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Buprenorphine treatment and 12-step meeting attendance: Conflicts, compatibilities, and patient outcomes

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Abstract

This analysis examines patient experiences and outcomes with 12-step recovery group attendance during buprenorphine maintenance treatment (BMT), two approaches with traditionally divergent philosophies regarding opioid medications for treatment of opioid use disorder. Using quantitative (n=300) and qualitative (n=20) data collected during a randomized trial of counseling services in buprenorphine treatment, this mixed-methods analysis of African Americans in BMT finds the number of NA meetings attended in the prior 6 months was associated with a higher rate of retention in BMT ($p<.001$) and heroin/cocaine abstinence at 6 month follow-up ($p=.005$). However, patients whose counselors required them to attend 12-step meetings did not have better outcomes than patients not required to attend such meetings. Qualitative narratives highlighted patients' strategies for managing dissonant viewpoints on BMT and disclosing BMT status in community 12-step meetings. Twelve-step meeting attendance is associated with better outcomes for BMT patients over the first 6 months of treatment. However, there is no benefit to requiring meeting attendance as a condition of treatment, and clinicians should be aware of potential philosophical conflicts between 12-step and BMT approaches.

Keywords

Buprenorphine; 12-step; Narcotics Anonymous; Opioid Dependence

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1.0 Introduction

The twelve-step recovery movement [e.g., Narcotics Anonymous/Alcoholics Anonymous (NA/AA)] is a non-professional, mutual-aid response to alcohol and drug dependence with a widespread global presence. Alcoholics Anonymous has had an impact on the lives of millions of individuals with alcohol dependence and has been integrated directly into the programming of many treatment programs. Narcotics Anonymous is a smaller 12-step movement with its own traditions and literature distinct in some ways from AA (Humphreys, 2003b; Laudet, 2008).

The last several decades have witnessed a global expansion of both the 12-step recovery movement and increased availability of opioid agonist treatment. Two opioid agonist medications (methadone and buprenorphine) are approved by the FDA for the treatment of opioid dependence and their efficacy has considerable empirical support (Amato et al., 2005; Mattick, Breen, Kimber, & Davoli, 2014). Since buprenorphine became available in the US in early 2003, its utilization has dramatically increased (Lofwall & Walsh, 2014).

According to NA World Services, methadone patients are typically asked not to speak at NA meetings, are barred from holding service positions within the abstinence-focused fellowship, and are not recognized for periods of sobriety or “clean time” while in methadone treatment (“World Service Board of Trustees Bulletin #29: Regarding Methadone and Other Drug Replacement Programs,”). In response to this unaccepting attitude on the part of NA, there have been some efforts to develop 12-step fellowships that are accepting of methadone patients (i.e., “Methadone Anonymous”), but despite some encouraging applications (Nurco, Stephenson, & Hanlon, 1990-91; Ronel, Gueta, Abramsohn, Caspi, & Adelson, 2011), their diffusion has been very limited relative to AA or NA. Although leading researchers in the addiction treatment field have argued that 12-step addiction recovery and opioid agonist maintenance are not incompatible (White et al., 2012; White & Mojer-Torres, 2010; Betty Ford Institute Consensus Panel, 2007), the reality is that opioid agonist treatment patients attending NA meetings for support are likely to experience conflicts and pressures to discontinue their medication (Parran et al., 2010). Likewise, patients may receive lower daily doses of methadone by treatment organizations that strongly favor abstinence models (Pollack & D'Aunno, 2008). Such pressures may be well-intentioned, but ultimately harmful. Premature discontinuation of opioid agonist treatment is associated with relapse to illicit drug use (Magura & Rosenblum, 2001) and elevated risk of mortality (Clausen, Anchersen, & Waal, 2008; Clausen, Waal, Thoresen, & Gossop, 2009).

The effectiveness of the 12-step approach has been questioned (Chiauzzi & Liljegren, 1993; Ferri, Amato, & Davoli, 2006; Kaskutas, 2009). A Cochrane Collaboration review of randomized trials (Ferri et al., 2006) noted that studies designed to demonstrate the effectiveness of AA and 12-step facilitation incorporated too many interventions and hypotheses to reliably identify causation in patient outcomes. Others have noted that despite difficulty demonstrating specificity of effects (the requirement of ruling out alternative explanations for a given set of outcomes), the evidence supporting 12-step is strong for other causality criteria (Kaskutas, 2009).

