
Correlates of Drug Abuse Among Homeless and Transient People in the Washington, DC, Metropolitan Area in 1991

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Synopsis

Sociodemographic correlates of drug use among the general household population may have less accuracy and utility for describing risk factors for drug use among nonhousehold populations like the homeless and transient. This analysis examines correlates of past year use of marijuana, cocaine, and needles among homeless and transient people in the Washington, DC, metropolitan statistical area (DC MSA) and discusses them vis-a-vis traditional indicators of drug use among the general household population.

Data are from a study conducted in the DC MSA in 1991 that used a multistage sampling design and surveyed a random sample of 908 homeless and transient people ages 12 years and older. The analysis uses multiple logistic regression to assess the independent effects of demographic and other

predictors on selected drug use measures among this population.

Three key socioeconomic correlates of drug use among the general household population (educational attainment, employment status, and marital status) were nonsignificant predictors of drug use among the homeless. However, other factors were significant, including past year institutionalization, location within the DC MSA, and stage of homelessness.

The age group at greatest risk for use of marijuana and cocaine in the past year were the homeless ages 26 to 34, but the oldest group (35 years and older) had the highest risk of needle use. Although men were more likely to have used marijuana and cocaine in the past year, there were no sex differences in the use of needles in the past year. Only past year use of cocaine differed significantly by race or ethnicity, with a greater likelihood among homeless blacks than among homeless whites.

Measures of social achievement and socioeconomic status related to the prevalence and risks of drug use among the general household population have but limited applicability in predicting drug use among people who are homeless and transient. Along with other indicators of behavioral and health risks, history of institutionalization, urbanization, and chronicity of homelessness should be considered to improve the epidemiologic assessment of this population.

A NUMBER OF STUDIES have shown that homeless people not only lack the support systems and resources they need to obtain food, health care, and shelter (1,2), but they also have high rates of drug and alcohol abuse, mental disorders, and infectious diseases (3-13). Although any enhancement in substance abuse treatment and prevention services for the homeless is likely to be beneficial, efficient targeting of resources requires an understanding of which subgroups are at greatest risk of having these and related problems.

In the general household population, the risk of drug use has been found to differ by socioeconomic

and demographic variables, including educational attainment, employment status, marital status, sex, age, and race-ethnicity (14-17). Given the numerous differences between homeless people and the general population, however, it is questionable whether risk profiles among the general population apply equally to the homeless population.

This paper examines correlates of past year use of marijuana, cocaine (including crack cocaine), and needles among homeless and transient people in the Washington, DC, Metropolitan Statistical Area (DC MSA). We discuss these correlates vis-a-vis factors associated with drug use in the general population to

Table 1. Percent distribution and sample sizes by demographic characteristics for the homeless and transient population in the Washington, DC Metropolitan Statistical Area

Characteristics	Unweighted number	Weighted percent ¹
Sex:		
Men	587	75.9
Women	287	24.1
Race:		
White	189	16.7
Black	623	77.4
Hispanic	54	6.0
Age (years):		
18-25.....	142	14.6
26-34.....	315	37.3
35 and older.....	416	48.1
Marital status:		
Single.....	480	59.3
Married	85	8.4
Divorced, separated	290	32.3
Education:		
Less than high school.....	352	39.3
High school graduate.....	345	39.8
Some college	167	20.9
Employment in past year:		
No.....	284	32.9
Yes.....	590	67.1
Location within DC MSA:		
DC	540	71.2
Maryland.....	138	14.1
Virginia	196	14.7
Stage of homelessness:		
Newly homeless.....	207	17.6
Chronically homeless	198	23.6
Intermittently homeless.....	388	38.9
At risk of homelessness	81	19.9
Past year institutionalization:		
Incarcerated.....	110	13.0
Other institution	277	28.3
Not institutionalized.....	487	58.7
Total².....	874	100.0

¹Totals may not equal 100.0 percent because of rounding.

²The total number includes any missing values for each variable.

SOURCE: National Institute on Drug Abuse, DC MADS Homeless and Transient Population Study, 1991.

Table 2. Drug use among the homeless and transient population in the Washington, DC, Metropolitan Statistical Area

Drug	Lifetime		Past year	
	Unweighted number	Weighted percent	Unweighted number	Weighted percent
Marijuana	619	76.0	266	37.9
Cocaine in any form	518	66.1	359	49.3
Needle use.....	174	24.5	99	14.6
Total sample¹	874	...	874	...

