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African American Cocaine Users' Preferred Treatment Site: Variations by Rural/Urban Residence, Stigma, and Treatment Effectiveness

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Abstract

To encourage access, policy makers and providers need information about variations in drug users' treatment preferences. This study examined how rural/urban residence, stigma surrounding drug use, and perceived treatment availability and effectiveness are associated with African American cocaine users' preferences for the site of treatment (local, or in one's home town; nearby, or in a town nearby; and distant, or in a town farther away). Two hundred rural and 200 urban cocaine users were recruited using Respondent-Driven Sampling and completed in-person interviews. Multinomial logit regression analyses were conducted to estimate the relative odds of preferring local vs. nearby and local vs. distant treatment. Rural cocaine users preferred distant (58%) and urban users preferred local (57%) treatment. Rural residence and a lifetime history of treatment were associated with higher odds of preferring nearby vs. local treatment; older age and greater perceived local treatment effectiveness were associated with lower odds of preferring nearby vs. local treatment. Rural residence, access to an automobile, higher rejection/discrimination stigma scores, and higher Brief Symptom Inventory-Global Severity Index scores were associated with higher odds of preferring distant vs. local treatment; older age, lower educational attainment, and greater perceived discrimination after treatment were associated with lower odds of preferring distant vs. local treatment. The findings from this study suggest that a regional approach to organizing drug use treatment services could better satisfy the preferences of

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rural African American cocaine users, whereas local treatment services should be expanded to meet the needs of urban cocaine users.

Keywords

rural; urban; cocaine; substance abuse treatment; consumer preferences

1. Introduction

Substance use researchers, policy-makers, and managers often assume that rural drug users have worse access to treatment, but very little research has actually examined this issue, especially how rural drug users' treatment preferences may differ from their urban counterparts (Borders & Booth, 2007; Fortney & Booth, 2001). To create policies and programs that better accommodate rural as well as urban illicit drug users and encourage treatment utilization, health policy makers and treatment managers would potentially benefit from learning more about variations in preferences for the site of treatment, such as treatment based locally or in another community.

According to our review of the current literature, no prior studies have examined potential preferences for drug use treatment location. However, research from the general medical care field has shown that many rural residents migrate or travel for hospital services (Radcliff, Brasure, Moscovice, & Stensland, 2003), primary care (Borders, Rohrer, Hilsenrath, & Ward, 2000), specialty medical care (Borders & Rohrer, 2001), and pharmaceuticals (Xu & Borders, 2003). Consumer perceptions of the accessibility and quality of local services have been cited as explanations for rural residents' medical care migration (Borders et al., 2000; Borders & Rohrer, 2001; Nesbitt, Marcin, Martha, & Cole, 2005). Comparable factors may influence rural, as well as urban, drug users' preferences to travel for drug use treatment.

In addition, stigma related to drug use could be associated with illicit drug users' preferred treatment location. Several prior studies of illicit drug users suggest that stigma is a barrier to seeking formal treatment services (Cunningham, Sobell, Sobell, Agrawal, & Toneatto, 1993; Sexton, Carlson, Leukefeld, & Booth, 2008). Stigma has been defined generally as differentiating individuals by characteristics deemed socially objectionable (Goffman, 2009; Major & O'Brien, 2005). Link et al. more discretely defined and measured 3 components of stigma, which they refer to as "culturally induced expectations of rejection," "experiences of rejection," and "efforts at coping with stigma" (Link, Struening, Rahav, Phelan, & Nuttbrock, 1997) (p. 179). Other research provides supporting evidence of similar components of stigma, including perceived devaluation and self-stigma/internalized shame (Luoma et al., 2007). Perceptions of negative societal beliefs about illicit drug use may lead drug users to experience perceived or actual devaluation or discrimination (Link et al., 1997). In turn, drug users may cope with perceived societal devaluation by trying to maintain secrecy of their drug use.

Stigma could be especially important among persons residing in rural communities where maintaining anonymity is difficult. Many rural drug users might prefer to seek treatment

outside of their home town simply to avoid the risk of being seen walking through the door of a local treatment center. In a qualitative study of rural stimulant users, one participant summed up the sentiment in this way, “I wouldn’t want to do it, because the whole town would be talking about it”(Sexton et al., 2005) (p. 125). Moreover, from the broader substance use literature, a multi-state study of at-risk drinkers showed that those residing in rural areas were more likely than urban dwellers to report a lack of privacy when accessing local alcohol treatment services (Fortney et al., 2004).

