Full length article

Linking patients with buprenorphine treatment in primary care: Predictors of engagement

Claire B. Simon[a,*], Judith I. Tsui[b,c], Joseph O. Merrill[b,c], Addy Adwell[c], Elsa Tamru[c], Jared W. Klein[b,c]

[a] University of Washington School of Medicine, Seattle, WA, United States
[b] Department of Medicine, University of Washington, Seattle, WA, United States
[c] Harborview Medical Center, Seattle, WA, United States

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ABSTRACT

Background: Office-based buprenorphine treatment promises to expand effective treatment for opioid use disorder. Unfortunately, patients may be lost during engagement, before induction with medication. Few data are available regarding rates and predictors of successfully reaching induction.
Methods: The sample included 100 consecutive patients seeking treatment in 2016 at an office-based buprenorphine treatment program in an urban, academic primary care clinic. Patients completed phone intake, nurse visit and physician visit prior to induction. We reviewed electronic medical records to describe the time to complete each step and used multivariable logistic regression to identify predictors of reaching induction.
Results: Sixty percent of the sample dropped out prior to induction, with the majority dropping out prior to the nurse visit. For patients who successfully completed induction, median time between screening and induction was 18 days (interquartile range 13-30 days). After adjustment for other factors, completing induction was significantly less likely in patients with recent polysubstance use (OR = 0.15, 95% CI = 0.04–0.53), prior methadone treatment (OR = 0.05, 95% CI = 0.01–0.36), prior buprenorphine treatment (OR = 0.60, 95% CI = 0.01–0.47), or other prior treatment (OR = 0.19, 95% CI = 0.04–0.98). Sociodemographic characteristics, such as younger age, minority race/ethnicity, homelessness, unemployment, history of incarceration and relationship status were not significant predictors.
Conclusions: Over half of patients beginning primary care buprenorphine treatment were not successful in starting medication. Those with polysubstance use or previous substance use treatment were least likely to be successful. Programs should carefully consider barriers that might prevent treatment-seeking patients from starting medications. Some patients might need enhanced support to successfully start treatment with buprenorphine.

1. Introduction

The U.S. is in the midst of a profound opioid epidemic, with 2.5 million Americans suffering from an opioid use disorder (Substance Abuse and Mental Health Services Administration, 2015) and rising mortality rates. Opioid overdose accounts for 30,000 deaths per year, a fourfold increase over the last 15 years (National Center for Health Statistics National Vital Statistics System, 2014). Unfortunately, only 20% of patients with an opioid use disorder receive any type of treatment (Saloner and Karthikeyan, 2015).

Methadone and buprenorphine are effective treatments for patients with an opioid use disorder. A 2014 Cochrane review concluded that these medications decrease illicit opioid use and increase retention in

treatment (Mattick et al., 2014). Additionally, retention in treatment with medication improves quality of life (Ponizovsky and Grinshpoon, 2007) and decreases mortality (Clausen et al., 2008) as well as HIV risk behaviors (Sullivan et al., 2008). Conversely, detoxification or medically supervised withdrawal is associated with a high rate of relapse and is often not sufficient for long-term recovery (Smyth et al., 2010). In addition to Opioid Treatment Programs, buprenorphine can be prescribed through office-based settings. Consequently, office-based buprenorphine has the unique potential to increase the reach of opioid agonist therapy and provide substantial impact on the opioid epidemic. New models of care that engage the primary health care system in providing buprenorphine treatment access have shown promise (Chou et al., 2016). Successful treatment requires patients to seek care, engage

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with treatment, begin medication and be maintained in treatment. Consistent with the cascade of care framework (Socías et al., 2016), each of these steps is a potential point of failure or dropout. Examining success or failure at each of these stages allows for identification of barriers to successful buprenorphine treatment. Most previous research has focused on retention among patients who have already started medication. Data suggest that upwards of half of patients who start taking buprenorphine drop out within the first few months of treatment (Hser et al., 2014). Predictors of early dropout after starting medications include younger age (Marcovitz et al., 2016; Weinstein et al., 2017), Black or Hispanic race/ethnicity (Weinstein et al., 2017), polysubstance use (Hser et al., 2014), lower buprenorphine dose (Hser et al., 2014), use of non-prescribed opiates early during treatment (Stein et al., 2005) and unemployment (Weinstein et al., 2017). While this focus on retention is important, less is known about dropout during the initial engagement period, or the time between seeking care and starting medication.

Our study describes the engagement period at a buprenorphine program embedded within a primary care clinic at an urban, academic medical center. We examine the rates and predictors of dropout between the initial screening and induction with medication.