¹The total number includes any missing values for each variable.

SOURCE: National Institute on Drug Abuse, DC MADS Homeless and Transient Population Study, 1991.

explore the need for other social and cultural indicators of drug use risk among the homeless population.

Methods

This analysis is based on data from the Homeless and Transient Population Study (18), which is one of the component studies of the Washington, DC, Metropolitan Area Drug Study (DCMADS). The study used a multistage sampling design to develop unbiased estimates about the homeless and transient population in the DC MSA (composed of the District of Columbia, five counties in Maryland, and five counties and five cities in Virginia) during 4 months in 1991. It included two independent seasonal samples to control for variation in patterns of movement among homeless people as a function of weather conditions. These were designated as the winter and spring samples and originally included the months of February and March (winter) and April and May (spring).

The study also included overlapping spatial frames: originally just shelters and streets, and later, shelters, soup kitchens, streets, and encampments. In April, it became apparent that relatively few homeless people who do not stay in shelters actually "stay" on streets; rather, they tend to congregate in small groups in particular places or encampments, such as parks, underpasses, vacant buildings, and in woody areas along creeks and rivers. Because of this, the study was suspended for the month of May to modify its design by adding a sample of clustered encampments and a sample of soup kitchens for the month of June.

For the shelter and soup kitchen frames, systematic random sampling was used to select persons for interviews; for the street and encampment frames, interviewers screened everyone in a randomly sampled block or encampment cluster between 4 and 5:30 a.m. of randomly sampled days to determine whether they met the eligibility criteria of being literally homeless or at risk of homelessness. Those screened as eligible were then asked to participate in the study (no one who was sleeping was awakened; rather, interviewers waited, only approaching persons who were awake).

Information was collected from anonymous and private personal interviews that used a structured questionnaire modeled after the National Household Survey on Drug Abuse (NHSDA) and took about an hour to complete. After explaining the purpose of the study and obtaining informed consent, the interviewer asked the respondent about his or her demographic

characteristics; drug and alcohol use; educational, residential, employment, arrest, and criminal offense histories; use of drug treatment and health care services; perceptions of risks associated with use of drugs; physical and psychological health; and income and health insurance. A 9-item subset of the Short Blessed Exam (19) was used to identify and exclude persons too cognitively impaired to complete the interview. Coffee and pastry were offered to respondents interviewed in encampments and on the streets, and each respondent received \$10 and food coupons at the conclusion of the interview.

Of the 1,068 homeless people approached to participate in the study, 13 (1.2 percent) were too intoxicated to participate or scored more than 9 on the Short Blessed Exam, 141 (13.2 percent) refused to participate, and 6 (0.6 percent) broke off the interview before completing key sections on homelessness and drug use.

The full sample consisted of 908 respondents ages 12 years and older, with 477 respondents (53 percent) from 93 shelters, 224 (25 percent) from 31 soup kitchens, 143 (16 percent) from 18 clusters of encampments, and 64 (7 percent) from 432 census blocks in the street frame. The institutional response rate for shelters and soup kitchens combined was 82.6 percent, and the response rate for respondents across the four frames was 86.1 percent (that is, the total number of people interviewed or 908 divided by 1,055, the number of people approached, minus those who were ineligible due to cognitive impairment). Thirteen youths (ages 12–17 years) and 21 persons whose race-ethnicity was other than white, black, or Hispanic were excluded from this analysis because their numbers were too few to analyze as distinct categories. After these exclusions, the total number of observations was 874. Missing values further reduced the sample size for some items. For these reasons, estimates in this paper may differ slightly from those in the main report (18).

The modifications to the study design in May of 1991 introduced several asymmetries that complicated the analyses. These were addressed by using estimation weights that incorporated adjustments for initial sampling probabilities at multiple stages in each sampling frame, for nonresponse in each frame, and for potential multiple counting across the four frames. With the application of the weights, the estimated size of the DC MSA homeless and transient population on an average day in February through June 1991 was 10,387 (95 percent confidence interval [CI], 9,031 to 11,743).