The purpose of this study was to examine how preferences for the site of drug use treatment (local, or in one’s home town; nearby, or in a town nearby; and distant, or in a town farther away) are associated with rural/urban residence, perceived local drug use treatment accessibility and effectiveness, and unique dimensions of stigma. The data are from a study of perceived need for treatment among a cohort of rural and urban African American cocaine users who were not currently receiving informal or formal substance use services or counseling (Booth, Stewart, Curran, Cheney, & Borders, 2014; Borders, Booth, Stewart, Cheney, & Curran, 2014). Our findings provide insightful information that could be applied to better organize drug treatment services and encourage treatment access among a population subgroup with overall inadequate access to health services.

2. Materials and Methods

2.1. Study Sites

Participants were recruited within 1 urban and 2 rural Arkansas counties, as designated by the U.S. Office of Management and Budget definitions of non-metropolitan and metropolitan statistical areas (Office of Management and Budget, 2010). The 2 rural counties, Lee and St. Francis, vary in population size (28,258 and 10,424) but are predominantly African American (52%–55%) (U.S. Census Bureau, 2013). The urban area, Little Rock and greater Pulaski County, has a population of 382,748 and is 35% African American (U.S. Census Bureau, 2013). Prior research (Booth, Leukefeld, Falck, Wang, & Carlson, 2006) and treatment admissions data (State Epidemiological Workgroup, 2008) indicated large numbers of cocaine users in the selected counties.

2.2. Eligibility and Sampling

In addition to African American race, other minimal eligibility criteria included 1) age at least 18 years, 2) the use of cocaine at least 2 times in the past 30 days by any route other than injection, and 3) the receipt of no formal or informal drug treatment service use in the past 30 days, defined as receiving any services at a drug treatment facility, counseling on drug use, or attendance at any self-help meetings. To help reduce the chances of individuals faking cocaine use to be eligible for study participation and receive the monetary incentive, research staff members did not disclose the specific eligibility criteria while recruiting or screening potential participants.

Respondent-Driven Sampling, or RDS, was employed to identify and recruit our sample of not-in-treatment cocaine users (Heckathorn, 1997; Heckathorn, 2002; Heckathorn, Semaan, Broadhead, & Hughes, 2002). Respondent-Driven Sampling has frequently been used to identify “hidden populations,” such as illicit drug users and persons with HIV (Heckathorn,

2002). This type of sampling has been shown to yield a more representative sample than targeted sampling, which involves establishing quotas for demographic and other groups, or snowball sampling (Watters & Biernacki, 1989), which unlike RDS does not have limitations on the number of referrals from a single participant. We stratified the sampling by age to assure that we would have balanced samples of crack and powder cocaine users, knowing from prior research that crack cocaine tends to be used by older and powder cocaine by younger African Americans in Arkansas. Moreover, we stratified the sampling by gender to assure that samples were at least one-third female to enable us to test for gender differences.

To initiate recruitment, trained research staff members canvassed areas of the selected communities where substance users were thought to reside or congregate. While at those locations, they posted flyers and distributed business cards that described the research in general terms as a “Healthcare Access Study” and asked individuals to call the study phone number for more information and to be screened. Persons eligible for participation were scheduled a time to complete an in-person structured interview at one of the study offices. All of the study variables were assessed via a structured, in-person interview. Because questions regarding drug use and stigma could be susceptible to respondent bias, we trained the study interviewers to make the study participants comfortable to answer the interview questions honestly. Participants who completed an interview were paid \$50 for the interview and \$10 for travel, for a total of \$60. As part of the RDS, study seeds were given referral coupons to pass along to 3 other persons who were “like them.” Participants received \$10 for each referral that resulted in a completed interview, or a maximum of \$30 for 3 successful referrals. All recruitment took place between May 2011 and April 2012 and resulted in a final sample size of 400 (200 rural and 200 urban) participants, which was predetermined by sample size calculations to test main hypotheses for the overall project.

The research was approved by investigators’ university institutional review board and participants’ identities were further protected by a Certificate of Confidentiality issued by the National Institute on Drug Abuse.

