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Racial and Ethnic Diversity among a Heroin and Cocaine Using Population: Treatment System Utilization

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Abstract

Knowledge about the meanings and consequences of behaviors associated with drug use among diverse populations is essential for developing effective public health and clinical strategies. In this study we identify racial/ethnic variations in patterns of drug use, Addiction Severity Index (ASI) scores, response to intervention, concordance between self-report of drug use and biochemical confirmation, and treatment system contacts in a sample of 1175 out-of-treatment cocaine and heroin users drawn from a trial of brief motivation in the outpatient clinics of an inner-city academic hospital. Key differences were identified in drug of choice, in all of the ASI domains except medical, in validity of self-report of use, and in rate of treatment contact. Differences related to race and ethnicity should be evaluated to determine needs for a variety of substance abuse treatment modalities, assure timely access to culturally competent care, and develop policies that are tailored to real conditions.

Keywords

cocaine; heroin; opiates; racial/ethnic disparities

INTRODUCTION

Addiction has been described as an ‘equal opportunity’ disease, affecting individuals across racial, ethnic, geographic and class lines. Although differences in pattern of use have been identified for specific demographic characteristics, current levels of knowledge about the functional meaning of these differences and their affect on access to treatment is insufficient for effective program and policy development. [1–6]

This report describes racial and ethnic differences in standard measures of addiction and contact with the substance abuse treatment system among 1175 heroin and cocaine using patients encountered in the Urgent Care Clinic at an inner city hospital. This data set was developed by surveying 23,000 clinic patients (1998–2001) as part of a randomized, controlled trial of a peer-led, motivational intervention to reduce drug use and associated health consequences, reported separately.[7] Data sets developed for this analysis include: 1) baseline demographics, 2) baseline self-report for and biochemical validation of cocaine and heroin use in the last 30

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days, 3) baseline Addiction Severity Index (ASI) scores across seven domains of function, 4) self-report and biochemical validation at six months follow-up; and 5) self report at six months of treatment contact and documentation of contact in the State MIS drug treatment provider data set.

METHODS

Sample

Adult participants 18 years of age and older who reported cocaine and/or heroin use in the last 30 days were eligible for enrollment, regardless of ingestion of other drugs, if they scored ≥3 on the 10 item Drug Abuse Severity Test (DAST), a standardized screening instrument in common use in both research and clinical treatment settings.[8,9] They were excluded if they were currently in drug treatment, were prisoners in custody, were unable to speak Spanish, Haitian or Portuguese Creole or English, if they could not give informed consent because of the severity of their illness or injury, or if they were acutely psychotic or suicidal.

Assessment

Following enrollment, but prior to randomization, an outreach worker functioning as a research assistant administered the Addiction Severity Index or ASI, a measure of distress in seven domains: medical, legal, employment, drug, alcohol, family and psychological functioning scored from 0.0 to 1.0. [10,11] Biochemical assessment at enrollment consisted of a half inch hair sample the width of a pencil lead, cut at the root from the crown of the participant's head. Samples were foil-wrapped and analyzed in batches in the same laboratory (Psychemedics®) by radioimmunoassay methods, with confirmation of opiate results by gas chromatography/ mass spectrometry (GC/MS).[12–14] We utilized hair as our biochemical marker rather than urine or blood for drug testing because it was less invasive, had a significantly wider window of detection of cocaine and heroin use (30 days) than urine (24 hours), was resistant to attempts to substitute or counterfeit, and was safer for handling.

Intervention

The intervention group received a semi-scripted brief motivational interview tailored to individual behavior, risks, culture, and language, along with referrals if desired, and a telephone booster in ten days. This brief (30 minute) interaction, designed to assist patients to recognize and change behaviors that pose significant health risks, was first adapted in 1994, with assistance from Dr. Stephen Rollnick, for Emergency Department use.[5] Principles and techniques for this strategy are based on the FRAMES model and readiness-to-change constructs, as described in TIPS #35. [15] Individuals in the intervention group who requested placement in detoxification or drug treatment, such as methadone, received an active referral to facilitate access and free transportation to available programs. The control group, in contrast, received only the written handout containing advice and referral numbers.

Follow-up

The peer research associates tracked no-shows using the hospital clinic appointment system, and visited shelters and known sites for drug users. They achieved a 79% follow-up rate at 3 months and an 82% follow-up rate at six months. They collected self report data at 3 and 6 months, and administered a questionnaire to ascertain treatment contact and successes in trying to quit or cut back on heroin and cocaine use. In addition, hair samples were collected at the six month follow-up visit.

