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Buprenorphine Shared Medical Appointments for the Treatment of Opioid Dependence in a Homeless Clinic

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Abstract

Background—Opioid misuse and dependence are prevalent and rising problems in the United States. Treatment with buprenorphine is a successful treatment option for individuals with opioid dependence. We describe and preliminarily evaluate a unique delivery system that provides buprenorphine treatment via a shared medical appointment.

Methods—We conducted a retrospective medical record review on all 77 opioid-dependent patients referred for a buprenorphine shared medical appointment in a homeless clinic from 2010–2012. We examined retention in treatment at 12 and 24 weeks.

Results—Most patients were currently homeless (61%), unemployed (92%), had an Axis I psychiatric diagnosis (81%), and had recent polysubstance use (53%). Of the 77 patients, 95% attended at least one shared medical appointment. Treatment retention at 12 and 24 weeks was 86% and 70%, respectively.

Conclusions—In a patient population with complex social and mental health histories, buprenorphine treatment via a shared medical appointment had high retention rates. Findings can help guide the development of unique delivery systems to serve real-world complex patients with opioid dependence.

Keywords

Buprenorphine; homeless; shared medical appointment; group visit; office-based treatment

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The authors declare that they have no conflicts of interest.

AUTHOR CONTRIBUTIONS

Dr. Doorley developed the study design, analyzed data and drafted the manuscript. Dr. Cunningham drafted portions of the manuscript, helped shape the study design, helped interpret data and critically revised the manuscript. Dr. Ho helped shape the study design, extracted and analyzed data, and drafted portions of the manuscript. Elizabeth Echeverria helped shape the study design and extracted the data. Dr. Preston helped shape the study design and drafted portions of the manuscript. Dr. Ngo drafted portions of the manuscript. Dr. Kamal shaped the study design and analyzed data.

INTRODUCTION

In the United States over the last decade, opioid dependence and overdose have increased dramatically. Office-based treatment with buprenorphine is one tool to address this growing crisis. Treatment with buprenorphine in primary care settings is effective in decreasing opioid craving, reducing illicit opioid use and improving overall quality of life.^{1–8} However, the vast majority of opioid-dependent individuals needing treatment are unable to access this medication.⁹ As a result of the Drug Addiction Treatment Act (DATA) of 2000 and the patient-centered regulations on buprenorphine prescribing, treatment with buprenorphine can occur in a variety of settings and can be delivered in a variety of ways. This has allowed for exploration of unique treatment models with buprenorphine.

A shared medical appointment (SMA) is a group medical visit where patients with similar diagnoses are seen together with one or more healthcare providers. All components of an individual visit are completed within a group setting and additional time can be spent on patient education and in the facilitation of peer support. Whereas a typical individual appointment lasts 15–20 minutes, a typical SMA lasts 60–120 minutes. Treatment of chronic diseases using a SMA is advantageous for both patients and providers. For patients, SMAs improve access to care, allow for peer support from patients with similar conditions and facilitate greater self-management and education. For providers, advantages can include increased cost-effectiveness, reduced repetition of information and support from a multi-disciplinary team.^{10–14}

Homeless persons living in the United States have high rates of physical illness, mental illness and substance use disorders that lead to increased morbidity and early mortality when compared to the non-homeless population.^{15–20} A large study by Baggett et al. looking at all-cause and cause-specific mortality rates of homeless persons living in Boston between 2004–2008 found the mean age of death to be 51 years with drug overdose as the leading cause of death and opioids being implicated in 81% of those overdoses. Compared to the all-cause mortality rate in the 1990s, Baggett et al. found a three-fold increase in drug overdose deaths and a two-fold increase in death due to suicide and psychoactive substance use disorders.²¹ Another study by Baggett et al. found the death rate of homeless persons to far exceed that of the general population with nearly 60% of the all-cause mortality disparity attributable to substance use, and concluded that the excess mortality highlights the need for comprehensive behavioral, physical and social services to fully address the complex needs of this vulnerable population.²²

Research examining the impact of SMAs for buprenorphine treatment is limited. A qualitative study found that patients receiving office-based buprenorphine treatment valued care delivery models that are patient-centered and utilize coordinated team-based care.²³ Two studies that examined SMAs for office-based buprenorphine treatment showed 6-month and 12-month retention rates of 52% and 42%, respectively. In one of these studies, cravings and aberrant opioid use declined over 6 months with SMAs.^{24,25} In both studies, however, patients attended both SMA and individual appointments. Furthermore, none of these studies focused on homeless individuals, a population that has a high prevalence of opioid dependence and excess mortality compared to the general population and that may require

more intensive and multi-disciplinary services than other populations. Therefore, an important gap in the literature is the exploration of innovative models of buprenorphine treatment in homeless persons, such as SMAs.