2.3. Dependent Variable

Preferred treatment site was assessed by a single item that asked, “if you decided to get substance abuse treatment, where would you prefer to get it?” Responses options were, “in the town where I live,” “in a nearby town, but not in the town where I live,” and “in a town farther away from where I live.” We refer to these 3 responses as local, nearby, and distant treatment.

2.4. Independent Variables

Demographics included age in years and gender. Socio-economic factors included marital status, which was re-categorized as single vs. married or living with a partner; educational status, which was re-categorized as having less than a high school degree or equivalency vs. at least a high school degree or equivalency; and any access to an automobile vs. no access. A lifetime history of any substance use treatment was based on the following item, “In your lifetime, how many different times have you been a patient or client in a drug abuse

treatment or detox program, including residential, inpatient, or outpatient programs (not counting self-help programs like AA or NA)?”

To assess stigma associated with drug use, we modified items adapted from an instrument developed by Link et al. that assesses stigma associated with mental health problems and drug use (Link et al., 1997). We performed a factor analysis that identified 4 factors (experienced rejection/discrimination, secrecy, perceived devaluation, and perceived discrimination after treatment). We then created 4 scale scores using the mean of the responses to items corresponding to the respective factors. *Experienced rejection/discrimination* was based on 5 questions that had no/yes responses coded as 0 and 1: Did some of your friends reject you after they found out you were using drugs, did some of your family give up on you when they found out you were using drugs, were some people afraid of you when they found out you were using drugs, have people treated you unfairly because they knew you were a drug user, and do you sometimes avoid people because you think they might look down on people who have had a drug problem? *Secrecy* was based on 4 questions with no/yes responses: Do you sometimes hide the fact that you were once addicted to drugs, do you think it is a good idea to keep your history of drug use a secret, would you advise a close relative who had a serious drug problem not to tell anyone about it, and do you wait until you know a person well before you tell them about your problems with drugs? *Perceived devaluation* was based on 2 items with responses on a 5-point Likert scale ranging from 1=strongly disagree to 5=strongly agree: Most people believe that drug users cannot be trusted and most people would not marry a drug user. *Perceived discrimination after treatment* was also based on 2 items with responses on the same 5-point Likert scale: Most people think less of a person after he or she has been treated for drug problem and most people look down on people who have been in treatment for drug problems.

We also included 2 separate measures of drug use and abstinence supporting networks. The first asked, “what percentage of people that you spend time with use drugs?,” and the second asked, “what percentage of people you spend time with support you not using drugs?” Response options for each question were <50% or 50%.

Perceptions of the availability and effectiveness of local drug use treatment services were measured using single items. The availability question stated, “a person who is in need of drug abuse treatment services can get them in this community.” The effectiveness item stated, “drug abuse services in this community are effective.” Responses for each question were on a 5-point Likert scale from strongly disagree to strongly agree and were treated as continuous variables.

Physical and mental health status measures included questions from the Substance Abuse Outcomes Module (SAOM) to assess a past 12-month cocaine use disorder (Smith et al., 2006), the Brief Symptom Inventory-Global Severity Index (BSI-GSI) to assess overall psychological distress (Derogatis & Melisaratos, 1983), and the SF-12 Physical Component Scale (PCS) to assess physical health-related quality of life (Ware, Jr., Kosinski, & Keller, 1996). The SAOM has been shown to have high concordance with the Composite International Diagnostic Interview (CIDI-SAM) (Smith et al., 2006). The BSI-GSI is a very widely-used, well-validated, and reliable measure of overall psychological distress

(Derogatis & Melisaratos, 1983). Lastly, the SF-12 PCS, is a shorter but valid and reliable version of the longer SF-36 PCS (Ware, Jr. et al., 1996).

2.5. Statistical Analysis

We first compared and contrasted the sample characteristics and preferred treatment sites by rural/urban residence, with t-tests conducted for continuous variables and chi-square tests conducted for categorical variables. Next, we conducted multivariate analyses of the associations between the independent variables and the preferred treatment site. The dependent variable is categorical (local, nearby, or distant treatment), but rather than specifying separate logistic regressions, we specified a multinomial logit model to simultaneously estimate the odds of preferring nearby vs. local and distant vs. local treatment.

