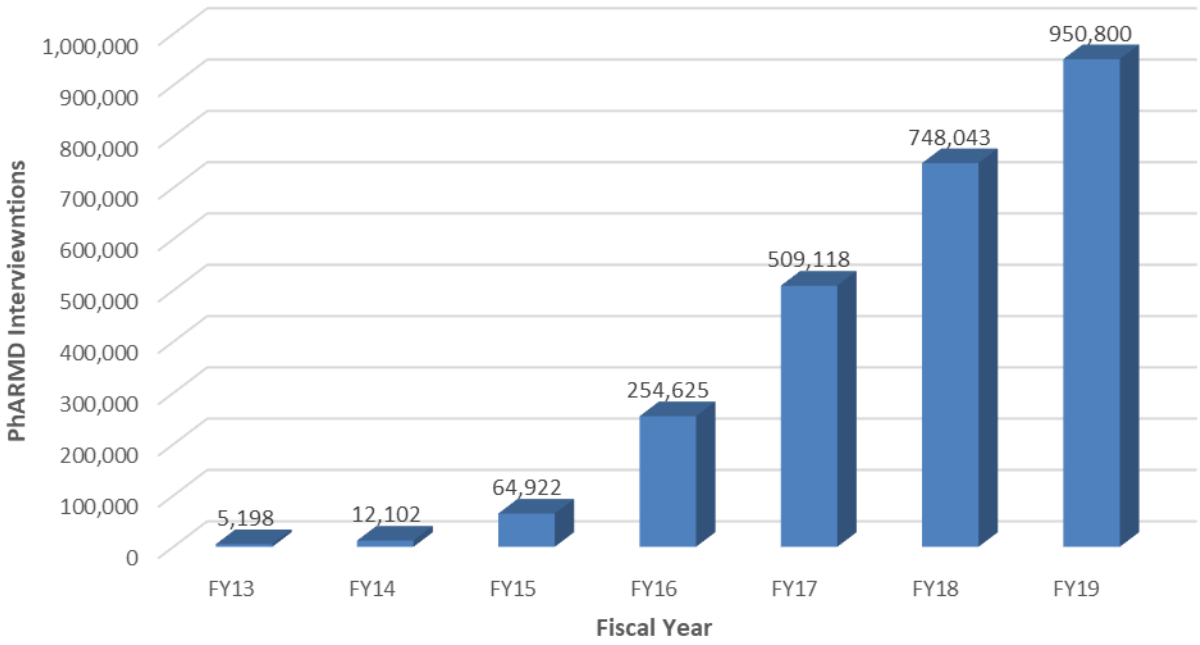
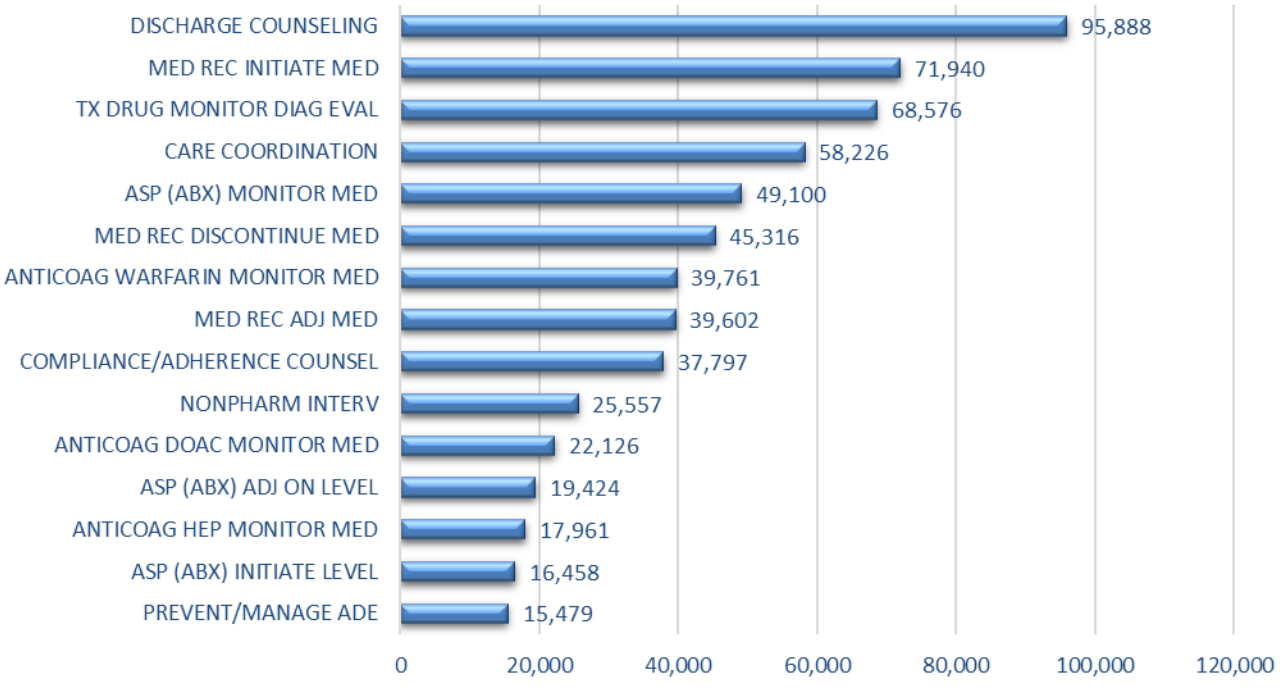