Data Analysis

Double entry and other quality control measures were established to monitor data status. At six months post-enrollment, we measured the percentage of participants with 30 days of abstinence from both cocaine and opiates, from opiates only, and from cocaine only, by self-report and by hair testing, limiting the analysis to those participants with positive hair tests at enrollment who returned for follow-up at six months. Abstinence was defined as <5 ng/10 mg hair and <2 ng/10 mg hair for opiates. For reductions in the amount of drug present in hair as evidenced by chemical analysis, we compared changes in levels of cocaine from baseline to 6 months and conducted a similar analysis of opiate levels. The amount of hair collected provided a thirty day window for use. We used SAS version 8.2 for performing statistical procedures. For participant demographics, the *t* test was used for comparison of measurement level data and the Pearson χ^2 for categorical data. ANOVA was used for ASI data comparisons by race and ethnicity. Odds ratios for the effect of race and primary language on ASI scores and on treatment contact were calculated using logistic regression. For each of these analyses a core model was stipulated, consisting of variables for gender, race, age, Euroquol (health status) scores, dual diagnosis, and randomization status. Variables measuring educational level, drug route and drug problem severity (DAST score at baseline, polydrug use, injection drug use, baseline ASI drug score, number of previous treatment episodes) were then added in sequentially to identify potential confounders.

RESULTS

Racial/ethnic differences at baseline

Demographic Differences (See Table 1)

African American enrollees: Among the 726 cocaine and heroin users who self-identified as Black, non-Hispanic, 93% reported their ethnic background as African American, 2.5% as Caribbean, 2% as Cape Verdean and 1% as Haitian. The Blacks were older than the Hispanic or White enrollees with a mean age of 39.9, and 68% were female. Black males were more likely to report living in private homes, less likely to live in shelters and more likely to be employed full or part-time than Hispanics or Whites.

Hispanic enrollees: Among the 272 enrollees who self-identified as Hispanic or Latino, 89% reported their ethnicity as Puerto Rican, 5% South American, 3% Central American and 1% European. A higher percentage of Hispanics were born outside the continental U.S., and almost all (96%) reported Spanish as their primary language. The mean age was lowest for Hispanics at 34.3 years. Females represented 17% of this group, a much lower rate than among Blacks (32%) or Whites (33%). Hispanic cocaine and/or heroin users also had the lowest educational attainment, with 50% not completing high school, and they experienced the highest rate of unemployment at 89% and homelessness at 55%.

White enrollees: Among 166 enrolled in the study who self identified as White, 93.6% reported their ethnic backgrounds as Western European, 2.5% Eastern European, <1% Cape Verdean and 3.1% Puerto Rican. The majority (96%) were US born and spoke English as their primary language. The mean age of Whites was 35 years of age and 33% were female. They had the highest educational attainment (26% beyond a high school education). They had a higher rate than Hispanics of living in private homes and working full or part time, but a lower rate than the Black enrollees.

Substance abuse patterns (see Table 1)

African American enrollees: There were racial/ethnic differences in use of heroin and cocaine. Among Blacks, 82% reported current cocaine use compared to 54% of Hispanics and

57% of Whites. The distribution in hair revealed a similar pattern. Among Blacks, 94% had evidence of cocaine in hair in the last thirty days, compared to 74% of Hispanics and 66% of Whites. Only 31% of Blacks reported current heroin use, and all were confirmed by positive hair analysis. A higher percentage of Blacks (84%) also reported alcohol use in the last month, compared to 62% of Hispanics and 68% of Whites.

Hispanic enrollees: 81% of Hispanics reported past month heroin use and 71% of them were positive on hair analysis. In self-report of cocaine, 54% reported cocaine and 31% crack use; however, as a group, Hispanics under-reported their use of cocaine since the hair analysis demonstrated that 74% had used cocaine in the last 30 days. Hispanics also reported a lower rate of alcohol use than Blacks or Whites. Chemical markers confirmed heroin as the drug of choice for Hispanics.

White enrollees: 71% of whites reported heroin use and 52% had positive hair analysis for heroin. For cocaine, 57% reported powder cocaine and 33% reported crack use in the last month, while 66% proved positive for cocaine on hair analysis. Whites had higher rates of heroin use but lower rates of cocaine use than Blacks, and lower rates of alcohol use in last month than Blacks but higher rates than Hispanics.