Because of their potential confounding effects, we included all demographic, socioeconomic, perceived access and effectiveness, stigma, drug use social environment, and health status variables in the multinomial logit model. We used the SAS Proc MI command to impute missing values based on available data and the related MIANALYZE command to model parameter estimates (SAS Institute Inc., Cary, North Carolina). We also tested for interactions between rural/urban residence and the stigma variables to determine if the effects of stigma were more substantial among rural drug users. None of those interactions were significant ($P < .05$) and therefore were not included in the final model.

To provide supplementary information on treatment location preferences, we used the Wilcoxon-Mann-Whitney test to compare and contrast rural/urban differences in self-reported miles traveled to the last treatment episode among the 157 participants who received prior treatment.

3. Results

3.1. Sample Statistics

The sample statistics are reported in Table 1 for the overall sample and by rural and urban residence. Overall, the mean age was 39 years and 63% were male (these did not differ between the rural and urban cohorts as we stratified the sampling by age and gender). Approximately 41% had a lifetime history of drug use treatment, which also did not differ by rural/urban residence. The sample had relatively low educational attainment, with 32% having less than a high school degree or equivalency; the rural sample had a significantly greater percentage of persons with low educational attainment than the urban sample (38% vs. 27%). Only about 29% had access to an automobile; the rural sample had significantly lower access to an automobile than the urban sample (20% vs. 38%).

Overall, the sample reported moderate ratings of their ability to obtain treatment locally (mean = 3.8) and the effectiveness of local treatment (mean = 3.4) on a 1–5 scale and these scores were significantly lower among rural as compared to urban respondents (means of 3.5 vs. 4.1 for obtaining treatment and 3.2 vs. 3.5 for treatment effectiveness).

Regarding stigma, the mean experienced rejection/discrimination score (0=no and 1=yes) was 0.50 for the full sample and significantly higher among rural than urban participants (means of 0.55 and 0.46). The mean secrecy score was 0.64, but in contrast was significantly lower among rural than urban participants (means of 0.61 and 0.67). Perceive devaluation scores (1–5 scale) were 3.13 for the full sample and significantly higher among the rural than the urban sample (means of 3.30 and 2.96). Lastly, mean perceived discrimination after treatment scores were a moderate 3.71 for the full sample and did not differ by rural/urban residence.

Approximately 32% of respondents reported that fewer than 50% of the persons they spend time with use drugs; 55% reported that fewer than 50% of the persons they spend time with support them not using drugs. These percentages did not differ by rural/urban residence.

In regard to health status, the frequency of a past year cocaine user disorder was 77% for the entire sample and did not differ statistically by rural/urban residence. The mean BSI-GSI score was 0.61 and was higher (or worse) among rural (0.76) than urban participants (.45). Lastly, the SF-12 physical component score was approximately 49 for the full sample as well as the rural and urban cohorts.

3.2. Rural/Urban Variations in Preferred Treatment Site

Approximately 39% of the respondents reported that they would prefer to seek treatment locally, 16% preferred treatment in another nearby town, and 46% preferred treatment in another town farther away. However, as Figure 1 indicates, preferences varied significantly ($P<.0001$) by rural and urban residence. Only about 20% of rural residents preferred local treatment; in sharp contrast, 57% of urban residents preferred local treatment. Approximately 22% of rural and 9% of urban participants preferred treatment in a nearby town. Rural residents much more frequently preferred treatment in another town farther away relative to urban residents (58% vs. 34%).

3.3. Multinomial Logit Regression Results

Table 2 displays findings from the multinomial logit regression of preferred treatment site (local, nearby, or distant). Relative to urban respondents, rural respondents had significantly higher odds ($OR=8.27$) of preferring treatment in a nearby town as well as significantly higher odds ($OR=3.81$) of preferring treatment in a town farther away than the town where they lived.

Of the demographic and socio-economic factors, several variables were associated with the preferred treatment site. Older age was significantly associated with lower odds of preferring nearby ($OR=0.96$) and distant ($OR=0.97$) than local treatment. A lifetime history of any drug use treatment relative to no treatment was significantly associated with higher odds of preferring nearby ($OR=2.26$) and distant ($OR=1.94$) than local treatment. Persons who had at least a high school degree or equivalency, relative to those with greater education, had significantly lower odds ($OR=0.50$) of preferring distant than local treatment. Participants who had access to an automobile, relative to those with no access, had significantly higher odds ($OR=2.04$) of preferring distant than local treatment.