2. Methods

2.1. Setting/Study population

The study population consists of patients seeking treatment in an office-based buprenorphine treatment program based on the Massachusetts collaborative care model developed at Boston Medical Center (LaBelle et al., 2016). In this model, nurse care managers work with primary care physicians to support evaluation and ongoing monitoring of buprenorphine maintenance.

The Adult Medicine Clinic at Harborview Medical Center is an urban primary care clinic serving a socioeconomically disadvantaged patient population. The office-based opioid treatment program was established in December 2015 and consists of a core staff of four buprenorphine-waivered primary care physicians, an administrative program coordinator and a nurse care manager. The program is fully embedded in an adult primary care clinic, with no separate sessions or facilities. Following the Massachusetts Model manual for office-based buprenorphine treatment (LaBelle et al., 2016), engagement in the program includes four contacts: telephone screening, nursing intake visit, initial physician visit, and observed induction. Patients contacting the clinic complete a brief screening call with the program coordinator. Subsequent steps to engage in the program are depicted in Fig. 1. To be eligible for the program, patients must have a diagnosis of opioid use disorder, be willing to receive primary are at the Adult Medicine Clinic, be able to attend regular clinic appointments and not have an additional substance use disorder or mental health disorder that requires a higher level of care. First, a 30–40-minute structured intake interview by the program coordinator, completed over the phone or in person, assesses socio-demographic characteristics, clinical history, and co-occurring conditions. Next an in-person meeting with the nurse care manager includes creation of an overall treatment plan. This is followed by an in-person visit with the prescribing primary care physician, which includes confirmation of the diagnosis, review of the treatment plan, and urine testing for other substance use. At the time of the study, at least one urine sample with opioids only was required prior to starting medication. Results exempted cannabis, which is legal in Washington State. This policy was intended to assess the severity of other substance use disorders and gauge the potential need for a more structured treatment program. Finally, an in-person visit with the nurse care manager includes directly observed administration of the first buprenorphine dose or, rarely, instructions on in-home induction if the patient is not in adequate withdrawal to begin medication.

The study sample was comprised of the first 100 consecutive patients to complete the structured intake interview from the program's inception in December 2015 through August 2016. Patients who began buprenorphine treatment by other routes, such as starting medication prior to screening, and those who were immediately referred to a higher level of care were excluded from the study.

2.2. Data collection

Demographic data were extracted from the electronic medical record. Clinical and social characteristics were extracted from a standard intake questionnaire completed at the initial telephone screening. This questionnaire assessed substance use history, prior treatment history, and social history using standard forced-choice categories. The entire screening questionnaire is included as an appendix. Data regarding completion of clinical contacts during the engagement period were extracted from appointment and encounter records. All data were extracted by a single reviewer (CBS) using a standard data entry form. No patient identifiers were included in the dataset.

2.3. Predictors and outcomes

Our primary outcome was reaching induction with buprenorphine within 90 days of initial contact with the program. We explored demographic, clinical and social factors that could be associated with successfully completing the engagement period. Predictors, selected a priori, included variables previously shown to be associated with retention in buprenorphine treatment (Hser et al., 2014; Marcovitz et al., 2016) as well as variables that were a priori hypothesized to affect the outcome (age, substance use and treatment history, social characteristics) or were included for face validity (gender, race/ethnicity). Following the model of Gelberg, Andersen, and Leake (Gelberg et al., 2000), potential predictors were considered in three domains: demographic or predisposing factors, clinical or need factors, and social or enabling factors. Demographic characteristics included age, sex, and minority race/ethnicity (nonwhite and/or Hispanic). Clinical characteristics included recent polysubstance use, level of prior substance use treatment, and co-occurring mental health diagnosis. Polysubstance use was defined as any methamphetamine, cocaine or benzodiazepine use in addition to opioids within the past 30 days.

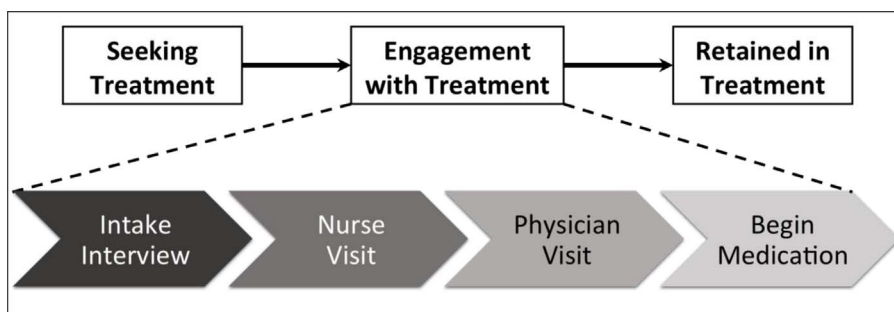Prior substance use treatment was classified into three mutually

Fig. 1. Steps in the engagement period.