***ASI scores* (see Table 2)—**The ASI measures degree of difficulty in functioning in seven domains on a scale of 0–1. The scores are a composite of subjects' ratings of their level of trouble in each domain, the number of days in the past month that they experienced distress and the degree to which they need help in these areas. There were no significant differences between racial and ethnic groups on the medical scale despite relatively high levels of distress for all groups (0.546 for Blacks, 0.571 for Hispanics, and 0.584 for Whites). All three groups also reported high degrees of distress on the employment scale with scores of 0.852, 0.879, and 0.829. Baseline ASI scores for our study group were higher for medical, legal, and psychiatric distress than ASI sub-scale scores reported in a larger sample of 8,900 Boston residents who were seeking treatment through three Central Intake Units. [14] For the medical subscale, mean value at intake was 0.56 for our study, vs 0.19 for patients entering treatment, while for the legal subscore it was 0.22 vs 0.15 and for the psychiatric subscore it was 0.33 vs 0.22.

African American enrollees: Blacks were significantly lower on the drug and psychological scales, and scored 0.227 and 0.292 respectively.

Hispanic enrollees: Hispanics scored significantly higher than Blacks and Whites on the employment scale with a score of 0.879 and higher on the drug scale with a score of 0.296.

White enrollees: Whites scored significantly higher than Blacks on the psychological scale (0.424 vs. 0.292). Whites also showed a trend to higher scores among all groups on the family/social scale and a trend to higher scores than Blacks on the legal scale.

Racial and ethnic differences at follow-up

We report on racial/ethnic differences among the 963 participants (82%) who were followed at six months.

Concordance between cocaine and heroin self-report and hair analysis at follow-up—There was significant under-reporting of cocaine and/or heroin use at follow-up. Although 45% of participants reported no cocaine or opiate use at six months, on hair analysis abstinence rates were much lower, and the sensitivity of self report was only 53% for cocaine, and 32% for opiate use. After adjustment for demographic and substance use variables in

multivariate analysis, race was a predictor of discordance at follow-up. Among the heroin users who tested positive for both substances at baseline, the odds of disclosing cocaine use at follow-up were reduced for both Blacks (OR=0.45, 95%CI 0.19, 1.06) and Hispanics (OR=0.24, 95% CI 0.08, 0.70) compared to Whites.

Intervention results—The sample for analysis of intervention effects consisted of the 778/1175 participants for whom biochemical validation of cocaine and/or opiate use was available at both baseline and follow-up (403 in the intervention group and 375 in the control group). For the group as a whole, the intervention arm resulted in a higher rate of abstinence from cocaine, from opiates and from both drugs compared to controls (OR 1.51–1.57), [7] but there were important differences related to race/ethnicity.

In multivariate analysis, younger age, white and Hispanic race, and the intervention all predicted abstinence from 1) all drugs and 2) from cocaine only. Hispanics and Whites were four times more likely than Blacks to be abstinent from cocaine and three times more likely to be abstinent from any drug. Specifically, for abstinence from both drugs, 44/503 Blacks were abstinent (8.8%), compared to 47/178 Hispanics (26.4%) and 24/89 Whites (27%). For cocaine only, 53/496 (10%) of Blacks were abstinent, compared to 44/144 or 40.3% of Hispanics and 27/72 or 37.5% of Whites. For opiates only, there was no difference across races with abstinence confirmed in 52/152 Blacks (34.2%), 52/139 Hispanics (37.4%), and 18/54 Whites (33.3%). Race was not a significant predictor for abstinence from opiates based on biochemical analysis.

Treatment System Contacts—Enrollees were interviewed at a 6-month follow-up visit and questioned about their drug treatment contact. They were asked specifically about their experiences with short stay detox, outpatient counseling, methadone clinic, residential programs and AA and NA. There were significant differences in self report of treatment contact among racial and ethnic groups (see Table 3). These results were confirmed by data from the Massachusetts State MIS Treatment Database, which contains information furnished to the state by treatment facilities required for service reimbursement. The dataset confirmed that 39% of study participants made contact with a variety of treatment modalities within 90 days from date of enrollment (see Table 4). This database does not contain data on AA/NA participation, and has less complete data on outpatient visits.

African American enrollees: In the self-report database, Blacks had the lowest rate of contacts and were less likely than Hispanics or Whites to report contact with any of the programs; 26% of Blacks reported going to detox, 16% to an outpatient program, 4% to methadone clinic, 12% to residential treatment and 32% to AA/NA meetings. In the State Treatment facility report, 21.4% of Black enrollees were identified as attending a detox program within 90 days of enrollment in the study, 7.2% an outpatient program, 2.5% a methadone clinic, and 2.6% a residential treatment.