We describe and preliminarily evaluate a unique buprenorphine treatment model of SMAs to treat homeless opioid dependent patients in an office-based setting.

METHODS

Setting

The Valley Homeless Healthcare Program's Alexian Clinic, located in San Jose, California, provides primary care treatment for 1,200 current or previously homeless patients annually. The Alexian clinic accepts patients on a walk-in basis who meet criteria for homelessness and are seeking primary care services. Non-homeless and homeless persons receiving primary care services elsewhere are ineligible for enrollment in the clinic. The clinic practices a housing first model which hopes to find permanent, affordable housing as quickly as possible for individuals. As some persons choose to continue receiving care at the Alexian clinic after they are no longer homeless, the patients at the Alexian clinic are comprised of both current and formerly homeless patients. Services provided at the clinic include primary care, psychiatry, psychology, social work, case management, health care coverage enrollment, federal disability benefit advocacy and legal aid. The majority of patients are white, have an axis I psychiatric diagnosis and have two or more chronic medical conditions.

The clinic is one of 11 Federally Qualified Health Centers (FQHC) associated with the Santa Clara Valley Medical Center (SCVMC). Although all SCVMC FQHCs are access points for homeless persons, the Alexian clinic was designed to provide intensified treatment to the most vulnerable homeless persons in the county through an integrated team of behavioral health specialists, social workers and primary care providers. The mission of Santa Clara County is to provide high quality, cost-effective medical care to all residents of Santa Clara County regardless of their ability to pay. This mission allows the patients at the Alexian clinic to receive services and treatment regardless of income or insurance status, including coverage of buprenorphine.

Buprenorphine treatment was first offered in the Alexian Clinic in July of 2010. At that time, patients were seen individually by one medical provider. Due to the large number of individuals seeking buprenorphine treatment and the complexity of the medical, social and behavioral health morbidities of these patients, the clinic transitioned from individual appointments to a shared medical appointment model involving an integrated team of physical medicine, social services and behavioral health specialists. From that point on, all patients interested in buprenorphine treatment were referred to the SMA.

Assessment for Buprenorphine Treatment

Patients were assessed for eligibility for buprenorphine treatment during a routine medical appointment, initiated either by patient request or provider recommendation. Patients with polysubstance dependence or untreated mental illness were not excluded from treatment

eligibility. Once deemed eligible, the patient completed a comprehensive assessment with a primary care physician, including a detailed medical, psychiatric, social and substance abuse history. Patients were educated about buprenorphine treatment and signed a treatment consent form.

Buprenorphine Induction Prior to Shared Medical Appointments

After assessing eligibility, most patients then received a 7-day prescription for buprenorphine/naloxone, underwent a home-based induction and were instructed to follow-up in the SMA in one week. Only patients transitioning from a long-acting opioid, such as methadone, had clinic-based inductions. Two incidences of precipitated withdrawal occurred, and both were inductions from methadone to buprenorphine/naloxone. These two patients joined the SMA once their induction phase was complete.

Buprenorphine Shared Medical Appointments

The Alexian Clinic conducted two buprenorphine SMAs each week. Prior to the SMA, the clinical team would review each patient's past urine toxicology test result, treatment progress and any relevant information that became known since the last SMA. The clinical team consisted of a primary care physician, psychologist, social worker, nurse and psychiatrist. Each SMA consisted of 5–10 patients who were either in the stabilization or maintenance phase of treatment. The stabilization phase of treatment was defined as absence of active withdrawal symptoms and intense cravings. A patient was determined to be in the maintenance phase when he or she had a stable dose of buprenorphine and reported minimal cravings or side effects. Patients in the stabilization phase were required to attend the SMA weekly, while patients in the maintenance phase were granted increasing frequency between visits up to one month based upon adherence to the treatment plan, patient preference and social stability. Patients received their prescription for buprenorphine/naloxone at the SMA. If patients missed a SMA, they were encouraged to attend the Alexian primary care clinic on the subsequent day for evaluation and treatment. If patients missed either four consecutive SMAs or were absent for longer than one month, they were removed from the SMA. The SMA was conducted in one large room with the entire clinical team and all the patients present at the same time.