Greater perceived effectiveness of local drug use treatment was associated with significantly lower odds ($OR=0.59$) of preferring nearby as opposed to local treatment. Of note, the perceived availability of drug use treatment locally was not significantly associated with the preferred site of treatment.

Two stigma variables were significantly associated with treatment site preferences. Higher scores for experienced rejection/discrimination were associated with significantly higher odds ($OR=2.91$) of preferring distant over local treatment. In contrast, higher scores for perceived discrimination after treatment were associated with significantly lower odds (0.72) of preferring distant over local treatment.

Also of note, the indicators of drug using and abstinence supporting social networks were not significantly associated with treatment site preferences.

Regarding health status, only higher or worse BSI-GSI scores were associated with significantly higher odds ($OR=1.61$) of preferring distant over local treatment.

3.4. Miles Traveled for Prior Treatment

The mean rank sums for distance traveled for a prior episode of drug use treatment were higher among the 74 rural participants (mean rank sums= 94.5, $SD=284$) than the 83 urban participants (mean rank sums=65.2, $SD=284$) who had prior treatment ($Z=4.04$, $P<.0001$). The actual mean miles traveled among the rural and urban participants were 61 miles ($SD=78$) and 27 miles ($SD=77$), respectively.

4. Discussion

Consumerism, or a focus on better satisfying consumer needs, has greatly expanded in recent years within the overall health care field. Yet, relatively little research has focused on how substance use treatment could be potentially modified to better meet the needs of illicit drug users. As a notable example, one study of community-based treatment users found that a higher level of matching services to reported needs was associated with greater days in treatment (Hser, Polinsky, Maglione, & Anglin, 1999). This paper's focus on African American cocaine users' preferences for drug treatment services provides potentially insightful information about how to better organize services to encourage treatment utilization.

Rural African American cocaine users tended to prefer treatment somewhere outside of their local community, whereas urban users tended to prefer local treatment. In plausible support of these rural/urban differences, we also found that rural cocaine users traveled farther miles than urban cocaine users for their most recent treatment episode, if they had received any prior treatment. On the other hand, participants' prior travel for treatment may have shaped their current treatment location preferences.

Although we are unaware of any prior studies of preferences for drug use treatment location, our findings are conceptually supported by findings from the medical care literature. Prior research has shown that many rural residents prefer to migrate for medical care even if they perceive that they have adequate access to primary and specialty providers (Borders et al.,

2000; Borders & Rohrer, 2001). Exactly why rural cocaine users might seek treatment outside of their community remains unclear as a rural/urban difference remained even after adjusting for perceptions of the availability and effectiveness of local treatment, stigma, drug use social networks, and health status. One possible explanation is that many rural cocaine users perceive that residential drug use treatment that incorporates mental health and social services is more effective than the outpatient treatment, which was the only treatment available in one of the two adjacent counties where we conducted the study. An alternative explanation is that many rural illicit drug users do not want others in their community to know that they are seeking help, even if others already know that they use drugs, as known treatment attendance may establish a societal expectation that the individual drug user should be “getting better.”

Regardless of the underlying explanatory factors, this finding implies that substance abuse policy makers and systems of providers might consider further regionalization of drug use treatment facilities. In lieu of potentially developing or expanding multiple treatment centers across rural communities, incentives could be provided to develop a single treatment facility serving several adjacent rural counties. However, our findings also suggest that drug use treatment centers or social agencies may need to provide transportation for persons who do not have access to an automobile in cases where treatment is relatively far away.

To some surprise, perceptions of the availability of local treatment were not associated with the preferred treatment site, but we must recognize that some of our respondents may not have been aware of the availability of local services, especially if they had never attempted to access local treatment. On the other hand, our findings suggest that many cocaine users have formed opinions about the effectiveness of local treatment. Those who more strongly agreed that local treatment was effective were less likely to prefer seeking nearby over local treatment, suggesting that some treatment providers should strive to improve community perceptions of treatment effectiveness to retain local clientele. Although the study participants had not received any formal or informal services in the 30 days prior to screening, they could have received treatment at an earlier point, which was associated with a greater likelihood of preferring to travel for services. One plausible interpretation of this finding is that persons with a prior negative experience with local treatment (or one that did not result in abstinence) are more prone to want to seek services elsewhere. Alternatively, persons who have prior treatment experience may have decided that they do not want others in their community to know that they are in treatment or they may have internalized comments from drug treatment providers that it is more difficult to abstain from drug use when being around persons with whom they have used drugs.