Hispanic enrollees: Hispanics had the highest rate of self-report of attending residential programs, but for the other modalities they reported intermediate rates of utilization between Whites and Blacks; 24% reported attending a residential program, 37% reported going to short stay detox programs, 22% went to outpatient clinics, 9% to methadone clinics, and 46% AA/NA meetings. In the state database, Hispanics had higher attendance at short-stay detox than Blacks (RR 2.65; 95% CI, 2.23, 3.16 $p<.001$) and at methadone (RR 2.67;95%CI; 1.41,5.05 $p<.002$). Among Hispanics, 43% were reported as attending a detox program within 90 days of enrollment in the study, 11% reported attending an outpatient program, 7% a methadone clinic, and 5% were in residential treatment. Among Hispanic enrollees who used cocaine plus heroin or alcohol, 48% attended a detox, compared to the Black attendance rate of 26% (RR

1.87, 95% CI, 1.51, 2.32 p<.001) There were no differences in detox utilization between Hispanic and Black or Hispanic and White cocaine-only users.

White enrollees: White enrollees reported significantly higher rates of going to detox (44%), outpatient counseling (35%), methadone clinic (20%), and AA/NA meetings (56%) compared to the Blacks and Hispanic enrollees, and a similar rate to Hispanics for attending residential programs (24%). In the state database, Whites had a higher rate than Blacks of documented contact with all modalities and higher rates than Hispanics except for detox. Among White enrollees, 37% were reported as attending a detox program within 90 days of enrollment in the study compared to 21% of Blacks (RR 2.93, 95%CI 2.45,3.52 p<.001), 12% vs 7% an outpatient program (RR 1.68, 95%CI 1.03, 2.74, p<.04), 8% vs 3% methadone clinic (RR 3.4, 95%CI 1.73, 6.69, p<.0002), and 8% vs 3% residential treatment (RR 2.99, 95% CI 1.51, 5.93, p<.001). Among White enrollees who used cocaine plus heroin or alcohol, 42% of Whites attended a detox facility compared to 26% of Blacks (RR 1.61 95%CI; 1.24, 2.09 p<.001). There were no differences in utilization among White cocaine-only users and the other groups.

CONCLUSIONS

Differences in demographic characteristics

Many enrollees in this study reported high levels of social deprivation (unemployment, homelessness, limited education and poor physical and mental health), and registered high levels of distress on the ASI, but Hispanics appeared to experience the lowest levels of education and the highest rate of unemployment and homelessness. Whites had higher levels of education, employment and living in private residences than Hispanics, yet White enrollees faired worse than the Blacks and Hispanics in a number of areas such as feeling threatened or afraid, injured in the last year, having nothing to look forward to and exhibited more severe psychological distress on the ASI. They also trended toward greater family and legal distress. There were clear racial and ethnic differences between Blacks, Hispanics and Whites in drug of choice, with Blacks more likely to be users of cocaine than Hispanics or Whites, while Whites were more likely to be current users of heroin than Hispanics or Blacks.

Differences in ASI scores

Whites had significantly higher scores than Blacks on the ASI drug and psychiatric composite scores, and a trend toward higher scores on the legal and family domains. Blacks had higher scores on the alcohol composite score. High levels of employment troubles were noted for all groups, but Hispanics had greater employment difficulties and higher drug severity scores than Whites. Among Hispanics, there was a trend toward higher drug and psychiatric scores than for Blacks.

Differences in discordance between self-report of cocaine and biochemical hair analysis

Sensitivity of self-report at follow-up was diminished for all groups. There were no racial or ethnic differences in rates of discordance found at baseline, but at the 6 month follow-up, among heroin users who tested positive for both substances at baseline, Hispanics were less likely to disclose cocaine use than Whites, after adjustment for other demographic and substance use variables.

Differences in follow-up groups

A high rate of follow-up at six months (963/1175 enrollees or 82%), was accomplished by bilingual peer research assistants using an aggressive tracking system. Patients who were followed were older, more likely to be insured and Black, more likely to have dual diagnosis,

more likely to report the use of cocaine only. However among those followed, there were no significant differences based on randomization.

