

# Evaluation of clinical pharmacy services within the primary care–mental health integration model at the Tuscaloosa Veterans Affairs Medical Center

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## Abstract

**Introduction:** The purpose of this review is to evaluate the direct delivery of health care to veterans before and after incorporating clinical pharmacy services within primary care mental health integration (PCMHI) at the Tuscaloosa Veterans Affairs Medical Center. Prior to establishing the role of the clinical pharmacy specialist (CPS) within PCMHI, the primary care providers deferred all mental health assessments to specialty mental health. As the demands of the service grew exponentially, assistance from clinical pharmacy was critical.

**Methods:** A randomized, computer-generated list of 114 patients selected for the retrospective chart review was used to evaluate clinical outcomes in patients enrolled in the PCMHI clinic 1 year preincorporation and postincorporation of CPS. Outcome measures included the number of patients discharged from the PCMHI clinic upon achieving therapeutic goals or discharged to specialty mental health due to therapeutic failure or adverse drug events with first- and second-line psychotropic agents.

**Results:** When contrasting the end points, there was a 60% increase in the number of patients who achieved therapeutic goal and a 32% decrease in the number of patients discharged to specialty mental health clinic postincorporation of CPS into PCMHI as compared to preincorporation of CPS ( $P = .024$ ).

**Discussion:** The results support the significance of CPS in the PCMHI in providing pharmacotherapy, patient education, and medication monitoring for managing psychiatric conditions, such as depression, anxiety, and insomnia. In addition, patients had greater accessibility to medication and frequent monitoring and follow-up, ultimately improving patient outcomes.

**Keywords:** clinical pharmacy services, primary care-mental health integration, veterans, primary health care

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## Introduction

Primary care providers (PCPs) at health care facilities often interact with patients endorsing signs and symptoms of mental health disorders such as but not limited to depression, anxiety, insomnia, and posttraumatic stress disorder (PTSD). The primary care mental health integration (PCMHI) model was established at the Tuscaloosa Veterans Affairs Medical Center (TVAMC) to consist of a mental health–integrated care team (MH-ICT) of mental health professionals who can provide a brief assessment

and treatment of mental health diagnoses, such as depression, anxiety, and insomnia, within the primary care setting. The PCMHI's primary aim is to detect and address such mental health problems within the primary care setting via collaboration among the primary care and mental health teams.<sup>1</sup> The MH-ICT provides brief assessments, targeted treatment, triage, and management of primary care patients with psychiatric symptoms. Patients with severe mental health conditions, such as schizophrenia, depression with suicidal ideation, and bipolar disorder, are immediately referred to the specialty mental health clinic. All other mental health conditions are initially evaluated and treated by the MH-ICT. The specialty clinics provide comprehensive evaluations, individual and group psychotherapy, pharmacotherapy, etc. Although visits with the MH-ICT can take 20 to 40 minutes, visits with the specialty clinics are 1 hour or longer. Some studies have shown promising results with this type of model in the primary care setting. Gallo et al<sup>2</sup> compared mortality between 2 groups of older adults with depression within the primary care setting. One group was receiving treatment at facilities that had integrated a depression care manager into the primary care practice whereas the other group received its care from facilities that did not have such integration. The former group had a lower mortality; however, the major limitation of this study was that the patients had multiple comorbidities that can contribute to mortality.<sup>2</sup> Tsan et al<sup>3</sup> conducted a review that showed implementing PCMHI increased mental health treatment retention. Johnson-Lawrence et al<sup>4</sup> reviewed the patient characteristics and receipt of mental health services within PCMHI. It was noted that the utilization of mental health services had increased after implementation of PCMHI. Additionally, more patients who had not received prior mental health care were referred to PCMHI and receiving mental health care, which suggests increased accessibility to mental health care services within the Veterans Affairs system.<sup>4</sup> One of the major limitations of these studies is that they do not examine the role and impact of each member of the MH-ICT on patient outcomes.