Stigma has been frequently cited as a barrier to drug use treatment and could be especially salient among rural substance users (Cunningham et al., 1993; Luoma et al., 2007; Semple, Grant, & Patterson, 2005). Qualitative research suggests that many rural stimulant users avoid treatment because of concerns about remaining anonymous (Sexton et al., 2005) and quantitative research indicates that rural at-risk drinkers are more likely than their urban counterparts to express concerns about treatment privacy (Fortney et al., 2004). We found no relationship between related stigma constructs, secrecy and perceived devaluation, and preferred treatment site. However, we did find that persons with greater scores on the stigma

scale tapping experienced rejection or discrimination related to their drug use were more likely to prefer treatment located in a distant location relative to their home town. In contrast, we found that higher perceived discrimination after obtaining treatment was associated with lower odds of preferring distant over local treatment. We are unsure how to reconcile these conflicting findings, but one potential explanation is that the actual experiences with rejection because of drug use have a different influence on preferred treatment locations than expected reactions to drug use treatment. Alternatively, African American cocaine users who perceive that they will be discriminated against if receive treatment may prefer to services in their home town where they may have closer social connections.

4.1. Limitations

Limitations of this study primarily pertain to the sampling and measures. First, the sample was derived in 2 rural and 1 urban communities in Arkansas and thus may not be generalizable to other regions of the U.S. We used RDS to identify participants, which is arguably more reliable and valid than convenience sampling, but is not as precise as population-based sampling techniques, such as door-to-door sampling, which were simply cost prohibitive. As mentioned in the methods section, we purposely stratified the sampling across age and gender categories to assure that we had adequate numbers to test for differences across those groups. Yet, this may limit the generalizability to other population samples. Second, many of the interview questions were adopted from well-validated and reliable measures. However, we acknowledge that other items, including the dependent variable assessing preferred treatment location, were newly developed for the current project by a multi-disciplinary team of addiction health services researchers. We recommend that future research further focus on the development and refinement of measures of drug users' treatment experiences and preferences. Lastly, our study did not examine the potential interactions between stigma and social support. Persons with high reported stigma and low levels of social support may be especially likely to prefer non-local services.

5. Conclusion

In conclusion, the findings of the current study indicate variations in preferences for the site of treatment by rural/urban residence, perceptions of local treatment effectiveness, experienced rejection or discrimination, and perceived discrimination after treatment. Rural users reported preferring treatment outside of the town where they resided, suggesting that treatment services might be regionalized among constellations of adjacent rural and/or urban communities, rather than developing treatment programs in small rural areas. Improvements in the perceived (and plausibly real) effectiveness of local treatment could also increase the likelihood of considering local services. Finally, our results suggest that African American cocaine users who have experienced rejection or discrimination should have an option of seeking services outside of their local community. Collectively, these and other efforts that better satisfy African American cocaine users' needs could lead to greater treatment utilization rates.

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Highlights

- 58% of rural cocaine users preferred distantly located treatment
- 57% of urban cocaine users preferred local treatment.
- Rejection/discrimination was related to a preference for distant treatment.
- Local treatment effectiveness was related to a preference for local treatment.
- Regionalization of drug abuse treatment may better satisfy rural cocaine users.