Differences in intervention effectiveness

Of the 1175 enrollees, 778 had hair samples or sufficient quantities of hair for testing at both data points. The OR for the randomization effect remained stable in the regression for each variable in the model, and was not changed by the race variable. However in multivariate analysis, race was a predictor of abstinence independent of randomization status. Whites and Hispanics were four times more likely than Blacks to be abstinent from cocaine and three times more likely than Blacks to be abstinent from any drug. Race was not a predictor, however, for opiate abstinence.

Treatment Contact

Racial and ethnic differences were found on both self report and objective data for treatment contact from the Massachusetts Bureau of Substance Abuse Service At six-month follow-up, fewer Blacks reported that they went to a detox program compared to Hispanics or Whites. The State Treatment Data confirm that significantly fewer Blacks attended short stay detox programs compared to Hispanics and Whites. Whites were more likely than Blacks to attend other treatment modalities as well -- outpatient, methadone, residential recovery homes, and Hispanics had higher rates of methadone contacts than Blacks. Subgroup analysis showed that there were no differences by race or ethnicity among cocaine-only users, but among poly drug users, who, unlike cocaine users, were eligible for entry to detox, Whites and Hispanics had greater contact with detox programs than Blacks.

DISCUSSION

Because this study provided so much rich material for interpretation, we present a table of the principle conclusions to assist in discussion of results (see Table 5).

Demographic Characteristics

The demographic characteristics of enrollees in this study were similar to the pattern found in data reported to the Drug Abuse Warning Network (DAWN) from the Boston Medical Center Emergency Department. In 2001, we reported 1081 heroin and 684 cocaine related visits. Whites had more frequent heroin visits than Hispanics and Blacks, while Blacks had more frequent cocaine related ED visits than Whites and Hispanics. Hispanics were over represented in DAWN cocaine cases while Whites were over-represented in DAWN heroin cases. These racial and ethnic patterns of drug use for our hospital clinics and ED patients are supported by other studies. In a ten year study of cocaine and opiate overdose deaths New York City, cocaine was more commonly found in black decedents, and opiates and alcohol in Hispanics and White fatalities. [17] It appears that results from our study are generalizeable, at the very least, to inner city populations using cocaine and heroin.

Black and White Differences on Baseline ASI

Other studies have looked at racial differences in ASI scores. In a multi-site study of 161 African Americans and 86 Caucasian cocaine users at treatment intake, Petry et al [18] reported that African Americans had more severe employment difficulties than Caucasians but less severe alcohol, legal, family/social and psychiatric difficulties than Caucasians as measured by Addiction Severity Index composite scores. The authors controlled for differences in gender, age, income and treatment site.

Compared to Petry's findings, we found higher ASI composite scores for Blacks and Whites across all ASI domains. The only exception was that the Family/Social composite scores were higher in the multi-site study of users at treatment intake. There were no significant differences between racial groups for medical severity scores in either study (see Table 6).

In our study, use of drugs appears to create commonality in a high level of distress across the seven ASI domains. However the pattern of greatest dysfunction differed by race, with Hispanics experiencing the highest level of problems in employment and legal issues, and Whites reporting the highest level of family and psychological effects.

Hair Testing results at follow-up

The sensitivity of self report at six months was only 53% for cocaine, and 32% for opiate use. In the multivariate analysis of data at follow-up, Hispanics were least likely to have concordance between self-report and biochemical results. It is possible that discordance reflected a desire to please the interviewers, who were recognized Black and Hispanic members of their peer group who were in recovery. Also cocaine use may carry more of a stigma and legal consequence among heroin users, or represent a perceived barrier to those seeking methadone treatment.

Discordance may represent failure to disclose (either deliberate concealment or denial), or it might possibly reflect external contamination or racial differences in hair biology.[19–27] We believe that this is not the case. All hair samples were washed to remove externally deposited drugs using special techniques developed by Psychomedics®. Furthermore, the cocaine levels in our study samples were much higher among those who failed to report cocaine use than the levels that are usually found to be associated with either external contamination or passive exposure. There have been concerns that differences in hair biology across racial and ethnic groups may contribute to discordance, because drugs may bind preferentially to hair containing higher levels of melanin. There is disagreement among researchers as to the effects of differences in race (as well as age and gender) on biochemical hair test results. The procedure for hair analysis used by Psychemedics® for this study, however, includes a step for melanin removal to prevent interference with the precipitation process in the immunoassay. Hair analysis may also be altered by treatments such as chemical relaxants and colorants, which may increase porosity of hair and allow more drug to be absorbed. Our finding that race and ethnicity were not significant predictors of disclosure at baseline supports the reliability of the RIA hair analysis, despite variations in hair structure, treatments and melanin content among populations.

