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Integrating a mental health clinical pharmacy specialist into the Homeless Patient Aligned Care Teams

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Abstract

Introduction: To address the complex needs of the homeless veteran population, the US Department of Veterans Affairs created the Homeless Patient Aligned Care Team (H-PACT) model. The South Texas Veterans Health Care System has an established H-PACT model, however it does not include a clinical pharmacy specialist in mental health (MH).

Methods: An H-PACT MH pharmacy resident clinic was created and managed by a postgraduate year-2 psychiatric pharmacy resident. Improvements in access to MH care, Veterans Health Administration performance metrics, and estimated cost savings associated with resident interventions were reviewed to evaluate clinic utility.

Results: Over the 6-month clinic time frame, there were a total of 40 patient encounters in which 21 veterans had MH medication evaluation on at least 1 occasion. The average wait time for Veterans previously followed by the H-PACT psychiatrist was approximately 8 weeks. The H-PACT MH pharmacy resident clinic enabled veterans to be evaluated every 4 to 6 weeks. Interventions made by the resident included identification of medication administration errors, medication adjustments, adherence education, reduction in polypharmacy, and referral to other services. Estimated cost savings from clinic interventions totaled $33 613.67.

Discussion: The H-PACT MH pharmacy resident clinic allowed for an improvement in wait time for psychiatric pharmacotherapy follow-up for homeless veterans, with interventions that were associated with significant estimated cost savings.

Keywords: homeless, veteran, pharmacotherapy, clinical pharmacy specialist, mental health

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Introduction

The US Department of Housing and Urban Development, the US Department of Veterans Affairs (VA), and the US Interagency Council on Homelessness have identified homelessness amongst our nation's veterans as a significant issue.[1] Homeless veterans are individuals who

lack a fixed nighttime residence or are at imminent risk of losing housing.[2] In 2015, 11% of homeless adults in the United States were veterans.[3] In 2016, it was estimated that 39 471 veterans were homeless on any given night.[4] A retrospective cohort study using Veterans Health Administration (VHA) data across 130 VA facilities found that over a 1-year period, 5.6% of veterans referred to specialty mental health (MH) care were homeless.[5] Homeless patients have complex MH needs. Mental illness can be a function or cause of homelessness, and 60% of chronically homeless individuals have a serious mental illness (including major mood or psychotic disorders).[6] Perceived homelessness stigma, social isolation, and lack of trust can make it difficult to build rapport with an MH provider.[7] Inability to obtain transportation to appointments or properly store or refill medications can contribute to poor treatment outcomes.[8] These problems combined with high rates of co-occurring substance use disorders and medical problems can lead to greater rates of hospitalization, emergency department visits, and mortality.[6-7,9-11] Compared to homeless civilians, veterans are more likely to have been diagnosed with at least 2 MH disorders.[12] In a study evaluating substance use disorders among homeless veterans entering the Housing and Urban Development – Veterans Affairs Supported Housing program, 60% of homeless veterans seeking housing had a substance use disorder.[13]

A VA initiative to address the medical needs of homeless veterans is the Homeless Patient Aligned Care Teams (H-PACT) model. The main national goals of the H-PACT model are to promote a collaborative practice that eliminates barriers to quality healthcare for homeless veterans and to improve both housing and health outcomes.[7] The incorporation of MH treatment in the H-PACT model could improve health outcomes and the functioning of homeless veterans. In a VHA observational study (October 2013 to March 2014) including 33 VA facilities utilizing an H-PACT model, of the approximately 3500 veterans enrolled in H-PACT services, 82.2% were receiving MH and substance abuse services.[7] After implementation of the VHA H-PACT program in 2011, emergency department visits and hospitalizations decreased by approximately 25%.[7] Another study evaluating emergency department visits for homeless veterans enrolled and not enrolled in the H-PACT found H-PACT enrollees had a significant decrease in emergency department visits among the highest emergency department utilizers.[14]