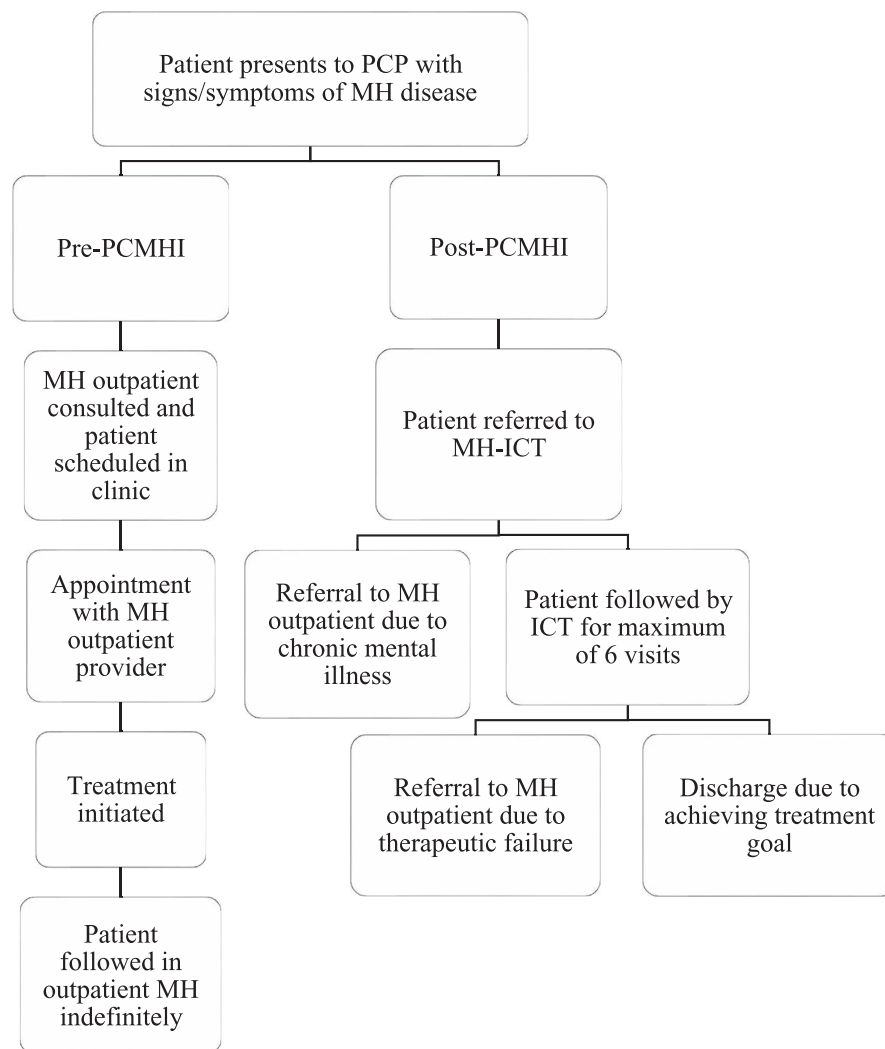
Prior to the implementation of the PCMHI model at the TVAMC in 2009, most PCPs deferred all mental health assessments to specialty mental health clinics. This was primarily due to the PCPs not having sufficient time to address both medical and mental health problems during clinic visits. A standard PCP clinic visit at TVAMC is 30 minutes. During this time, the PCP must address all health-related problems. Primary care providers had expressed concern that they were unable to devote enough time to provide adequate assessment, treatment, and education on mental health disorders. Additionally, a majority of PCPs raised valid concerns on the potential for inadequate management and treatment of psychiatric disorders without the appropriate expertise or consulta-

tion to psychiatry. As a result, this increased the patient load for the specialty mental health clinics. As the number of referrals increased, the wait times for appointments also increased. In order to address the concerns raised by the providers, the TVAMC adopted the PCMHI model. The core of the PCMHI model is to provide immediate access to clinical assessment and appropriate collaborative care and treatment for those experiencing mental health symptoms.<sup>1</sup> A PCP can refer a patient reporting such symptoms to the MH-ICT and have the patient evaluated by the MH-ICT the same day, and treatment is initiated immediately; therefore, the patient no longer needs to wait to schedule an appointment with the specialty mental health clinic. Patients reporting severe symptoms, such as psychosis, suicidal ideation, manic symptoms, and so forth, are referred to the specialty mental health clinic for more comprehensive care.

