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## BRIEF REPORTS

# HOMELESS MENTALLY ILL VETERANS: Race, Service Use, and Treatment Outcomes

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*Comparisons of service use and treatment outcomes for 145 black and 236 white homeless veterans with mental disorders showed few differences. A greater improvement in psychiatric symptoms and alcohol problems among white than black veterans did not hold true when black veterans had participated in the residential treatment component of the program. The implications of the findings for the successful treatment of homeless black veterans are discussed.*

Racial differences in the utilization of health care services *(Williams, Lavizzo-Mourney, & Rueben, 1994)* and, more specifically, in the use of mental health services *(Sue, Fujino, Li-tze, & Takeuchi, 1991; Rosenheck, Fontana, & Cottrel, 1995)* have become a focus of growing attention. Equitable access to mental health services among blacks is of particular concern in homeless service programs, since about half of homeless Americans are black, four times their representation (12%) in the general population *(Rossi, 1989)*. The present study uses outcome data from a Department of Veterans Affairs (VA) program, the Homeless Chronically Mentally Ill (HCMI) veterans program, to address the following three questions. *1)* Are there differences between black and white veterans in program participation and receipt of other health services? *2)* Are there differences between black and white veterans in degree of observed improvement? *3)* If such differences exist, are they related to use of residential treatment services, the most intensive and costly aspect of the program *(Rosenheck, Frisman, & Gallup, 1995)*?

## METHOD

### *HCMI Veterans Program*

The HCMI veterans program was established in 1987 at 43 VA medical centers in 26 states across the country and has been described in detail elsewhere *(Rosenheck et al., 1989)*. The program provides four key services to homeless veterans suffering from psychiatric or substance abuse disorders. These services consist of outreach to inform veterans of their eligibility for VA services, advocacy and linkage services to facilitate access to VA and non-VA health care and social services, residential treatment for up to six months through contracts with non-VA providers, and continuing case management. Each HCMI site is staffed by two outreach clinicians (primarily masters-

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level social workers and nurses) and provided with a budget for residential treatment.

*Sample*

Nine sites, located in Cheyenne (Wyoming), Dayton (Ohio), Indianapolis, Mountain Home (Tennessee), New Orleans, New York, San Diego, San Francisco, and Tucson, participated in a longitudinal outcome study. All eligible veterans contacted at these sites between December 7, 1987 and October 15, 1988 were possible candidates for the follow-up study but, to ensure at least a minimal degree of program involvement, only those who had had four or more clinical contacts with program staff were eligible. A total of 564 veterans (328 non-Hispanic whites and 199 non-Hispanic blacks) agreed to participate in the study, completed baseline assessments, and met the criterion for minimal program participation.

As can be seen in TABLE 1, the black veterans were younger than the white and less likely to be short-term residents of the home city (more had lived in the current city of residence for over one year). No differences between groups were observed in current or past employment, total income, or public support.

*Procedure*

After completion of baseline assessment interviews by HCMI staff, independent research assistants who had received formal training in conducting interviews and other study procedures located and re-interviewed 236 of the white veterans (72% of baseline participants), and 145 black veterans (73% of baseline participants). The follow-up interviews took place an average of nine months ($SD$=4.1 months) after program entry among blacks and 7.7 months ($SD$=4.2 months) after program entry among whites ($t$=2.8, $df$=321; $p$<.01). Extensive analyses presented elsewhere *(Rosenheck, Gallup, & Frisman, 1994)* showed few differences between re-interviewed veterans and those lost to follow-up.