Despite this argument, 12-step participation has been shown to be *associated* with increased abstinence both for alcohol (Emrick, 1987; Moos & Moos, 2004; Timko, Moos, Finney, & Lesar, 2000) and other drugs, including opiates (Gossop, Stewart, & Marsden, 2008); improved substance use and psychological health (Bogenschutz et al., 2014; Finney, Moos, & Humphreys, 1999; Gossop et al., 2008; Humphreys, 2003a; Humphreys & Moos, 2001; Ouimette, Finney, & Moos, 1997; Timko et al., 2000); and decreased rates of relapse to alcohol and other drugs (Caldwell & Cutter, 1998; Fiorentine & Hillhouse, 2000; Gossop et al., 2008; Humphreys, Moos, & Cohen, 1997).

However, distinguishing between mere 12-step attendance and active participation can be particularly important when evaluating outcomes of 12-step research. Given that increased active participation in 12-step programming may improve patient substance use outcomes, increased attendance without engagement can present diminishing returns over time (Kelly, Stout, & Slaymaker, 2013). Kelley and colleagues (2013) explored this phenomenon, using indicators such as working the 12 steps, setting up for meetings, reading 12-step literature, verbally participating in meetings, and having and meeting with a sponsor as measures for 12-step involvement. Almost every indicator peaked at 3-months into the follow-up period, but diminished gradually over the following nine months.

One explanation for this phenomenon has been the centrality of matching consistent belief systems between the individual and the model of service delivery (Walters, 2002). Unfortunately for many patients in opioid agonist treatment, there is often a struggle surrounding the compatibility of utilizing a medication for their dependence and the 12-step literature, mission, and programming (Natti Ronel et al., 2011). Although both 12-step approaches and opioid agonist treatments view addiction as a chronic disease (Dole & Nyswander, 1967; N Ronel, 1999; W. L. White, 2005), the “singleness of purpose” (Alcoholics Anonymous World Services & W, 1965) for many 12-step programs is total abstinence from psychoactive substances (including medications to treat the disease) (Natti Ronel et al., 2011). Ronel and colleagues (2011) note that, among their sample of methadone maintenance patients, the most widely accepted aspect of the 12-step programming was the establishment of a common language of recovery. This language, they discovered, helped to create group coherence and a sense of belonging, which were helpful when facing stigma from both non-addicted populations and addicted populations not using methadone in their recovery (Natti Ronel et al., 2011).

There has been relatively little research on 12-step programming in conjunction with buprenorphine treatment (Parran et al., 2010; Rieckmann, Kovas, McFarland, & Abraham, 2011). One such study did show improved long-term outcomes for buprenorphine patients who also attended abstinence-oriented 12-step groups, but the most common reason for drop out or discontinuation was the patients’ failure to adhere to the abstinence-based 12-step treatment or repeated substance use (Parran et al., 2010). This finding suggests that the 12-step abstinence and negative discourse surrounding the use of pharmacotherapy can produce member stigma, exclusion from 12-step participation, and overall reduced use of pharmacotherapy for 12-step members who might benefit from treatment with medications (Greenfield, Owens, & Ley, 2014). Although 12-step programs may work to promote

abstinence among its membership, this discourse may be detrimental to those who cannot achieve this traditional form of abstinence (Donovan et al., 2013).

1.1 Baltimore City, Maryland, USA

Baltimore City has long been one of the US cities most impacted by heroin use. A series of local and state initiatives over the past 15 years have led to significantly increased funding for addiction treatment in Baltimore, including an expansion of methadone treatment capacity in the publicly-funded treatment system. More recently, city initiatives encouraged outpatient programs that had previously operated on a strictly abstinence-focused counseling model, to adopt buprenorphine treatment. These initiatives resulted in a major expansion of buprenorphine treatment availability for low-income city residents ("Community Partnerships and Provider Training Increase Service Capacity and Access to Long-Term Treatment for Individuals With Heroin Addiction," 2008; Gryczynski et al., 2013). In addition to a well-developed opioid agonist treatment system, Baltimore City also has a vibrant NA community that includes more than 400 scheduled meetings each week, with additional NA-focused special social events (such as dances, picnics, softball games, etc.).

1.2 Focus of the Present Analysis

This mixed methods analysis examines the intersection of buprenorphine treatment and 12-step attendance in a cohort of opioid-dependent African Americans receiving buprenorphine treatment. Quantitative data examines the association between 12-step group attendance and participant outcomes, including retention in buprenorphine treatment and illicit drug abstinence. Qualitative data examines participants' experiences with 12-step attendance and issues surrounding disclosure of their status as buprenorphine patients within these meetings.