The South Texas Veterans Health Care System utilizes an H-PACT model that incorporates a primary care provider, registered nurse, licensed vocational nurse, psychologist, psychiatrist, and social worker, all with varying full-time equivalents. Notably, there are no clinical pharmacy specialists (CPSs) incorporated into the South Texas

Veterans Health Care System H-PACT. The H-PACT staff psychiatrist (0.3 full-time equivalent) is the main provider of psychotropic medication management services on this team and works in the H-PACT clinic 1 day per week. Typically, 13 patients are scheduled on this day with a no-show rate of approximately 50%. The average clinic availability for follow-up is 8 to 10 weeks in the future, which can affect the psychiatrist's ability to provide timely medication follow-up. It should be noted that veterans in the H-PACT program are unable to be referred to a CPS in other outpatient clinic services, as all care for homeless veterans is mandated to be within the H-PACT service. This mandate limits the amount of psychotropic medication management professionals that can be involved in the care of a homeless veteran and creates long wait times for the H-PACT psychiatrist clinics. The MH needs of patients treated in the H-PACT model at South Texas Veterans Health Care System cannot be adequately addressed with one 0.3 full-time equivalent psychiatrist. The incorporation of an MH CPS into the H-PACT model at South Texas Veterans Health Care System could expand access to psychotropic pharmacotherapy for these patients.

Objectives

A quality improvement project was developed to improve MH access for homeless veterans in H-PACT through the integration of a psychiatric pharmacy resident/CPS. Measured outcomes were related to VHA performance metrics, including improvement in medication adherence rates, reduction in polypharmacy, initiation of medications to address substance use and other MH diagnosis, and follow-up after the initiation of antidepressant therapy. The final objective was to measure potential cost savings associated with the resident's interventions.

Methods

A post graduate year-2 psychiatric pharmacy resident managed an MH pharmacy clinic from January 2017 until the end of June 2017. The clinic served homeless veterans within the H-PACT for 4 hours 1 day a week on the same day the psychiatrist served the H-PACT team. The resident conducted interim assessments after the initial psychiatrist evaluation and worked collaboratively with the psychiatrist to meet the project objectives. Patient assessments consisted of medication reconciliation, in-depth MH medication review, evaluation of safety and efficacy of psychotropic agents, alteration of MH medication regimens as appropriate, and other interventions (Table 1). Supervision of the resident was provided by an MH CPS as well as the H-PACT psychiatrist. Veterans were referred to the resident by the psychiatrist and other members of the H-PACT. They were assessed during 30-

TABLE 1: Cost savings literature data (2011) utilized to calculate savings associated with Clinical Pharmacy Specialist clinic interventions[15,16]

Intervention	Average Value From Literature, $	No. of Patient Interventions	Total, $
Addition of Medication	81.19	16	1299.04
Adverse Drug Event Detection	581.08	2	1162.16
Change Medication	74.67	3	224.01
Discontinue Medication	57.25	15	858.75
Dose Adjustment – Therapeutic	71.41	23	1642.43
Medication History	57.00	19	1083.00
Medication Reconciliation	472.86	39	18 441.54
Monitoring Laboratory Order	93.58	4	374.32
Individual Patient Education	86.08	39	3357.12
Identification of Home Medications	40.00	2	80.00
Tardive Dyskinesia Assessment	47.50	1	47.50
Pharmacokinetic Monitoring – Level Adjustment	91.08	1	91.08
Prevention of Adverse Drug Event	581.08	1	581.08
Prompted Medical Follow-up	70.33	6	421.98
Therapeutic Consult	57.67	11	634.37
Total, $			30 240.71
Total Adjusted for Inflation, $			33 613.67

minute encounters, allowing for 3 veterans to be evaluated per day. In the event that a veteran did not attend a scheduled appointment, the resident or H-PACT clinic clerk provided telephone follow-up to reschedule. All sessions and phone calls conducted by the resident were documented in the veteran's electronic medical record using approved note titles and templates.