Data were collected by HCMI program clinicians and independent research assistants from intake assessments, follow-up interviews, quarterly service delivery sum-

Table 1

BASELINE CHARACTERISTICS OF BLACK ($N$=145) AND WHITE ($N$=236) VETERANS.

| CHARACTERIST. | BLACK | WHITE | $\chi^2$ | $t$ |
|---|---|---|---|---|
| Sociodem. | | | | |
| Male | 100.0% | 96.6% | 4.99* | |
| Age | 39.16 | 42.85 | | 3.81*** |
| Education (yrs) | 12.61 | 12.35 | | 1.32 |
| Marital Status | | | 5.63 | |
| Married | 4.8% | 2.5% | | |
| Never married | 39.7% | 30.4% | | |
| Sep./Div./Wid. | 55.5% | 67.1% | | |
| Residential | | | | |
| Homeless | | | | |
| Current | | | 3.62 | |
| <1 mo. | 17.8% | 21.9% | | |
| 1–6 mos | 42.5% | 36.3% | | |
| 6–12 mos | 18.5% | 16.0% | | |
| >12 mos | 21.2% | 25.7% | | |
| Lifetime (yrs) | 2.11 | 2.83 | | 1.65 |
| In city <1 yr | 30.1% | 43.0% | 6.37* | |
| Health | | | | |
| Past Hosp. | | | | |
| Psychiatric | 37.7% | 42.8% | 0.98 | |
| Past Hosp. (cont.) | | | | |
| Alcohol abuse | 43.8% | 53.4% | 3.29 | |
| Drug abuse | 32.9% | 14.4% | 18.25*** | |
| Clinical Diag.[a] | | | | |
| Schizo[b] | 14.5% | 9.6% | 1.91 | |
| Bipolar Dis. | 4.8% | 8.7% | 1.73 | |
| Depression | 10.5% | 12.3% | 0.26 | |
| PTSD | 6.5% | 11.0% | 1.90 | |
| Alcohol prob. | 46.8% | 49.8% | 0.28 | |
| Drug prob. | 49.2% | 22.4% | 26.14*** | |
| Other | 13.7% | 9.6% | 1.36 | |
| BSI-GSI[c] | 0.97 | 1.09 | | 2.08 |
| ASI | | | | |
| Psychiat. Index | 0.23 | 0.28 | | 2.12* |
| Alcohol Index | 0.24 | 0.27 | | 1.08 |
| Drug Index | 0.08 | 0.04 | | 3.84*** |
| Social Support | | | | |
| Network Index | 6.5 | 3.8 | | 4.69*** |
| Contact Index | 176.7 | 119.9 | | 2.63** |
| Felony arrests | 52.7% | 43.7% | 3.90* | |

[a]Diagnostic data missing on 40 subjects; total over 100% because of multiple diagnoses.
[b]Schizophrenia/schizoaffective.
[c]Global Severity Index of Brief Symptom Inventory.
*p<.05; **p<.01; ***p<.001.

maries, and residential treatment discharge summaries. Data collection procedures are described in greater detail elsewhere *(Rosenheck et al., 1995)*.

*Measures*

*Residential status.* A series of questions ascertained where the veteran had slept during the month prior to baseline assessment and the 90 days before each follow-up interview. At follow-up, they lost homeless status if they had not spent a single night in a shelter, on the street, or in any other inadequate residence during the previous 90 days.

*Health status.* Psychological distress and psychiatric problems were measured on the Global Severity Index of the Brief Symptom Inventory *(Derogatis & Spencer, 1982)* and the Psychiatric Composite Index of the Addiction Severity Index (ASI) *(McLellan, Luborsky, Woody, & O'Brien, 1980)*. Substance abuse was evaluated with the ASI Alcohol and Drug Abuse Composite Indices.

*Social adjustment.* Data were obtained on each veteran's current employment, income, size of social network, and frequency of social contacts. Network and contact measures were based on a series of questions documenting the number of people in various categories to whom the veteran felt close (parents, spouse, significant others, etc.) and how often they and the veteran had been in face-to-face contact (ranging from 1=never to 7=lives with me).

*Health service utilization.* A series of 20 questions documented recent utilization of medical and psychiatric health services from VA and non-VA providers.

*HCMI program services.* Data from structured service delivery summaries documented the duration of HCMI program involvement, number of contacts with program clinicians, focus of treatment during the first four months, referrals to other agencies, admission to residential treatment, and total residential treatment days prior to the last follow-up interview.