2.0 Methods

2.1 Parent Study

This analysis draws from data collected as part of a randomized trial of standard outpatient vs. intensive outpatient counseling services in buprenorphine treatment conducted in Baltimore City. Participants were 300 opioid-dependent African Americans newly admitted to buprenorphine treatment at one of two participating outpatient treatment programs (one colocated with a federally-qualified health center, and one adjacent to a community mental health clinic). Both programs were formerly drug-free treatment programs that adopted buprenorphine in a city initiative promoting expansion of buprenorphine throughout the publicly-funded treatment system. Both clinics encouraged patients to attend NA or other 12-step meetings, and one of the programs hosted a weekly NA meeting on-site which patients were encouraged (and depending on the counselor, required) to attend. The programs provided counseling (mostly in groups) 5 days per week, and on-site buprenorphine dosing 5 or 6 days a week, with patients able to receive weekly, biweekly, and eventually monthly prescriptions. After an individually-determined period of stabilization, the programs referred patients to receive buprenorphine in general practice, primary care settings. The parent study found no differences between standard and intensive

outpatient levels of care on a range of outcomes (Mitchell et al., 2013). Additional details about the parent study have been reported elsewhere (Mitchell et al., 2013).

Participants were assessed at baseline, 3-, and 6-month follow-up (follow-up rates of 96% and 93%, respectively) with a face-to-face interview using a standardized assessment battery. A urine specimen was collected at each assessment and sent to an external laboratory for analysis of common drugs of abuse (e.g., opiates, cocaine). A sub-sample of 20 participants completed semi-structured qualitative interviews around the time of 3-month follow-up.

2.2 Quantitative Measures

2.2.1 Abstinence—A variable was created representing abstinence from opiates and cocaine at 6 month follow-up, based on zero days of self-reported use in the past 30 days and a negative urine test for these drugs. Abstinence rather than reduction in use was selected as the endpoint of interest because of 12-step groups' emphasis on this outcome.

2.2.2 Retention—Retention in BMT at 6 month follow-up was determined by self-report. Participants could be enrolled in BMT at the original program, or elsewhere (e.g., after transfer to primary care-based BMT).

2.2.3 NA Experiences—Participants were asked at each follow-up to reflect on their experiences with NA meeting attendance. Attendance frequency was asked by the question "How many NA meetings did you attend during the past 3 months?" The research interviewer helped to calculate the number of meetings if responses were given in times per week or per month. A variable representing total NA meetings attended in a 6 month period was calculated by summing the responses from the 3 and 6 month follow-up point.

Another question asked participants "How helpful would you say NA meetings were to your recovery?" with response options on a 5-point scale from "not at all" to "extremely". Coerced NA attendance by treatment staff was captured with a Yes/No question asking "Did your counselor require you to attend NA meetings?" Disclosure of BMT status was queried with the question "While attending NA meetings, did you tell any other NA members that you were taking buprenorphine?" Acceptance of BMT status by NA peers was determined by the questions "Did anyone at NA encourage you to stop taking buprenorphine or decrease your dose?" (yes/no), and "To what extent did NA make you feel like you were not "clean" specifically because you were taking buprenorphine?" (5-point scale from "not at all" to "extremely").

2.2.4 Counseling Services—Attendance at counseling services was obtained from program records. We calculated the number of hours of group counseling per active week in treatment. This variable was used as a rough proxy for motivation/engagement in group-level substance use services.

2.3 Qualitative Interviews

Semi-structured, in-depth interviews were conducted with a purposive sample of 20 African-American patients approximately 3 months after treatment entry. Of the 20 sampled

interview participants, 10 were selected from each of the two participating community treatment programs. Qualitative participants were recruited to ensure demographic and experiential diversity. Specific attention was paid to recruit roughly an equal gender distribution, as well as a broad range in age, previous treatment experiences (i.e. buprenorphine, methadone, etc.), and routes of drug administration (i.e. injection, intranasal, etc.). These interviews explored patients' attitudes and knowledge of buprenorphine treatment, their original reasons for entering treatment, treatment expectations (e.g., plans for length of treatment, anticipated drug abstinence or reductions in use, etc.), and perceived benefits and burdens associated with attending counseling in conjunctions with receiving medication.