Improvement in access to care was measured by calculating the difference in length of time between follow-up appointments scheduled in the resident clinic and the average length of time for follow-up in the psychiatrist clinic. Veterans Health Administration performance metrics as previously defined were measured through ongoing evaluation of veterans during initial and follow-up visits with the resident. Cost savings associated with resident interventions were calculated using data from the literature adjusted for inflation (Table 1).[15-16] The project was deemed a quality improvement initiative by the University of Texas Health San Antonio and therefore did not require institutional review board review. Descriptive statistics were used to describe outcomes.

Results

A total of 52 appointments were scheduled in the H-PACT MH pharmacy resident clinic, with 31 veteran evaluations, 14 patients who failed to show, and 7 cancellations by the patient or clinic. An additional 9 evaluations were

conducted on unscheduled veterans as same-day access (Figure). Over the 6-month time frame, there were a total of 40 patient encounters in which 21 veterans received an MH pharmacotherapy assessment on at least 1 occasion. This resulted in an overall workload credit of approximately 27 hours. The majority of veterans served were male (n = 14), with an average age of 48 years old. At the clinic start, the resident could accommodate veterans every 4 weeks, and after 3 months of the clinic being established, veterans could be accommodated approximately every 5 to 6 weeks.

All 40 patient encounters included patient education/counseling, medication reconciliation, and in-depth MH medication review. Thirty-four patient encounters involved antidepressant pharmacotherapy management and follow-up. Thirty encounters had some form of medication adjustment (discontinuation, dose maximization, addition, etc). The H-PACT MH pharmacy resident clinic modestly impacted VHA performance metrics (Table 1). Estimated cost savings for all resident interventions during this 6-month time frame totaled $33 613.67 (Table 2).

Discussion

Overall, the H-PACT MH pharmacy resident's clinic was well received by the established H-PACT providers and veterans. The 3 additional 30-minute slots per week of provider time over the 6-month course allowed for a
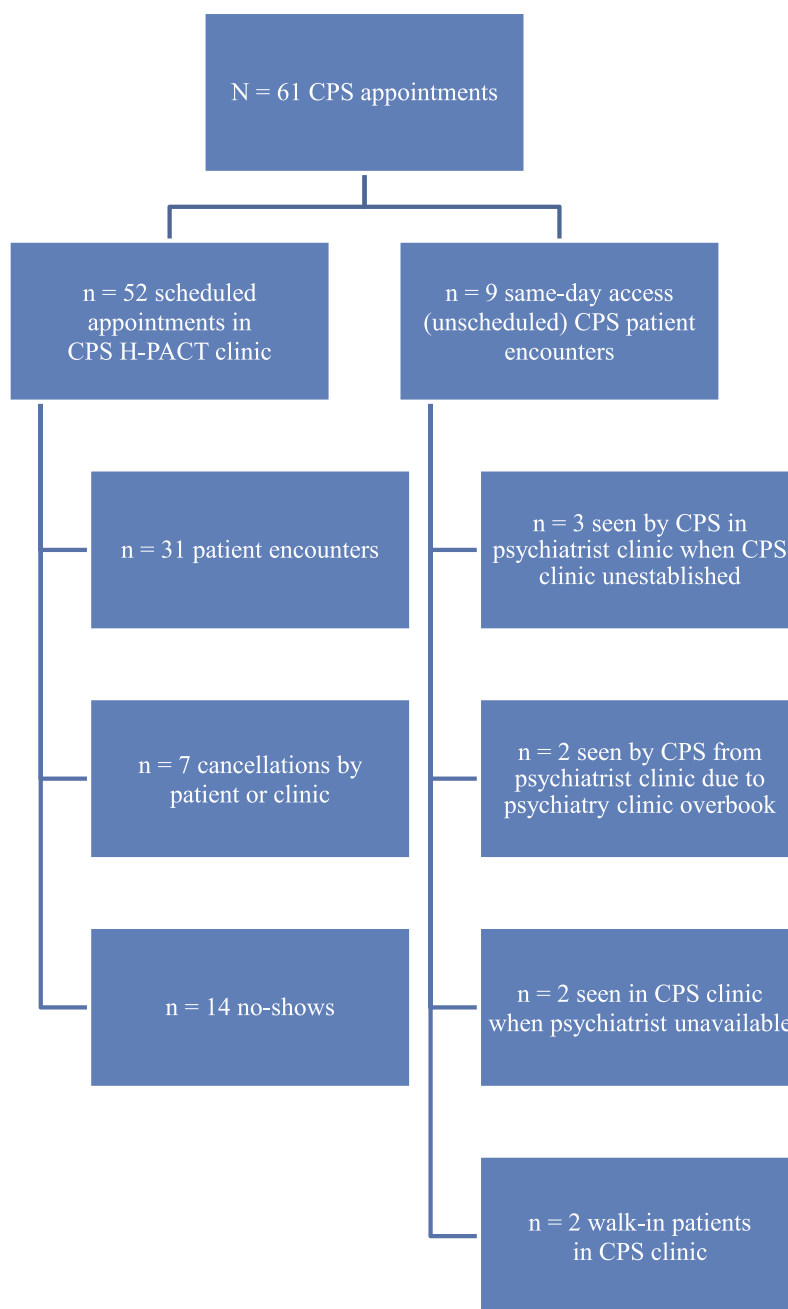
FIGURE: Clinical Pharmacy Specialist (CPS) Homeless Patient Aligned Care Team (H-PACT) clinic flow