Treatment Contact and Intervention results

Several possible explanations can be advanced for the racial and ethnic differences we identified in abstinence at six months post enrollment. Whites and Hispanics, who had higher rates of abstinence from cocaine, were more likely to be primarily heroin users at baseline. They used less cocaine, and may therefore have found it easier to quit using cocaine. White and Hispanic polydrug users may also have had more opportunities to address their cocaine use while they were in treatment for their primary drug, heroin. Blacks, who were more likely to be cocaine only users, may have had less access to treatment modalities to address their primary drug.

It is important to note that according to DAWN data for Boston Medical Center, 14% of heroin related ED visits and 5% of cocaine related ED visits were for overdose, while 50% of the cocaine and heroin related ED visits were recorded for patients seeking detox. This data confirms the demand for treatment, and makes the racial differences in treatment admission that were identified in this study especially disturbing.

Detoxification is often the first step in access to methadone maintenance and/or residential treatment or recovery houses. It is clear that very few of our enrollees obtained such specialized and costly services. Utilization of these treatment modalities was lower among Hispanics than Whites but higher than for Black enrollees.

Access issues rising from inability to pay do not seem to explain these differences. In the Boston area during the time of the study there were few barriers to detox admissions based on insurance status or ability to pay. The State provided emergency Medicaid coverage to patients admitted to treatment facilities, and additional safety net funding was provided by the Massachusetts Department of Public Health's Bureau of Substance Abuse. Polydrug cocaine users could be admitted for their heroin or alcohol use, and patients with cocaine and psychiatric illness could be placed in dual diagnosis programs if they were insured. Many patients knew that they could report suicidality to increase their chances of successful placement. Given this level of access, why were Black so underrepresented in the treatment system?

Can the higher abstinence and treatment contact rates we found for Whites and Hispanics be explained primarily by a racial/ethnic pattern of drug use? In our sample, Blacks primarily used cocaine, and Whites and Hispanics used heroin more frequently than Blacks. We looked at data for cocaine-only users and found no differences between Blacks, Hispanics and Whites in short-stay detox admissions, but rates of contact were low for all groups. When the data was analyzed for polydrug users (cocaine + heroin or alcohol) who were eligible for detox admission, Whites and Hispanics had a greater rate of utilization/entry rates for detox than Blacks. [The small numbers of cases for outpatient, methadone and residential treatment did not permit a similar subanalysis of these modalities]. This finding would suggest that the reduced rate of contact with the treatment system among Blacks is not limited to factors related to cocaine use. Data from this study do not permit us to establish conclusively whether the race-based difference identified in admission to detox represents a difference in perceived need or a disparity in meeting that need.

The best detox data shows about a 50% completion rate and a much lower rate of transition to rehab care. It has been suggested that for many drug users, the detox system serves as a source of "three hots and a cot." In our study, Blacks have a significantly higher rate of living in their own homes (public or private) than Whites or Hispanics enrollees, and thus less incentive to utilize detox as a housing alternative. We often hear patients voice concerns about losing their homes, their mail, checks and property if they were to enter a detox. Further study would be needed to explore this potential reason for under-utilization of detox. It may also mean that Blacks are appropriately utilizing detox facilities, and the others would benefit from safe housing or other modalities of care.

Certainly outpatient services are badly needed, especially for cocaine users. Cognitive behavioral therapy and motivational enhancement, which have been effective with alcohol abuse and dependency, are only beginning to be implemented for cocaine users in the public outpatient setting. There is an obvious need for more trained interventionists who can deliver these services in a way that is acceptable and useful to racial and ethnic minorities.

The current detox system in Massachusetts and particularly the Boston areas has recently experienced radical cutbacks in Medicaid benefits. Unfortunately 40% of the beds that existed at the time of the study have been eliminated. These cutbacks have increased admissions to our hospital, increased the length of the ED stay, and contribute to ED and hospital overcrowding. Despite the best efforts of our health promotion advocates in Project ASSERT, a peer educator model for brief intervention in the ED, 22% of patients seeking a detox slot now find no beds available compared to 7% before the cutbacks. The Boston Public Health Commission's placement program finds that there are no beds available in detox for 70% of

their clients. One client in this study, who had insurance, waited eight hours while peer educators worked their way through layer after layer of insurance company gatekeepers until he finally found an individual who could be convinced of the potential cost-savings from treatment; it then took many more calls to find a facility that was able to accept this patient. Those with no insurance who were highly motivated for treatment often waited days on a list for placement, returning each morning for news; some succeeded in making contact, but many others returned to the streets.