Facilitated by the psychologist, the SMA began with brief introductions of new members and review of the group function and limits to confidentiality. The psychologist then called on each patient, one at a time, providing them 5 to 10 minutes each to discuss their treatment and progress towards their personal goals. During each patient's time, any of the clinical members could engage the patient on different aspects of their treatment for all group members to hear. For example, the psychologist could assist the patients in coping skills and self-management techniques for their recovery, the social worker could assess for housing or transportation needs, the psychiatrist could adjust medication based upon reported symptoms or mental status exam and the primary care physician could evaluate patients' cravings, presence of symptoms and adherence (based on self-report and urine toxicology tests). Primary care providers could also discuss laboratory values and provide prescriptions for buprenorphine/naloxone. Each patient, while in the SMA, also had the ability to address any of the clinicians as needed for mental health assessment, benefit eligibility, housing support,

medication dose adjustment, recovery tools, and/or patient education. While one patient was being addressed, the other patients in the SMA listened to the discussion and were encouraged to provide peer-to-peer feedback and support when able.

All patients were encouraged to disclose any relapse openly during the SMA but were given the option to request an individual appointment after. Any relapse not voluntarily discussed by a patient in the SMA but discovered by the urine toxicology test was disclosed to the patient privately outside the SMA. Significant periods of sobriety, as determined by the patient, were celebrated during the SMA. Patients were given the opportunity to have an individual medical appointment as needed after the SMA, though less than ten percent of patients at each SMA chose to do so. Individual visits averaged 15 minutes in duration. In addition to the SMA, all patients were encouraged to engage in additional community-based relapse prevention or supportive therapy.

A quick debriefing session among the clinical team was held after each SMA. This session gave the integrated, multi-disciplinary team the opportunity to discuss and determine management for aberrant behavior, support methodology for relapse and need for treatment intensification. All decisions were made by the clinical team as a whole. This served to ensure quality care for the patient, while providing increased individual provider support. During the debriefing session, the nurse or medical assistant collected the patients' urine for toxicology test. The urine toxicology test was performed weekly for patients in the stabilization phase and at least monthly for patients in the maintenance phase of treatment with frequency of testing being influenced by time since last urine toxicology test, results of prior urine toxicology tests and presence of aberrant behavior (missed clinic appointment, lost or stolen medication, request for early medication refill). Urine toxicology tests were not performed if the patients told clinicians ahead of time of opioid relapse. All urine toxicology tests were reviewed for presence of buprenorphine and illicit drugs.

Patients were intermittently transitioned from the buprenorphine SMA to individual medical visits with a primary care physician. Reasons to transfer individuals included patient preference for individual medical visits, capacity of the SMA and presence of behaviors disruptive to a group medical visit. Decisions for transfer into individual medical appointments and thus, a less multidisciplinary model, were determined jointly by the clinical team and based upon stage of treatment, pattern of illicit opioid use, social stability, patient preference and mental health assessment. At other times, patients were referred to methadone maintenance for a higher intensity opioid treatment program. Again, this decision was determined jointly by the clinical team and based upon treatment adherence (frequency of missed appointments), urine toxicology results and patient preference.

RESULTS

Preliminary Evaluation

We conducted a retrospective medical record review of all 77 patients induced on buprenorphine / naloxone and referred to buprenorphine SMAs between August 2010 and December 2012. One investigator extracted all data by reviewing written and electronic records and laboratory values. Extracted data included: socio-demographic characteristics,

attendance, co-morbid illnesses, substance use and history of prior treatment for substance use disorders. Treatment retention was defined as continued engagement in buprenorphine treatment, which included either SMA or individual visits. Patients were considered to not be retained in the following scenarios: elopement from the buprenorphine program for more than 4 weeks, discharge from the buprenorphine program due to ongoing use of opioids with concurrent non-adherence with intensified substance abuse treatment, discharge due to disruptive behavior, or transfer to a methadone maintenance program. Because we conducted a preliminary evaluation, we report simple frequencies of variables. This evaluation was approved by the affiliated Institutional Review Board of Santa Clara Valley Medical Center.

Of the 77 patients referred to buprenorphine SMAs, 73 (95%) attended at least one SMA. The other 5% never attended the group visit and dropped out of the buprenorphine program within two weeks or less. The median and mean attendance was 10 and 18 SMAs, respectively, with a range of 2–82 SMAs.

The mean age of the patients was 41 years, and the majority were male (59%), non-Hispanic white (58%), currently homeless (61%) and unemployed (92%) (see Table). Most had an Axis I psychiatric diagnosis (81%) with the most common diagnoses being bipolar disorder, post-traumatic stress disorder and/or depression. Over half (52%) had positive antibodies to hepatitis C virus. At their induction visit, patients reported recent use of heroin (81%), opioid analgesics (61%), methamphetamine (53%), cocaine (34%) and alcohol (34%).

At 12 and 24 weeks, 86% and 70% of patients were respectively retained in treatment. Two patients not retained were transferred to a methadone maintenance program.