2.4 Analysis

2.4.1 Quantitative Data—NA experiences among BMT patients were first examined descriptively and using bivariate statistics (t-tests for continuous variables and chi-2 tests for categorical variables). Multivariate logistic regression models predicting 6-month (a) treatment retention and (b) abstinence were fit with the following predictors: gender, age (in years), clinic site, treatment status (in vs. out of treatment; analysis b only), group counseling attendance, number of NA meetings attended in the prior 6 months, and whether the participants' counselor required NA meeting attendance. We selected this limited set of predictor variables on the basis that they may play a role in the outcomes or in the predictors of interest. Gender and age were included as basic background variables, while clinic site was included due to the possibility of different treatment requirements, staffing, or patient mix at the sites. Group counseling attendance was included as a rough proxy for motivation/engagement in group-level substance use services (which mimic the group-level structure of NA meetings). Thus, it was included in the models as a control variable to help examine the independent relationship between the outcomes of interest and NA meeting attendance. Finally, NA meeting attendance and counselor requirements to attend were included as the key predictors of interest. Due to a minor amount of missing data on counseling services and abstinence, the analysis sample for the multivariate models was 272 for the retention analysis and 271 for the abstinence analysis.

2.4.2 Qualitative Data—In-depth interviews were recorded, professionally transcribed, and analyzed using a grounded theory approach with ATLAS.ti qualitative analysis software (Muhr & Frieze, 2000). Grounded theory is a systematic, inductive approach to the analysis of qualitative data that uses the data itself to generate underlying theories of the key phenomena under investigation (Glaser & Strauss, 1967). Qualitative analysts used an iterative coding process in which themes, concepts, and ideas within the narratives were continually identified, categorized, questioned, and revised. Qualitative researchers discussed findings and coding schemas throughout the coding process to reconcile differences until a consensus was reached.

3.0 Results

3.1 Quantitative Results

The baseline characteristics of the analysis sample are shown in Table 1. The analysis sample was 40% female with a mean age of 46.2 (SD=6.3). Twenty four percent used drugs by injection, and 42% had previously been prescribed buprenorphine (either for maintenance or short-term withdrawal management/detoxification).

In the 6 months after starting treatment, NA meeting attendance was highly prevalent in this sample. Just 14% reporting attending 5 or fewer NA meetings over the past 6 months combined, although at 6 month follow-up 35% reported attending 5 or fewer meetings in the past 3 months. Most participants reported that their counselor required NA attendance (76%), which is likely reflective of the treatment culture/philosophy in these formerly drug-free treatment programs. At 6 month follow-up, among participants who attended NA meetings within the past 3 months, just over two-thirds reported that NA meetings were “quite a bit” or “extremely” helpful to their recovery (67%), while just 5% reported that NA meetings were “not at all helpful”. At 6 months, among participants who reported attending NA meetings while enrolled in BMT (n=209), only 33% reported disclosing their BMT status to an NA member. Of participants who disclosed their BMT status (n=68), 26% reported that someone at NA encouraged them to stop taking buprenorphine or decrease their dose.

Independent samples *t* tests comparing mean NA meeting attendance between BMT enrollment status groups at 6-month follow-up showed significantly higher mean meeting attendance among participants remaining in treatment at 6 months than participants who dropped out (mean= 71.9 (SD=52.9) vs. 36.6 (SE=35.7) meetings, respectively; $p<.001$). Likewise, participants who were abstinent at 6 month follow-up had significantly higher mean meeting attendance over the prior 6 months than those who were not abstinent (mean=80.1 (SD=58.2) vs. mean=48.4 (SE=42.1), respectively; $p<.001$). There was no significant difference in the mean number of NA meetings attended for those who reported that their counselor required NA attendance compared to those that did not (mean= 61.3 (SD=48.7) vs. mean=50.8 (SD=54.0), respectively; $p=.14$).

Table 2 shows Spearman correlations among the variables examined as predictors of treatment retention and abstinence. Table 3 shows the results of the logistic regression models predicting BMT retention and heroin/cocaine abstinence at 6 month follow-up. Rates of BMT retention and heroin/cocaine abstinence at 6 months in the analysis sample were 63% and 33%, respectively. NA meeting attendance throughout the preceding 6 months was significantly associated with remaining enrolled in BMT (AOR=1.02; 95% CI=1.01, 1.03; $p<.001$). This is a relatively large effect size considering that each additional NA meeting attended was associated with a 2% increase in the odds of treatment retention at 6 months. However, having a counselor who required NA attendance was not significantly associated with 6-month retention (AOR= 0.70; 95% CI=.37, 1.35; $p=.29$).