Many cocaine and heroin users come to the health system seeking help for their addiction and are open to negotiating changes in their drug use. The brief motivational intervention tested in this study was highly successful for Hispanics and Whites, and assisted a large number of Blacks to achieve abstinence. However stereotypes and biases may prevent some patients from receiving the care that they need. One patient in our intervention group was a grandmotherly type of woman in her 70's, dignified and well dressed, who had started using heroin at age 55. No health care provider had inquired about drug use, least of all injection drug use, perhaps because her appearance, age and race did not fit an expected pattern—until she turned up HIV positive.

We attribute the success of the intervention to the atmosphere of respect established by the African American and Hispanic outreach workers who provided the intervention. Contrary to other minority patient experiences in the health care system which have been characterized as less trusting, less willing to participate in the visit and less satisfied, [28] 49% of the participants in this study reported being helped by the study, and 90% were very satisfied with the interaction. These responses did not differ by race.

Several questions raised here deserve further investigation, principally the interpretation and consequences of reduced intervention effectiveness and reduced treatment contact among Blacks. In particular, we need to improve our understanding of the impact of racial and ethnic differences in order to devise effective strategies tailored to assisting Black and Hispanic populations to achieve abstinence from drugs.

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Table 1

DEMOGRAPHICS (n=1175)

VARIABLE	Black n=726 (%)	Hispanic n=272 (%)	White n=166 (%)
U.S. Born*			
Yes	95.7	36.8	95.8
No	4.3	63.2	4.2
Primary Language*			
English	97.7	13.2	95.8
Spanish	0.7	85.3	3.0
Gender*			
Male	67.6	82.4	66.7
Female	32.4	17.7	33.3
Educational Level			
<high school grad	36.5	50.0	23.5
High school grad	47.4	38.2	50.6
>high school	16.1	11.8	25.9
Housing**			
Private Home	54.4	38.6	50.0
Public Housing	2.3	4.0	1.8
Halfway House/group	1.2	2.2	1.8
Shelter/Homeless	42.0	55.2	46.4
Working***			
Full-time	9.9	5.9	9.0
Part time	9.5	5.5	4.8
Not working	80.5	88.6	86.1
Biochemical Hair Analysis			
Cocaine positive	94.0	73.9	65.5
Heroin/opiates positive	30.6	70.8	51.5
Cocaine self report past month			
Both	81.5	53.7	56.6
Females	84.7	54.2	54.6
Males	80.0	53.6	57.3
Crack cocaine use past month			
Both	76.3	31.3	32.5
Females	83.4	45.9	38.2
Males	73.1	28.1	29.1
Heroin self report past month			
Both	30.6	80.9	71.0
Females	23.8	72.9	67.3
Males	33.7	82.6	73.6
Alcohol use in past month			
Both	83.6	61.6	68.0
Females	81.3	57.5	60.0
Males	84.9	62.5	71.8

* $p<.0001$

** $p<.002$

*** $p<.02$

Table 2

BASELINE ASI SCORES BY RACE

	Black	Hispanic	White	Difference between Means	95% CI
Medical Scale	0.549	0.571	0.584	NS	
Employment Scale	0.851	0.879	0.829	Hispanic -White 0.049*	0.001, 0.098
Alcohol Scale	0.350	0.214	0.239	Black -White* 0.112	0.048, 0.175
				Black - Hispanic* 0.136	
Drug Scale	0.227	0.296	0.259	Hispanic – White* 0.037	0.006, 0.068
				Hispanic – Black* 0.068	0.046, 0.091
				White – Black* 0.032	0.005, 0.059
Legal Scale	0.189	0.299	0.254	Hispanic – Black* 0.110	0.066, 0.154
				White – Black* 0.064	0.011, 0.117
Family Scale	0.124	0.108	0.196	White – Black* 0.072	0.031, 0.114
				White – Hispanic* 0.088	0.041, 0.135
Psychologic Scale	0.292	0.374	0.424	White – Black* 0.050	0.079, 0.186
				Hispanic – Black* 0.082	0.038, 0.126

*Significance established by Shefe's Test (*p<.05)