Figure 1.
Preferred Location of Drug Use Treatment by Rural/Urban Residence

Table 1

Sample Characteristics, Overall and by Rural/Urban Residence

Variables	Total Sample Mean (SD), %	Rural Mean (SD), %	Urban Mean (SD), %	P
<i>Demographic</i>				
Age, in years	39.3 (11.5)	39.1 (12.1)	39.4 (10.8)	0.78
<i>Gender</i>				
Male	63.3	61.5	65.0	0.47
Female	36.8	38.5	35.0	
<i>Lifetime Tx</i>				
Yes	41.3	37.0	45.5	0.08
No	58.8	63.0	54.5	
<i>Socio-economic</i>				
<i>Marital status</i>				
Married	9.3	12.0	6.5	
Single	90.8	88.0	93.5	0.06
<i>Education</i>				
< HS	32.3	37.5	27.0	
HS	67.8	62.5	73.0	0.02
<i>Automobile access</i>				
Yes	28.5	19.5	37.5	<0.0001
No	71.5	80.5	62.5	
<i>Local drug use Tx</i>				
Can obtain Tx ^a	3.8 (1.0)	3.5 (1.1)	4.1 (.8)	<0.0001
Tx is effective ^a	3.4 (1.0)	3.2 (1.1)	3.5 (.9)	0.003
<i>Stigma Scale Scores</i>				
Experienced rejection/discrimination ^b	0.50 (0.36)	0.55 (0.35)	0.46 (0.36)	0.010
Secrecy ^b	0.64 (0.29)	0.61 (0.29)	0.67 (0.29)	0.037
Perceived devaluation ^c	3.13 (1.07)	3.30 (1.09)	2.96 (1.02)	0.002
Perceived discrimination after Tx ^c	3.71 (0.99)	3.65 (1.01)	3.78 (0.98)	0.17
<i>Drug Use Social Networks</i>				

Variables	Total Sample Mean (SD), %	Rural Mean (SD), %	Urban Mean (SD), %	P
Low drug using network				
Yes	32.3	33.2	31.5	0.64
No	67.7	66.8	68.5	
Low abst. supporting network				
Yes	54.7	55.8	53.5	0.72
No	45.3	44.2	46.5	
<i>Health status</i>				
Cocaine disorder				
Yes	77.0	77.5	76.5	0.81
No	23.0	22.5	23.5	
BSI-GSI	0.61 (0.85)	0.76 (0.91)	0.46 (0.76)	0.0003
SF-12 PCS	49.1 (10.3)	49.3 (10.7)	48.9 (10.4)	0.76

^a single item, 1=strongly disagree to 5=strongly agree

^b mean of items, 0=no and 1=yes

^c mean of items, 1=strongly disagree to 5=strongly agree

Table 2

Multinomial Logit Regression of Preferred Site of Drug Use Treatment, Adjusted Odds Ratios and 95% CIs

Variables	Nearby Town (vs. Local Town) OR [95% CI]	Distant Town (vs. Local Town) OR [95% CI]
<i>Rural</i> (vs. urban)	8.27 [3.76, 18.19]	3.81 [2.13, 6.82]
<i>Demographics</i>		
Age, in years	0.96 [0.93, 0.99]	0.97 [0.94, 0.99]
Male (vs. female)	1.64 [0.77, 3.47]	1.27 [0.71, 2.24]
<i>Lifetime Tx</i> (vs. none)	2.26 [1.05, 4.85]	1.94 [1.07, 3.54]
<i>Socio-economics</i>		
Married (vs. single)	1.00 [0.28, 3.66]	1.18 [0.44, 3.16]
< HS degree (vs. HS)	0.91 [0.43, 1.91]	0.50 [0.28, 0.91]
Auto access (vs. none)	1.38 [0.60, 3.18]	2.04 [1.05, 3.98]
<i>Local drug use Tx</i>		
Can obtain Tx locally	1.12 [0.76, 1.64]	0.75 [0.55, 1.02]
Local Tx is effective	0.59 [0.41, 0.86]	0.86 [0.64, 1.16]
<i>Stigma Scale Scores</i>		
Experienced rejection/discrimination	1.06 [0.33, 3.42]	2.91 [1.16, 7.34]
Secrecy	2.49 [0.68, 9.14]	0.86 [0.34, 2.16]
Perceived devaluation	0.85 [0.59, 1.21]	1.06 [0.81, 1.40]
Perceived discrimination after Tx	1.01 [0.69, 1.47]	0.72 [0.54, 0.95]
<i>Drug Use Social Networks</i>		
Low drug using network (vs. high)	0.97 [0.44, 2.13]	1.43 [0.79, 2.58]
Low abst. supporting network (vs. high)	1.01 [0.50, 2.06]	0.91 [0.53, 1.56]
<i>Health status</i>		
Lifetime cocaine disorder (vs. none)	2.55 [0.98, 6.63]	1.85 [0.92, 3.70]
BSI-GSI	1.18 [0.72, 1.93]	1.61 [1.12, 2.32]
SF-12 PCS	0.98 [0.95, 1.03]	1.03 [0.99, 1.06]

Note: Significant ($P < .05$) OR and CIs are bolded.