A similar pattern was found with respect to abstinence, whereby each additional NA meeting attended was associated with higher odds of being abstinent at 6 months

(AOR=1.01; 95%CI=1.00-1.02; $p=.005$). Hence, each additional NA meeting attended over the course of 6 months was associated with a 1% increase in the odds of being abstinent at 6 months. (Extrapolating from this finding, the odds of abstinence would be expected to increase by 26% for those attending just 1 NA meeting a week vs. no meetings over the 6 month period). The odds of abstinence were not different based on whether the participant reported their counselor required NA attendance (AOR=.70; 95% CI= .36 – 1.37; $p=.30$). In order to examine whether the relationship between NA meeting attendance and abstinence differs as a function of counselors' attendance requirements, we also fit the abstinence model with an interaction between the two explanatory variables of interest: number of meetings attended and required attendance. The interaction between these explanatory variables was not significant ($p=.93$); hence, required attendance does not appear to moderate the relationship between NA meeting attendance and abstinence.

3.2 Qualitative Results

When community treatment programs require or encourage their buprenorphine patients to attend 12-step meetings, patients are challenged to negotiate two contrasting treatment philosophies meetings – one that supports the use of prescribed medication (treatment program) to support recovery, and one that traditionally does not (12-step community). This negotiation is most apparent in the patients' decision to disclose (or not) their buprenorphine status to other members of the 12-step community. Semi-structured interviews with buprenorphine patients reveal several key themes concerning issues related to disclosure within the context of negotiating two contradictory treatment philosophies. These themes include: issues associated with contradictory treatment philosophies, patients' strategies for negotiating contradictory treatment philosophies, and the acceptance of methadone versus buprenorphine in the 12-step community.

Of the 20 buprenorphine participants interviewed, 14 specifically address aspects of buprenorphine disclosure in 12-step environments. Of these 14 participants, five report not disclosing their status under any circumstances, five report that they always disclose their status, and four report disclosing their status circumstantially.

3.2.1 Issues Associated with Contradictory Treatment Philosophies—One of the primary issues associated with buprenorphine patients' engagement in community 12-step programs is that many 12-step members view medications for addiction treatment as a “crutch,” and view individuals who take such medications as not fully “clean.” Although these medications are known to be used in the detoxification of opioid and alcohol dependence, strict adherence to the abstinence-only philosophy often results in members of the 12-step community dismissing buprenorphine as an acceptable maintenance-based treatment. One respondent notes,

RESPONDENT: They respond like, ‘Well, we need to get you off of that and let you start feeling life.’ She say, ‘You still using a crutch.’ They letting me know that I’m still using a crutch.” (Buprenorphine patient that always discloses status)

Members of community 12-step groups also discount the “clean time” that a buprenorphine patient accumulates, because buprenorphine is viewed as a mood- or mind-altering

substance. When asked directly about whether or not the participant chooses to disclose their buprenorphine status in community 12-step meetings, one respondent replied,

RESPONDENT: Yeah, but don't you know if you tell them that you're on Suboxone they look at you like you not really still clean. [I: Is that right?] Like say you on methadone, they don't consider that being clean. If you on Suboxone they don't consider... I mean they don't like... they'll say well whatever works for you is working for you but they don't consider that being clean. (Buprenorphine patient that does disclose status)

A foundational aspect of NA and other 12-step groups is the accumulation of "clean time," which is an earned accomplishment that builds self-efficacy and represents the recovering person's investment in not relapsing for fear of having to start the "recovery clock" all over again. The common view that genuine clean time cannot be accumulated when taking buprenorphine – even when the individual is otherwise abstaining from all illicit drugs – presents a significant barrier for buprenorphine patients who find benefit from both the 12-step program and BMT.

The concerns expressed by members of the 12-step community about buprenorphine as a "crutch" and the non-accumulation of "clean time" begin to be incorporated into buprenorphine patients' understanding of themselves and the medication. Even though long-term maintenance is promoted in their buprenorphine treatment program, patients who attend community 12-step programs start to apply artificial time-limits on their buprenorphine use. Engaging in the 12-step community can potentially lead to patients wanting to discontinue their buprenorphine treatment. One participant described internalizing the common perception in NA that buprenorphine patients were "not clean," and planned to discontinue treatment after half a year.