Per the PCMHI manual, an ideal PCMHI model consists of a team that includes a PCP; a behavioral health provider (BHP), that is, a clinical social worker, psychiatric nurse, or psychologist; a care manager; and a prescribing BHP. The care manager may be a behavioral health nurse or a clinical social worker. The prescribing provider can be the PCP, a psychiatrist, nurse practitioner, or a clinical pharmacy specialist (CPS).

Prior to implementing clinical pharmacy services into the PCMHI model at the TVAMC in late March 2013, the PCPs were the only prescribing providers for the team. Traditionally, the BHP identified and diagnosed the specific mental condition to determine if specialty psychiatric care was clinically warranted. Upon ruling out severe psychiatric conditions, referrals to the PCP were made for medication therapy as clinically indicated. Understandably, the majority of the PCPs were hesitant to prescribe psychotropic medications given the aforementioned reasons and, more so, the potential for loss of follow-up and frequent monitoring. The PCPs have large patient panel sizes of at least 1000 patients and typically provide follow-up visits quarterly, biannually, or annually on a case-by-case basis. The Veterans Affairs/Department of Defense guidelines for management of PTSD recommend reassessing a patient within 8 weeks of initiating pharmacotherapy for PTSD.<sup>5</sup> Other mental health disorders, such as depression and anxiety, require a similar follow-up. Given the large patient panel size, it is difficult for PCPs to schedule visits frequently for reassessment.

Prior to the implementation of PCMHI, each PCP at the TVAMC collaborated with a CPS for chronic disease management. Patients with uncontrolled chronic diseases, such as diabetes, hypertension, and hyperlipidemia, were referred to the CPS. The CPS conducts problem-focused appointments at which they provide education on disease states, lifestyle modifications, and medications. The CPS,



**FIGURE 1:** Primary care mental health integration (PCMHI) patient referral process; ICT = integrated care team; MH = mental health; PCP = primary care providers

who was incorporated into the PCMHI, had been collaborating with PCPs for chronic disease management. In addition, the CPS had completed a specialty postgraduate residency in psychiatry. Because pharmacists have prescriptive authority at the TVAMC, the CPS was incorporated into the PCHMI as a prescribing provider on a part-time basis. The addition of the CPS into the PCMHI model ensured optimization of pharmacotherapy and timely and appropriate monitoring of mental health conditions for symptom relief within the primary setting, thereby addressing the PCPs' concerns. In addition, the BHP was free to focus on providing brief psychotherapy interventions, and the PCPs focused on patient referrals to the team for same-day access to treatment (see Figure 1). The focus of the PCMHI model is for brief interventions that may require up to 6 clinic sessions per provider. If more sessions are needed, long-term intervention may be considered with specialty mental health clinic referral (see Figure 1).

The role of the CPS is to establish and expand clinical services within the PCMHI model, which was fully implemented by August 2013. The CPS designs and implements therapeutic drug regimens and provides patient education and counseling on appropriate medication use and overall disease state management. At the same time, patients are seen by the BHP for psychotherapy. Upon attaining psychiatric stability at 2 consecutive clinic visits, the veterans were discharged from the PCMHI clinic to be followed routinely by the PCPs. Veterans with refractory symptoms are considered *therapeutic/program failure*, and immediate referral to a specialty mental health clinic is placed for follow-up with a psychiatrist. The purpose of this review was to determine if the effectiveness of the MH-ICT at the TVAMC improved after the incorporation of clinical pharmacy services into PCMHI.

## Methods

A retrospective chart review was conducted on 2 groups of patients. The Veterans Health Information Systems and Technology Architecture® computer program (US Department of Veterans Affairs, Washington, DC) was utilized to run the report for both groups. The first group identified veterans enrolled in the PCMHI clinic prior to CPS addition, from April 1, 2012, to March 31, 2013. This group was primarily seen by the BHP, and medication therapy was initiated by the PCP. The second group consisted of patients enrolled in the PCMHI clinic upon fully implementing CPS, from August 1, 2013, to July 31, 2014. This group was seen by both the BHP and the CPS. Veterans actively enrolled in the clinic at the time of review were excluded from the analysis because the treatment outcome was yet to be determined.