*Analysis*

The significance of differences between black and white veterans on baseline characteristics, HCMI program participation, and health service utilization was determined. One-way repeated-measures analysis of variance (ANOVA) was then used to determine whether any significant changes occurred between baseline and follow-up interviews among either black or white veterans. A factorial repeated-measures analysis of covariance (ANCOVA) was then used to identify significant interactions between race and time, controlling for other baseline differences between the racial groups. Finally, a two-way factorial repeated-measures analysis of covariance (ANCOVA) was used to identify significant interactions between participation in residential treatment, race, and time, again controlling for variables on which blacks and whites were significantly different at baseline.

## RESULTS

*Service Use*

The black veterans were more likely than the white to have been hospitalized for drug problems in the past, to have a current clinical diagnosis of drug abuse or dependence, and to have higher ASI drug composite index scores. They scored lower on the ASI psychiatric composite index, reported significantly larger social networks and significantly greater frequency of social contacts, and were more likely to have been arrested for felony crimes (see TABLE 1).

No differences were found in VA and non-VA health service utilization prior to program entry (data are available from the first author on request) and, as can be seen in TABLE 2, there were no significant differences in HCMI program participation and only two differences in follow-up service utilization.

*Changes Over Time*

TABLE 3 shows findings from measures at baseline and follow-up interviews and

Table 2

PROGRAM PARTICIPATION AND SERVICE UTILIZATION AFTER PROGRAM ENTRY: BLACK (*N*=145) AND WHITE (*N*=236) VETERANS

| FACTOR | BLACK | WHITE | *t* |
|---|---|---|---|
| HCMI Partic. | | | |
| Total contacts | 20.08 | 20.91 | 0.52 |
| No. referrals | 8.72 | 9.09 | 0.54 |
| Involvement (mos.) | 8.55 | 8.91 | 0.81 |
| Res. tx (%)[a] | 43.1 | 40.9 | |
| Res. tx (days) | 41.91 | 43.00 | 0.16 |
| Clinical Relation (%)[b,c] | | | |
| Basic | 29.7 | 26.7 | |
| Link/other providers | 47.6 | 55.5 | |
| Psychotherapy/rehab. | 22.8 | 17.8 | |
| Service Utilization[d] | | | |
| Outpatient Visits | | | |
| All | 11.18 | 15.74 | 1.42 |
| VA | 9.53 | 10.43 | 0.33 |
| Non-VA | 1.66 | 5.32 | 2.18* |
| All psychiatric visits | 8.62 | 12.1 | 1.12 |
| All inpatient admiss. | 0.72 | 0.60 | 0.64 |
| Self-Help (AA, NA) | 7.07 | 12.48 | 2.72** |

[a]$\chi^2$=3.72.
[b]First 3 months.
[c]$\chi^2$=1.82.
[d]Three months after entry.
*$p$<.05; **$p$<.01.

changes from one time period to the other, followed by statistics from the one-way repeated-measures ANOVAs and, as indicated in the footnotes to TABLE 3, by the factorial repeated-measures ANCOVAs examining the interaction of race and change over time, controlling for baseline differences between the two racial groups of veterans.

Significant improvements over time were noted among blacks for eight and among whites for nine of ten measures. White veterans showed a significant decline on one measure—social network size. While black veterans showed no declines, neither did they show significant improvement on either social network or social contact indices; however, their mean scores on these measures remained significantly higher than those of whites.

Significant interactions between race and time were observed on only two of ten measures. White veterans showed more improvement than blacks on both the psychiatric problem index and the alcohol problem indices of the ASI.

*Residential Treatment*

TABLE 4 presents additional analyses of the two measures on which there were differences in improvement between blacks and whites. Among veterans who were *not* admitted to residential treatment, blacks showed less improvement than did whites. However, among those admitted to residential treatment, no significant differences were observed. Thus, blacks improved as much as whites when they received residential treatment but not when they received case management services only.