RESPONDENT: No, 'cause some of the meetings they mention like, 'That being on such and such and being on such and such is not clean.' And I won't say nothing because if somebody start yelling in my face, 'Well you ain't clean and this and that,' well I'm a fuss, I know me...

INTERVIEWER: Do you feel like you're clean, being on the medication?

RESPONDENT: No. [I: No?] No. That's why I say I need to work myself off this, no. Because, why do I have to depend on something every day? Why . .

.? I mean I wasn't born like that. No, so I don't ... INTERVIEWER: But you think four months is enough time? RESPONDENT: I think half of a year is enough time.

(Buprenorphine patient that does not disclose status)

Additional respondents noted that negative reactions to their use of buprenorphine caused them to not return to certain 12-step groups. When asked what they do if they are met with a negative response from other 12-step members in a group setting, one respondent replied,

RESPONDENT: So I said, 'No I ain't going say nothing.' And I don't go to that one no more.

(Buprenorphine patient that does not disclose status)

For many respondents that rely on public transportation to get to 12-step meetings, a reduction in the number of meetings in which they feel comfortable talking about their recovery experiences (including their use of buprenorphine) can potentially put them at risk for disengagement and relapse by reducing the convenience and opportunity for continued meeting attendance.

3.3.3 Patients' Strategies for Negotiating Contradictory Treatment

Philosophies—Participants also describe using various strategies to help them negotiate their dual roles as 12-step participants and BMT patients. The first notable strategy is drawing a strong conceptual differentiation between “drugs” and buprenorphine. This distinction is primarily based on two properties that separate BMT with substance abuse: 1) understanding buprenorphine medicinally, and 2) specifying the process of taking and acquiring buprenorphine through legitimate (and legal) channels. One respondent makes a direct comparison between taking buprenorphine and taking other, more socially-acceptable medications and vitamins:

Respondent: ...it's the medication that I'm taking. But they never say anything about it... it's not an issue. Nobody has said anything about me taking the medication because some people go in there and they abuse it. And you take enough, it will make you look like that you taking drugs. But if you taking it the right way, um nobody can even tell... Because it's like when I wake up in the morning, like taking my vitamins, taking a vitamin, nobody know the difference.

(Buprenorphine patient that circumstantially discloses status)

Similarly, other participants place a strong emphasis on the legal acquisition of buprenorphine from a treatment center or pharmacy, as opposed to purchasing diverted buprenorphine on the street. One buprenorphine patient who always discloses their status finds it easier to do so because of this distinction:

RESPONDENT: Yeah but they know that I'm on the Suboxone and I'll tell them. And some of them feel like you ain't clean. But that's going to keep you clean from using. I'm on a legal drug. I'm not on a street drug so I'm clean. [I: It's medicine] Yeah it's legal. So I don't pay them no mind if that's how they feel.

(Buprenorphine patient that always discloses status)

Another set of tools patients use to negotiate these two contradictory treatment philosophies involves the relationship between the buprenorphine patient and other members of the 12-step community that are also taking buprenorphine. Several respondents expressed finding comfort in knowing there are other buprenorphine patients in the 12-step groups they attend.

Respondent: Like some of them act all stupid, talking about, “You ain't clean,” you know because they don't take nothing, you know. Those are the ones, but it's only a handful of them that ain't taking something for to stop them from running the street every day you know. I don't pay them no attention. A lot of us don't pay them no attention when they say that.

Interviewer: So, there's a lot of people on buprenorphine? ...At the meetings you go to?

Respondent: A lot that I know, most everybody that I know, but it be most of them mixed together though.

(Buprenorphine patient that always discloses status)

This respondent also noted purposely seeking out 12-step meetings where other buprenorphine patients were present. Although this respondent encountered the same negative responses as those who noted problems and issues in the previous quotes, this patient found empowerment in the collective of buprenorphine patients that also attend the meetings. In an environment that may inhibit buprenorphine patients from disclosing their status and being fully incorporated into the 12-step community, disclosure seems to be important and impactful once patients feel able to do so. In addition to providing strength as a collective, another respondent that always discloses their status notes being approached by other opioid-addicted individuals about the buprenorphine program.

INTERVIEWER: And you said you've talked with people in NA about being on Suboxone being on the buprenorphine. [R: Yes.] Like what is their response when you tell them that you're on it?