Figure 3: Top 15 Inpatient CP and CPP PhARMD Interventions in FY19



Essential Elements of Support Needed for Success

Regardless of current practice model, each facility will face challenges with the implementation of the CCM. Addressing these challenges will be essential to fully achieve optimal patient-centered care. The list below can be used as a tool to anticipate, plan, and set priorities for the development of a successful program.

- *Change management*
  - Resistance
    - Like any change effort, sites may face opposition to changing an inpatient practice model. The resistance may come from within the department or outside the department. Leaders should work diligently to foster an environment that prevents resistance to the extent possible, while recognizing some resistance may be unavoidable. A paper by Max et al.[10] offers sound leadership and management advice for embarking on a practice model change. The authors push back on the notion that "people resist change" arguing that people generally resist change that is imposed on them. The authors contend that letting employees create their own practice model may produce better results than using a top-down approach. Therefore, it is important to ensure that staff impacted by a change are fully engaged up front. Other strategies to avoiding resistance discussed in the AJHP article above include ensuring decisions are made with transparency and with fairness.

  - External engagement
    - The advancement of an inpatient practice model requires the engagement not only of pharmacy staff but also external stakeholders Many times, the needs described by external stakeholders helps drive the need and support for practice model change.
    - The alignment of pharmacists with teams, in particular, can have a significant impact on external stakeholders. In many organizations, an inpatient nursing unit may serve various medical or surgical teams and be supported by a designated pharmacist(s). Transitioning to team-based care will foster a closer relationship with inpatient providers but may result in less alignment with inpatient nursing staff as described in Haas et al.[6] This may be a dissatisfier for nurses who are accustomed to having a designated nursing unit pharmacist. On units that also exclusively serve a designated team (e.g., inpatient psychiatry), this change will have less of an impact.

  - Role clarity
    - Establishing and communicating roles in a changing practice model is critical to preventing confusion, frustration, and even conflict. One method of achieving this is through the development of a task list that identifies all activities carried out by each respective inpatient pharmacist. This can help both pharmacists and technicians within the department know what they can expect.

  - Frequent assessments
    - A necessary element of any practice change is assessing the overall impact. This assessment can occur through a variety of methods including workload assessment, performance measure evaluations, satisfaction surveys, and time studies. At one site, weekly team meetings were employed to share concerns about the new model change, elicit group opinions for problem solving, and provide updates.

- Change in work practice implications and promotion potential
    - Depending on the extent of changes required to the current practice model at each facility, adoption of the CCM may require the creation of new full-time employee equivalent (FTEE) or the potential reassignment of existing FTEE. The Acute Care CPP position requires specialized experience and is commonly designated as a higher-grade position than the Acute Care CP. No single approach will fit all facilities and involvement of your local Union early on in process redesign is prudent for a smooth transition. Although specific methods for cooperation will be jointly determined by local parties, efforts should be guided by open communication and sharing of information at all points along the decision-making process.