TABLE 2: Veteran's Health Administration performance metrics

Veteran's Health Administration Performance Metric	No. of Patients Impacted Out of 21 Seen
Improved Adherence	5[a]
Reduction in Polypharmacy	7
Addictions Medications Initiated	0
Antidepressant Follow-up on New Start Antidepressants	6

[a]In n = 18 patient encounters with medication administration error or discrepancies.

reduction in follow-up time of approximately 4 to 6 weeks. As the clinic became more established, the wait time for follow-up increased, given the limited supply of appointment slots. There was a total no-show rate of 23%, and the majority (n = 24, 71%) who attended their appointments (non–walk-in) presented on time, of which most arrived between 10 to 45 minutes early. This suggests that veterans were committed to their appointments and made necessary efforts to attend, despite the potential for transportation issues. Walk-in patients accounted for 5% of total veterans treated. Potentially, more veterans could have been evaluated with the addition of more 30-minute time slots during the morning clinic, extension of the clinic into the afternoon, and/or addition of designated walk-in time slots. However, these proposals would have been difficult to achieve in the established resident's clinic given the time needed to checkout with the supervising CPS, complete notes, and attend to other duties of the residency, and given the limited duration of the clinic being operational. A CPS, in comparison to a resident, would likely be able to meet the demand of a full-day H-PACT MH CPS clinic and accommodate approximately 13 clinic slots similar to the H-PACT psychiatrist.

The post graduate year-2 psychiatric resident was able to modestly contribute to the VHA performance metric objectives related to improvement in adherence and reduction in polypharmacy. Substance use medications were not initiated, only managed and monitored, as many candidates for these medications were already being treated with these medications. These outcomes were likely due to the low number of patients treated overall, and to veteran decline or lack of desire to obtain medication adjustments. However, 34 of 40 patient encounters involved follow-up within 4 weeks of antidepressant initiation and/or maintenance, which is appropriate per VA major depressive disorder guidelines.[17]

This project suggests that having an MH CPS in the H-PACT clinic would be associated with cost savings from a preventative-care standpoint, with a value of approximately $840.34 per patient encounter.[15-16] The CPS's interventions in combination with the lower base salary compared to a psychiatrist might suggest that this type of provider could be a cost-effective resource in this setting. Further benefit could be measured by looking at emergency department or hospitalization rates after CPS follow-up as well. Unfortunately the clinic was not continued after the end of residency year due to ongoing limitations in resources.

Conclusion

The half-day, once-weekly H-PACT MH pharmacy resident clinic allowed for an improvement in wait time for psychiatric pharmacotherapy follow-up for homeless veterans, with interventions that were associated with significant estimated cost savings. Sites seeking to incorporate MH CPSs into their H-PACT should consider the potential benefits of this role with the resources required to support the position.

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