DISCUSSION

In this brief retrospective report of 77 socially and medically complex patients referred to the buprenorphine SMA, 95% attended at least one SMA with a mean attendance of 18 SMAs. At 12 and 24 weeks, 86% and 70% of patients were respectively retained in treatment.

Homeless persons living in the United States bear a disproportionate burden of disease and suffer an early mortality compared to that of the general population. Recent studies have attributed this excess death to substance use and specifically drug overdose from opioids. Furthermore, prior studies have suggested that homelessness and polysubstance use are often associated with poor treatment outcomes.^{26,27} Given the complexity of social, behavioral and physical needs affecting this patient population, substance use disorders cannot be effectively treated apart from whole person care. To best address the complex needs of homeless persons, an integrated and patient centered approach is often utilized to address patients' physical health, mental health, substance use and social services needs concurrently.²⁸ For homeless persons with opioid use disorders, office-based buprenorphine treatment using shared medical appointments is one novel strategy to provide integrated, whole person care.

To our knowledge, only one published study has specifically examined office-based buprenorphine treatment of homeless patients. That study by Alford and colleagues had

outcomes similar to ours, with retention rates of 77% and 73% at 3 and 6 months, respectively. In addition, compared to housed patients, homeless patients in the Alford study had higher utilization of resources such as nurse care manager contact, counseling and mutual-help group attendance. Extending the findings of Alford's study, our study contributes to the literature by demonstrating that office-based buprenorphine treatment using a shared medical appointment model is one strategy to provide more than usual care to complex patient populations with opioid dependence.

When compared to other studies of office-based buprenorphine treatment, our findings are similar or better in terms of patient outcomes. Other studies have found retention rates of 49–77% over 3–12 months.^{29–32} The two studies that examined SMAs for office-based buprenorphine treatment showed 6-month and 12-month retention rates were 52% and 42%, respectively.^{24,25} Outcomes of our study are again notable when considering the social and medical vulnerability of the patients receiving office-based buprenorphine treatment via a SMA model in our clinic. With the majority of patients with an Axis I psychiatric diagnosis, polysubstance use and current homelessness, these patients represent a highly marginalized population that typically would be excluded from treatment.

There are several limitations to our preliminary evaluation. First, all data was extracted from the medical records, limiting the scope of our evaluation. Secondly, although urine toxicology tests were reviewed weekly by the clinical team, these were not included in this brief retrospective report. This exclusion was because the clinic's collection frequency was guided by clinical judgment, as opposed to a pre-determined frequency that would be appropriate for a clinical trial context, making statistical analysis of these results difficult. In addition, our sample size is small and from a single site which limits generalizability of our findings. Finally, other health centers' ability to replicate this SMA model depends upon each health center's available resources. However, although other clinical programs might have limited access to a multidisciplinary team like ours, a SMA model can be implemented utilizing a multidisciplinary team of variable make-up and size.

Although further evaluation is needed, implementing office-based buprenorphine treatment using shared medical appointments for homeless patients is an innovative strategy to provide whole person care to complex patient populations with opioid dependence. This brief retrospective report showed that patients at high risk for poor treatment outcomes had good treatment retention rates, similar or better than those reported by other studies, using an office-based buprenorphine SMA. Continued exploration and evaluation of unique models for buprenorphine treatment are warranted to successfully treat marginalized populations.

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Table 1

Baseline Characteristics of 77 Formerly or Currently Homeless Patients Referred to Buprenorphine Shared Medical Appointments

Socio-Demographic Characteristics	N (%)
Male Sex	46 (59%)
Age (Mean Years \pm Standard Deviation)	41 (SD=13)
Race/Ethnicity	
Non-Hispanic White	45 (58%)
Hispanic/Latino	26 (34%)
Asian/Pacific Islander	3 (4%)
Black/African American	1 (1%)
Other Unspecified	2 (3%)
Currently Homeless	47 (61%)
Unemployed	71 (92%)
Median Monthly Income	\$147
Clinical Characteristics	
Axis I Psychiatric Diagnosis *	62 (81%)
Hepatitis C Antibody Positive *	40 (52%)
History of Prior Opioid Agonist Therapy	38 (49%)
Self-Reported Substance Use	
Opioids	77(100%)
Heroin	62(81%)
Opioid Analgesics	47(61%)
Opium	1(1%)
Methamphetamine	41(53%)
Cocaine	26(34%)
Alcohol	26(34%)
Benzodiazepines	12(16%)
Phencyclidine (PCP)	8(10%)
Retention Rates	
12-week retention	66(86%)
24-week retention **	54(70%)

* Note: Missing data on 3 patients for Axis I psychiatric diagnosis and 2 patients for HCV status

** Includes 2 patients transferred to methadone maintenance