- *Operational considerations*
    - Incorporation of order verification in team-based model
        - The introduction of order verification into team-based care for decentralized CP and CPP will present a new set of workflow and workload considerations, such as:
            - Clinical pharmacists with a scope of practice cannot verify a medication order that they themselves have prescribed as outlined in the VHA Handbook 1108.11, Clinical Pharmacy Services. This may pose operational challenges for sites that implement team-based pharmacists with a scope of practice who are also responsible for verifying medication orders for their team. Sites should proactively identify ways the pharmacist should manage this scenario to ensure compliance with the VA handbook. A potential solution could be standardizing cross-coverage expectations between team pharmacists or having a centralized pharmacist verify the orders
            - If pending orders can only be sorted by geographic location, this may present a challenge for a team-based pharmacist to efficiently identify the patients they are verifying orders for. In this situation, a discussion regarding the feasibility of including team-designations to bed assignments with relevant facility stakeholders may need to occur (e.g., transition from "8E" designation for all 8E patients to 8E-Med1, 8E-Med2, 8E-Cardiology).
            - If medication orders were previously centralized and verified quickly, the incorporation of various other clinical services with order verification may increase the turnaround time from provider order entry to pharmacist verification. In this situation, timeliness expectations may need to be addressed while still ensuring an appropriate process for urgently needed medications.
            - Lastly, incorporation of mobile technology that includes but not limited to VA issued mobile devices and mobile workstations and/or computers on wheels allow for more efficient order entry and processing and increases the range and flexibility of the CPP in the CCM. Utilization of this method can reduce lag time and enhance order verification times.

Scalability of CPP/CP in Acute Care (Comprehensive Care Model – Desired State)

The increased capacities of pharmacy providing prospective care also opens additional opportunities for residency programs. With the growth and expansion of pharmacy residencies, more residency trained pharmacists are entering the workforce each year. Pharmacists who graduate from residency programs are searching for engaging positions that allow full utilization of their post-graduate training. Acute care positions in a comprehensive model provide the clinical responsibilities of rounding, assistance with evidence-based medication selection, quality improvement, and development of therapeutic plans that improve job

satisfaction[8]. Residency program directors should design learning experiences that place pharmacy residents into these roles in order to balance these activities and be well prepared to take on these positions.

The increased capacities of pharmacists providing prospective care also opens additional opportunities for residency programs. Expansion of PGY1 acute care rotations would occur as more pharmacists are available to provide prospective care environments according to ASHP standards. It may also establish opportunities for creation of PGY2 residencies by providing more longitudinal care coverage allowing for focused time and repetition in rounding and providing interventions under supervision of a preceptor.

Complexity of care has increased, and patients admitted to acute care teams are increasingly more difficult to manage. New practitioners who are residency trained will be involved with both clinical and operational and can be cross-trained to fit many areas within the department. However, it is unrealistic to expect an easy transition for a mainly distributive pharmacist to providing high level clinical recommendations to providers. For pharmacists who are already practicing, getting enough focused clinical training can be challenging. Therefore, local facilities will need to develop training and focused learning to these individuals in preparation for and during team-based care. Recruitment of senior department members are essential, and it may be beneficial for these individuals to set aside preferred practice areas in order for others to gain more practice experience. This will result in deepening the talent pool to further enrichen a collaborative relationship between acute care pharmacists.

There are multiple strategies that facilities should consider when attempting to expand the CPP role in the CCM. Many opportunities have been tried with varying degrees of success throughout out VA and should be individualized based on facility. Approaches to increase practice opportunities and expand training experiences include:

- Establish a local champion in pharmacy to lead an initiative to provide training for pharmacists to practice in an acute care model
- Involvement of acute care pharmacists in practice change to help design the practice model that would best fit the facility, thereby empowering them to initiate transformational change
- Design a training rotation that provides both direct and indirect supervision of pharmacists by another pharmacist
- For new pharmacist positions, hire pharmacists who have at least PGY1 residency training or beyond to have the capability to provide clinical recommendations
- Assigning mentorship roles to senior staff to foster clinical growth and development in clinical rounding activities and interventions.
- Creation of a non-traditional residency program with acute care rotations that practice in a comprehensive manner
- Expand residency program to incorporate more acute care rotations to recruit and maintain highly trained pharmacists on staff to transition into these roles
- Inward FTE structure view to re-evaluate where pharmacists who have residency training or experience with prospective care can be best utilized
- Evaluation of workload and duties and repurposing
- Anticipate the availability of pharmacy trainees completing residency in July and work to recruit and retain pharmacy residents from your facility

This transition will require major investments of time, creativity, and team and personnel development.[8] Many of the strong practice examples demonstrate that practice model changes require thorough strategic planning prior to implementation.

Conclusions and Recommendations:

Acute Care CPs and CPPs have unique opportunities to be integrated into multidisciplinary care teams and positively impact outcomes of highly complex patients in a prospective and comprehensive manner. Roles of the acute care pharmacist are expanding, and sites need to react and evolve their practice models towards pharmacists practicing in a patient-centric team-based model where they are responsible and accountable for all facets of the medication use process. It is recognized that the end users of this document may be at differing stages of practice model evolution. Based on the patient-centric advantages discussed above, the desired state for all VA acute care pharmacy practices should be to progress to a comprehensive care model.

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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