RESPONDENT: They be saying, 'What, you feel that? I heard that ain't no good.' I said, 'Well whoever told you that, they told you a lie. Try it.' 'But I got to get off of this meth first.' 'Well get off the meth and try it.' And five of them like I said tried it, and they doing good. (Buprenorphine patient that always discloses their status)

3.3.4 Methadone versus Buprenorphine in 12-step Acceptability—Although almost all of the respondents note some kind of challenge associated with taking buprenorphine and attending abstinence-only 12-step meetings, a few respondents mentioned that if the 12-step community is going to start accepting a pharmacotherapy medication as an active and legitimate form of recovery it is going to start with buprenorphine. One respondent explains noticeable changes over time regarding the acceptance of buprenorphine in 12-step meetings.

Interviewer: -Good, okay, okay because like you were saying the first time you were on Suboxone, people weren't terribly accepting of it. What's it like now when you tell people that you're on Suboxone?

Respondent: It's being accepted...What's not being accepted is the meth.

Interviewer: The methadone?

Respondent: Because people, it's not more so about the methadone, it's what they do with the methadon; when they taking it, they taking pills with it. They misusing it, you know what I mean.

(Buprenorphine patient that always discloses status)

These participant narratives suggest that the emerging perspectives on buprenorphine in the Baltimore City 12-step community are somewhat more nuanced than for methadone. Although some view both medications as being inconsistent with the "abstinence-focused" philosophy promoted in the 12-step community, participants noted that methadone patients

may be more likely than buprenorphine patients to appear intoxicated at meetings. Such signs of intoxication include “nodding out” and “slurring of words.” According to some participants, members of the 12-step community view methadone patients as actively using other illegal “street” drugs while on the medication, while perceptions of buprenorphine patients tend to be more positive. Buprenorphine patients thus may have the opportunity to open lines of communication and challenge preconceived notions about opioid pharmacotherapy in the 12-step community.

Respondent: And, [Methadone]’s not really accepted in NA. Now if I take a bup and go to a NA meeting, I’m fine. No one is saying anything. But if I drink meth and go to a NA meeting and the meth is kicking in and I’m starting to slur with my words or nodding, everybody is like, it’s like not accepted at all. So the distinction that they give out is if you’re on meth, then you’re still using, but if you’re on bups then you’re not. That’s a lot of NA groups discriminate against meth and they won’t with bups.

(Buprenorphine patient that circumstantially discloses status)

4.0 Discussion

This study points to opportunities as well as challenges for offering BMT in programs and communities heavily influenced by 12-step philosophy. Despite the potential for philosophical conflicts between 12-step groups and BMT, greater 12-step meeting attendance during the first 6 months of treatment does not precipitate early treatment discontinuation and is associated with superior abstinence outcomes. The benefits of 12-step meeting attendance remained significant in statistical models even when controlling for level of group counseling attendance at the treatment program. This is an important finding given the potential tension between BMT program approaches and NAs traditional stance towards medication maintenance treatment. Moreover, although our data show encouraging signs that these approaches may not be as incompatible as they seem, we certainly found ample evidence of philosophical tensions as participants attempted to negotiate and reconcile their roles as BMT patients and NA participants.

Our qualitative data analysis discovered significant issues facing BMT patients in negotiating these two historically divergent treatment philosophies, including 12-step members’ view that buprenorphine maintenance is a recovery “crutch,” and therefore the discounting of “clean time” accumulated while taking buprenorphine. Ultimately, this created a sense of urgency among 12-step committed BMT patients to discontinue their agonist therapy programs within artificial time constraints. Additionally, BMT patients noted avoiding certain 12-step meetings that were known to be more rigid in their abstinence approach, therefore reducing the number of convenient *and* accepting meetings around their neighborhood. This posed a significant barrier for continued 12-step attendance among BMT patients with generally unreliable transportation arrangements.

While facing these divergent treatment philosophies, patients negotiated their BMT status and 12-step attendance by combatting traditional abstinence ideology with an understanding of buprenorphine as a medicine, and recognizing its legitimacy because it is obtained

through a substance abuse treatment program and pharmacy. These BMT patients noted this negotiation was beginning to be less strenuous given that 12-step members appeared to be more willing to extend their understanding and acceptance to buprenorphine patients than methadone patients, who continue to carry the stigma of experiencing intoxication and continued use of other illicit street drugs.