Fifty-seven veterans were enrolled in the PCMHI clinic after CPS addition during the time frame outlined. All 57 were included in the review in order to minimize probability of an underpowered review. Two hundred sixteen veterans were enrolled in PCMHI prior to CPS addition. Fifty-seven veterans were selected using block randomization. Progress notes were reviewed to categorize patients into 1 of 2 outcomes: (1) patients who were discharged to the specialty mental health clinics due to failure of program; (2) patients who were discharged from the PCMHI clinic due to achieving therapeutic goal. Therapeutic goal was defined as individuals attaining symptom remission or being psychiatrically stable for 2 consecutive visits without exceeding the recommended 6-visit limit.

## Statistical Analysis

Chi-square analysis, using GraphPad Prism software (La Jolla, CA), was completed to compare the 2 groups for both outcomes.

## Results

The patient demographics for both samples were relatively similar in terms of age and race (see Table 1). The MH-ICT was most commonly consulted for diagnoses, such as depression, anxiety, sleep disorders, and PTSD (see Table 1). Additionally, more patients with more than 1 diagnosis were consulted after the incorporation of CPS into PCHMI.

A statistically significant improvement ( $P=.024$ ) in patient outcomes was noted after the implementation of clinical pharmacy services (see Figure 2). The percentage of patients who achieved therapeutic goal increased by 60%, from 20 (out of 57) to 32 (out of 57) patients,

**TABLE 1:** Patient demographics

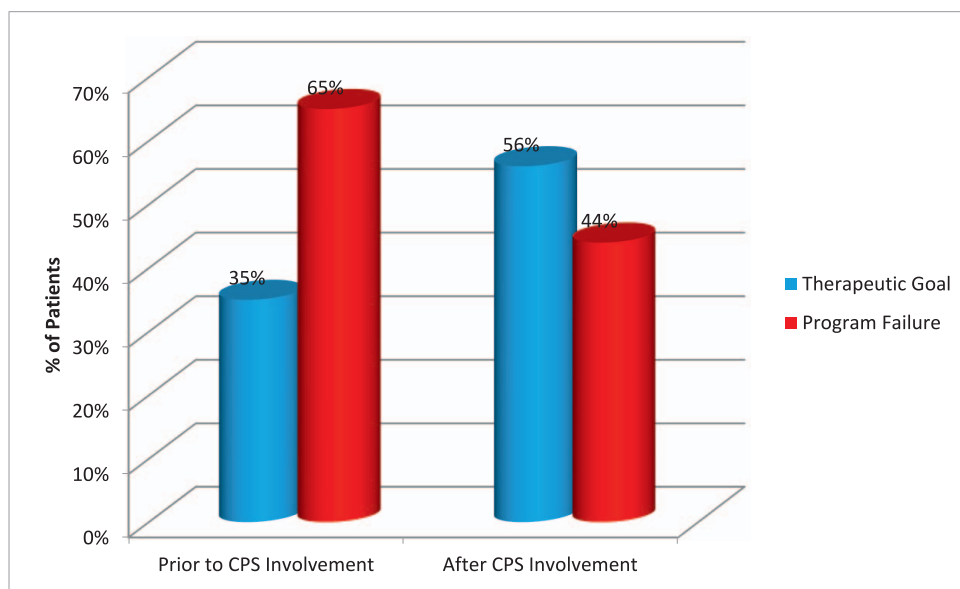
	Prior to CPS Involvement (n = 57)	After CPS Involvement (n = 57)
Age	58 (35-85)	57 (27-74)
Race		
White	44% (25)	47% (27)
African American	54% (31)	49% (28)
Other	2% (1)	4% (2)
Diagnosis		
Depression	27	40
Posttraumatic stress disorder	9	2
Anxiety	7	17
Sleep disorder	4	14
Nicotine use disorder	2	1
Other	8	3
Patients consulted for more than 1 diagnosis	0	20

CPS = clinical pharmacy specialist.

upon implementing CPS as part of the PCMHI (see Table 2). Additionally, the percentage of patients who were discharged due to program failure decreased by 32%, from 37 (out of 57) to 25 (out of 57) patients (see Table 2).