## DISCUSSION

Few differences between black and white veterans were identified in program participation, health service utilization, and outcomes of treatment in an outreach program for homeless veterans with psychiatric and substance abuse problems. On two measures in which overall differences in outcome were identified, these were limited to veterans who received community-based case management services but no residential treatment.

*Limitations of the Study*

Several methodological limitations require comment. First, lack of a nontreated control group prevented unbiased assessment of treatment effects. Thus, it is possible that the observed improvements would have occurred even in the absence of treatment. Multivariate statistical adjustments, however, were used to compensate for this limitation. Second, the generalizability of the findings may be restricted because the sample is limited to veterans. Prior studies, however, have found few differences between homeless veterans and other homeless men *(Rosenheck & Koegel, 1993; Roth, Toomey, & First, 1992)*. A final limitation is the lack of study-specific data on the reliability and validity of the measures used.

*Admission Characteristics*

Homeless black veterans were similar to their white cohorts on most measures at the

Table 3

OUTCOMES AMONG BLACK AND WHITE VETERANS

| FACTOR | VALUE BASELINE | VALUE FOLLOW-UP | % CHANGE | ANOVA (F)[a] |
|---|---|---|---|---|
| Days Housed in Last 90[b] | | | | |
| Black | 21.60 | 40.50 | 88.0 | 18.51*** |
| White | 23.90 | 36.40 | 52.0 | 13.01*** |
| Days Institutionalized in Last 90[b] | | | | |
| Black | 16.60 | 29.10 | 74.8 | 9.47** |
| White | 24.70 | 42.80 | 73.3 | 23.40*** |
| Days Homeless in Last 90[b] | | | | |
| Black | 51.80 | 19.10 | -63.2 | 59.06*** |
| White | 41.40 | 7.50 | -81.9 | 119.41*** |
| Days Worked in Last 30 | | | | |
| Black | 3.11 | 8.26 | 165.7 | 33.60*** |
| White | 2.86 | 8.07 | 181.7 | 48.28*** |
| BSI-Global Severity Index | | | | |
| Black | 0.97 | 0.78 | -19.6 | 7.42** |
| White | 1.09 | 0.77 | -28.8 | 46.45*** |
| ASI | | | | |
| Psychiatric Index[c,d] | | | | |
| Black | 0.23 | 0.20 | -14.7 | 6.31* |
| White | 0.28 | 0.20 | -26.1 | 39.65*** |
| Alcohol Index[c,e] | | | | |
| Black | 0.24 | 0.18 | -25.0 | 6.79* |
| White | 0.27 | 0.16 | -41.9 | 51.35*** |
| Drug Index | | | | |
| Black | 0.08 | 0.05 | -40.7 | 15.19*** |
| White | 0.04 | 0.02 | -48.8 | 17.44*** |
| Social Network Index | | | | |
| Black | 6.50 | 6.73 | 3.5 | 0.35 |
| White | 3.80 | 3.13 | -17.7 | 4.86* |
| Social Contact Index | | | | |
| Black | 176.69 | 235.36 | 33.2 | 0.19 |
| White | 119.87 | 229.91 | 91.8 | 13.14*** |

[a]Repeated measures ANOVA.
[b]Baseline values reflect previous 30 days and was multiplied by 3.
[c]Factorial ANCOVA (race × time) $F=4.3$, $df=1,332$, $p<.05$.
[d]Covariates include: baseline values of dependent variable, age, residing in city less than I year, ASI drug index, and social contact and social network indices.
[e]Factorial ANCOVA (race × time) $F=4.4$, $df=1,335$, $p<.05$).
*$p<.05$; **$p<.01$; ***$p<.001$.

time of program entry. They were, however, significantly younger, more affected by drug abuse problems, and less troubled by psychiatric symptoms than were the white veterans. On the positive side, compared to the white veterans their social adjustment appeared stronger and more stable, they were longer-term residents of their home cities, and they had more frequent social contacts.