Although 12-step meeting attendance during the first 6 months of buprenorphine treatment is associated with superior outcomes and is unrelated to premature treatment discontinuation, we did not find any evidence that patients benefitted when their counselor required them to attend NA. We found no relationship between abstinence outcomes and whether or not patients reported that their counselors required patients to attend NA as part of their treatment, nor was the relationship between meeting attendance and abstinence outcomes moderated by counselors' requirements to attend. It is possible that the benefits of requiring NA involvement may be counterbalanced by the detriments of a rigid or authoritarian counseling style. Another possibility is that patients who chose to engage with NA were already motivated to do so. We tried to account for some of this potential confound by controlling for level of group counseling attendance at the program, but it may be that this is an insufficient proxy of motivation or engagement.

4.1 Limitations

This secondary analysis has some limitations. This is an observational study, and must be interpreted as such. Although the study provides new data on NA attendance during BMT, application of these findings to inform clinical practice and program policies should proceed with some caution. There may exist important but unmeasured variables that play a role in the relationship between NA attendance and outcomes for patients in BMT. The unusual status of the treatment programs at formerly drug-free clinics that had embraced BMT due to an alignment of attractive incentives and encouragement from local substance abuse authorities may impact generalizability to some extent. On the other hand, these programs provided the ideal natural laboratories in which to study the dynamic interaction of two philosophically divergent approaches to addressing addiction. Also with regard to generalizability, the patient population consisted of African Americans in Baltimore City who accessed BMT through these publicly-funded programs. Therefore, these findings may not generalize to other national or international settings; racial, ethnic, or socio-economic groups; or, where access to buprenorphine treatment is more constrained.

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Highlights

- Paper examines associations between NA meeting attendance and treatment retention and abstinence
- Expands current understanding of the intersection of divergent treatment philosophies (12-step and agonist therapy)
- Greater meeting attendance is associated with improved treatment retention and abstinence
- Meeting attendance requirements did not produce better patient outcomes
- Qualitative narratives highlight patients' strategies for managing buprenorphine status and NA philosophies

Table 1

Baseline characteristics of the analysis sample.

Female Gender, %	40.2
Age, mean (SD)	46.1 (6.3)
Currently married, %	10.7
Recruited from second clinic site, %	46.1
Reports having worked in the past 30 days, %	36.9
Use drugs by injection, %	24.0
Days of opioid use in past 30 days, mean (SD)	22.8 (9.1)
Days of cocaine use in past 30 days, mean (SD) ^I	7.0 (10.4)
Number of prior drug abuse treatments, mean (SD)	2.7 (2.5)
Prior methadone treatment, %	42.1
Prior buprenorphine treatment, %	52.0

^I N= 270 due to missing baseline data on cocaine use for one participant.

Table 2

Spearman correlations between variables in the multivariate analysis.

	1	2	3	4	5	6	7
1. Abstinent	-						
2. In-Treatment	.39						
3. Female	-.03	-.09					
4. Age	.17	.03	~0				
5. Site	-.08	-.05	-.05	.04			
6. Group counseling attendance	-.12	-.14	.08	-.03	.31		
7. Number of NA meetings in the prior 6 months	.26	.34	-.06	.04	-.32	-.11	
8. Counselor requires AA/NA attendance	-.07	-.04	.04	~0	~0	.18	.13

Note= Spearman's rho values are shown. Significant correlations ($p < .05$) are bolded.

Table 3

Multivariate logistic regression predicting 6-month treatment retention and abstinence.

	Treatment Retention		Abstinence	
	AOR (95% CI)	<i>p</i>	AOR (95% CI)	<i>p</i>
Gender	0.80 (0.47-1.38)	.43	1.06 (0.59-1.92)	.84
Age	0.99 (0.96-1.04)	.91	1.06 (1.01-1.11)	.01
Treatment site	1.44 (0.81-2.58)	.22	1.02 (0.53 - 1.94)	.96
Group counseling attendance	0.83 (0.69-0.99)	.048	0.91 (0.72-1.14)	.40
Number of NA meetings in prior 6 months	1.02 (1.01-1.03)	<.001	1.01 (1.00-1.02)	.005
Counselor requires AA/NA attendance	0.70 (0.37-1.35)	.29	0.70 (0.36-1.37)	.30
Treatment retention			6.97 (3.19-15.22)	<.001

Notes: *N*= 272 (Treatment Retention); *N*=271 (Abstinence). AOR= Adjusted Odds Ratio; CI= Confidence Interval. Statistically significant *p*-values (<.05) are bolded.