## Discussion

The progress notes reviewed were reliable sources for information given the extensive documentation detailing the interventions made by the providers in PCMHI, thereby expediting the review process in determining clinical outcomes. The BHP provided documentation on the psychotherapy provided to the patient. Some of the CPS interventions, as documented in the progress notes, included initiating psychotropic therapy, dose titration as needed, counseling patients on adverse effects and medication adherence, and monitoring appropriate labs for side effects. Both the BHP and CPS assessed the patient's symptoms, such as decreased appetite, difficulty sleeping, decreased energy, etc, at each visit and monitored for improvements. For example, at each clinic visit, the CPS would document how many hours of sleep a patient with insomnia was getting. If a patient with depression was reporting decreased energy, lack of sleep, and decreased appetite, then the CPS would address each symptom and document all changes at every clinic visit. Patients were sometimes asked to rate their mood on a scale of 1 to 10 with 10 being severe depression and 1 being no depression. Patients were discharged from the clinic once they reported symptom remission for 2 consecutive visits and no adverse effects were noted



**FIGURE 2:** Primary care mental health integration efficacy before and after clinical pharmacy specialist (CPS) involvement

from medication therapy. If a patient denied symptom improvement despite adequate psychotherapy and multiple medication trials, then the patient was referred to the specialty mental health clinic.

It was noted that patients with more than 1 mental health disorder were seen by the MH-ICT after the incorporation of the CPS. Additionally, there were more cases of depression, anxiety, and insomnia after the addition of the CPS. This may be due to the accessibility of a prescribing mental health provider on the MH-ICT. The BHP does not have prescriptive authority, which limited the types of patients who could be seen by the MH-ICT. Many of the mental health disorders treated were mainly treated with nonpharmacologic therapy. Prior to the addition of the CPS, the PCPs were the prescribing providers, and they were hesitant to initiate pharmacotherapy as previously mentioned. The MH-ICT was incorporated into primary care due to the concerns, as previously discussed, raised by PCPs. Although the CPS was part of the MH-ICT on a part-time basis (twice weekly), the CPS frequently agreed to clinic walk-ups to meet the criteria for same-day access to care.

**TABLE 2:** Primary care mental health integration efficacy prior to and after CPS involvement

	Prior to CPS Involvement (n = 57)	After CPS Involvement (n = 57)	P Value
Therapeutic goal	20 (35%)	32 (56%)	.024
Program failure	37 (65%)	25 (44%)	

CPS = clinical pharmacy specialist.

One major limitation of this review is the limited clinic availability of the CPS as compared to the BHP. The specialist's clinic availability for PCMHI was on a part-time basis (at least twice weekly) as compared to the full-time BHP. As a result, a small sample size of patients was reviewed. The results provided substantial evidence that having a CPS in PCMHI improved clinical outcomes by optimizing psychiatric pharmacotherapy. The role of the CPS was essential in initiating pharmacotherapy, patient education, and medication monitoring for managing psychiatric conditions. The results of this review support the expansion of clinical pharmacy services in the PCMHI at the TVAMC.

Another major limitation was the lack of use of standard assessment measures during clinic visits. It is difficult to obtain a Hamilton Rating Scale for Depression or Patient Health Questionnaire score, determine appropriate medication therapy, and provide patient counseling within the time allotted at each clinic visit. As more members are incorporated into the team, such as a behavioral health nurse and clinical social worker, the possibility of administering such assessments should be considered. Additionally, there were major differences in the mental health disorders treated by the MH-ICT before and after the incorporation of the CPS. In order to have a consistent measure, the number of patients discharged due to achieving therapeutic goal or program failure was compared. Another aspect, which was not examined in this review, is appointment wait times for the specialty mental health clinic before implementation of PCMHI, before incorporation of a CPS into PCMHI, and after incorporation of a CPS into PCMHI. A comparative study between a PCMHI model with a CPS and a PCMHI model

without a CPS may provide insight on the additional benefits of incorporating clinical pharmacy services into PCHMI. Additionally, further studies may be warranted on the possible benefits of applying the PCMHI model with a CPS as the prescribing provider in the community health care setting.

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