While the observed age differences reflect trends in the general population of male veterans *(U.S. Bureau of the Census, 1989)*, differences in levels of drug abuse are harder to explain since national community-based epidemiological studies have shown alcohol and drug abuse to be either no more prevalent among blacks than among whites *(Robins & Regier, 1991)* or less so *(Kessler et al., 1994)*. Other studies, however, have reported that blacks living in inner-city settings have especially severe problems with drug abuse *(Williams, 1986)* and have been deeply affected by the crack-cocaine epidemic of the late 1980s *(Jencks, 1994)*.

Perhaps the most striking baseline differences between black and white veterans lay in the findings that black veterans were longer-term residents, had significantly more social contacts with people to whom they felt close, were more likely to report that family members would agree to coresidence, and had fewer psychiatric problems.

Table 4

INTERACTION OF RACE, CHANGE OVER TIME, AND ADMISSION TO RESIDENTIAL TREATMENT[a]

| MEASURE | VALUE BASELINE | VALUE FOLLOW-UP | % CHANGE |
|---|---|---|---|
| ASI Prob. Index | | | |
| Psychiatric[b] | | | |
| No res. tx | | | |
| Black | 0.22 | 0.22 | 0.5 |
| White | 0.28 | 0.21 | -25.0 |
| Res. tx | | | |
| Black | 0.25 | 0.16 | -37.2 |
| White | 0.27 | 0.20 | -26.4 |
| Alcohol[c] | | | |
| No res. tx | | | |
| Black | 0.23 | 0.20 | -12.4 |
| White | 0.29 | 0.16 | -44.0 |
| Res. tx | | | |
| Black | 0.25 | 0.15 | -40.3 |
| White | 0.24 | 0.15 | -38.2 |

[a]Factorial ANCOVA covariates include: baseline value of dependent variable, age, residence in city under 1 year, ASI drug index, social contact and network indices, and felony crimes.
[b]Interaction term (race × residential treatment) $F$=5.1, $df$=1,364, $p$<.05).
[c]Interaction term (race × residential treatment) $F$=5.7, $df$=1,333, $p$<.05).

These results are consistent with findings reported in other studies of homeless people *(Leda & Rosenheck, 1995; Rossi, 1988; Roth, Toomey, & First, 1992)*. Since structural factors such as discrimination in housing and employment may contribute more than personal vulnerabilities to homelessness among blacks *(Wilson, 1987; Massey & Denton, 1993)*, it is not surprising that those who become homeless are less affected than whites by such factors as psychiatric illness, geographic mobility, or social isolation. Social disadvantage and racial discrimination may play an important role in the genesis of black homelessness, while disability and illness are of greater importance among whites.

*Program Participation and Improvement*

In contrast to many recent studies in the medical literature, the two racial groups in this study showed few differences on measures of program participation or in VA service use or outcomes, and both black and white veterans treated in the HCMI program showed improvement on almost all outcome measures. The greater improvement on psychological and alcohol problem measures shown by white veterans was true only in comparisons with black veterans who had not been admitted to residential treatment, suggesting that residential treatment may be an especially important first step out of homelessness for black veterans. Since drug use was included as a covariate in the analysis, the greater use of drugs among blacks does not account for this observed difference. A possible explanation is that blacks in nonresidential treatment must deal with deteriorating environments in many of their urban neighborhoods *(Wilson, 1987; Massey & Denton, 1993; Jencks, 1992, p. 185)*. A substantial literature has demonstrated that racial discrimination in housing and employment has resulted in especially high concentrations of poverty and other social ills in black neighborhoods in U.S. cities *(Massey & Denton, 1993)*. Such circumstances could make recovery from homelessness especially difficult in the absence of a period of rehabilitation in a safe, substance free, supportive environment.

The findings of the present study suggest that blacks have a greater need for residential treatment services to maximize their gains in some areas. Further studies, however, are needed to confirm and expand on these preliminary findings. More specifically, additional information is needed on differences in the personal experiences of patients of different races in different types of treatment, as well as of the relationship to outcomes of racial matching between client and clinician.

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