Table 3

Self-Reported Treatment Contact at Six Months

TREATMENT	Black (n=616) n	Black (n=616) %	Hispanic (n=217) n	Hispanic (n=217) %	White (n=119) n	White (n=119) %	p value
Went to Detox	160	26.0	81	37.3	52	43.7	<.0001
Went to OP	97	15.8	47	21.7	41	34.5	<.0001
Went to Residential	74	12.0	53	24.4	28	23.5	<.0001
Went to Methadone	27	4.4	20	9.2	23	19.5	<.0001
Went to AA/NA	199	32.3	99	45.6	66	55.5	<.0001

Table 4

Contacts with the Treatment System at 90 Days Post-enrollment as Recorded in the Massachusetts State Treatment Database

TREATMENT FACILITY	Total n	Black		Hispanic		White		
		n	%	n	%	n	%	
Detox*	335	155	21.4	118	43.4	62	37.4	White – Black RR=2.93, p=.001, 95%CI 2.45, 3.52 White – Hispanic NS Hispanic – Black RR=2.65, p=.001, 95%CI 2.23, 3.16
Outpatient*	101	52	7.2	29	10.7	20	12.1	White – Black RR=1.68, p=.037, 95%CI 1.03, 2.74 White – Hispanic NS Black – Hispanic NS
Residential*	45	19	2.6	13	4.8	13	7.8	White – Black RR=2.99, p<.001, 95%CI 1.51, 5.93 White – Hispanic NS Black – Hispanic NS
Methodone*	50	18	2.5	18	6.6	14	8.4	White – Black RR=3.4, p=.0002, 95%CI 1.73, 6.69 White – Hispanic NS Hispanic – Black RR=2.67, p=.002, 95%CI 1.41, 5.05
Among users of cocaine only:								
Detox	52	47	16.7	2	7.4	3	14.3	NS
Among users of cocaine + alcohol or heroin:								
Detox*	272	99	25.9	116	48.3	57	41.6	Hispanic – Black RR=1.87, p<.001, 95%CI 1.51, 2.32 White – Black RR=1.61, p<.001, 95%CI 1.24, 2.09

Table 5

Summary of Findings, Conclusions and Interpretations

RESULT CATEGORY	CONCLUSIONS	INTERPRETATION
Demographics	Hispanics reported the lowest educational levels and highest rates of unemployment and homelessness.	Study results are generalizeable to urban areas.
Drug of Choice	African Americans were more likely to use cocaine, and Hispanics and Whites more likely to use heroin.	Drug of choice differs by race, and that difference may confound access to treatment.
ASI scores	High levels of distress were found on all subscales across racial and ethnic differences. Scores were highest for Hispanics in the employment and legal subscales, and for Whites on the family and psychologic subscales	Use of drugs creates a degree of commonality in ASI scores, but distress and loss associated with drug use vary with race and ethnicity. Understanding of these patterns may assist practitioners to address patients' needs more effectively.
Disclosure of heroin and cocaine use at f/u	Blacks and Hispanics were less likely than Whites to disclose continued drug use at f/u, as documented by hair testing.	Self-report of continued drug use may have been influenced by social desirability. The low levels of sensitivity of self-report for both cocaine and opiates at f/u suggest that self-report must be confirmed by biochemical testing, especially for Hispanics, who were least likely to disclose.
Intervention success	Brief motivational intervention was most successful with Hispanics and Whites.	Intervention may have been less successful with Blacks because of factors related to cocaine use, which was the drug of choice for Blacks in this study.
Treatment system contacts	Although readiness to enter treatment did not differ by race, Blacks were least likely to report contact with any treatment modality.	Racial differences in treatment admission may be influenced by lack of detox facilities for cocaine, the drug of choice for Blacks, and lack of methadone treatment, since opiates are the drug of choice for Hispanics. However language and insurance barriers may present a significant barrier for Hispanics, and Blacks who were polydrug users still had a lower rate of contact, suggesting the possibility of bias in admissions.

Table 6

Comparison of ASI Results among Out-of-treatment Outpatient Clinic Enrollees with Cocaine Users Initiating Treatment (Petry) [18]

ASI DOMAINS: Composite Scores	White (Petry) cocaine users initiating TX (n=86)	White (Link) cocaine and heroin users (n=166)	Black (Petry) cocaine users initiating TX (n=161)	Black (Link) cocaine and heroin users (n=726)
Medical	.297 NS	.549 NS	.222 NS	.584 NS
Employment	.679	.829	.787	.851
Drug	.168 NS	.259	.160 NS	.227
Alcohol	.286	.236	.223	.350
Legal	.191	.254	.112	.189
Family/Social	.233	.196	.148	.124
Psychiatric	.362	.424	.263	.292