Drug use variables examined in this study are past year use of marijuana, past year use of cocaine in any

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form, and past year use of needles to inject illicit drugs. The correlates of drug use included in the multivariate analyses are sex, race-ethnicity, age, location within the DC MSA, stage of homelessness, and institutionalization in the past year. Education, employment status in the past year, and marital status were included in preliminary analyses and found not to be significant predictors of drug use in this population. Location within the MSA was used as an indicator for urbanization, with the District of Columbia (DC) as the central city and the Maryland (MD) and Virginia (VA) jurisdictions as suburbs. The stage of homelessness variable signified the chronicity and criticality of the homeless person's immediate circumstances and was classified into four categories: newly homeless (for example, homeless for the first time but less than 6 months); chronically homeless (homeless for the first time but longer than 6 months); intermittently homeless (homeless at a prior time and currently); and at risk of homelessness (indicated by use of a soup kitchen and prior but not current homelessness). Three categories were used to classify past year institutionalization: incarceration in a correctional institution; "other" institutionalization, including psychiatric and other noncorrectional facilities; and none.

Multiple logistic regression (20) was used to assess the independent effects of the predictor variables (that is, sex, race-ethnicity, age, location within the MSA, stage of homelessness, and past year institutionalization) on each of the three drug use measures while adjusting for possible correlations among the predictors. The analyses were performed using the SUDAAN statistical software (21) to account for the complex sampling design of the study when calculating coefficients and standard errors. Results are presented as adjusted odds ratios (ORs) and corresponding 95 percent confidence intervals (CIs).

Results

Table 1 summarizes the distribution of selected characteristics among the DC MSA homeless and

Table 3. Significant correlates of drug use during the past year among the homeless and transient population in the Washington, DC, Metropolitan Statistical Area

<i>Independent variable</i>	<i>Unadjusted odds ratio</i>	<i>95 percent CI</i>	<i>Adjusted odds ratio¹</i>	<i>95 percent CI</i>
Marijuana				
Sex:				
Men	2.16	1.3-3.7	2.32	1.3-4.2
Women	1.00		1.00	
Age group (years):				
18-25	1.05	0.6-1.9	1.39	0.7-2.9
26-34	2.25	1.4-3.7	2.32	1.4-3.9
35 and older	1.00		1.00	
Location in DC MSA:				
DC	3.03	1.9-4.9	2.72	1.4-5.3
Maryland	2.75	1.3-6.0	2.16	1.0-4.6
Virginia	1.00		1.00	
Institutionalization:				
Correctional	3.42	1.6-7.4	2.86	1.3-6.5
Group, psychiatric, other	1.82	1.2-2.9	1.93	1.2-3.2
Not institutionalized ..	1.00		1.00	
Cocaine				
Sex:				
Men	2.16	1.2-3.9	1.97	1.1-3.5
Women	1.00		1.00	
Race:				
Hispanic	0.18	0.0-0.7	0.23	0.1-0.8
White	0.38	0.2-0.7	0.47	0.3-0.9
Black	1.00		1.00	
Age group (years):				
18-25	0.58	0.3-1.2	0.66	0.3-1.4
26-34	1.88	1.2-2.9	1.84	1.2-2.9
35 and older	1.00		1.00	
Institutionalization:				
Correctional	3.39	2.0-5.9	2.72	1.4-5.4
Group, psychiatric, other	1.67	1.1-2.5	1.70	1.1-2.6
Not institutionalized ..	1.00		1.00	
Needle use				
Age group (years):				
18-25	0.10	0.0-0.5	0.09	0.02-0.4
26-34	0.54	0.3-1.2	0.48	0.2-1.0
35 and older	1.00		1.00	
Location in DC MSA:				
DC	9.03	3.0-27.6	14.59	3.6-59.8
Maryland	5.47	1.6-19.2	7.46	1.9-30.0
Virginia	1.00		1.00	
Stage of homelessness:				
Newly	0.31	0.1-1.06	0.18	0.1-0.7
Chronic	0.75	0.3-2.2	0.40	0.2-1.1
Intermittent	0.71	0.3-1.9	0.40	0.2-1.0
At risk	1.00		1.00	

¹The logistic regression model included sex, race, age group, location within the DC MSA, stage of homelessness and past year institutionalization.

NOTE: CI = confidence interval.
SOURCE: National Institute on Drug Abuse, DC MADS Homeless and Transient Population Study, 1991.

transient population represented in this study. Three-quarters (76 percent) were men; 77 percent were black, 17 percent were white, and 6 percent were Hispanic. Almost half (48 percent) were 35 or older, and 85 percent were older than age 25. The majority (59 percent) were single, 32 percent were divorced or separated, and 8 percent were married. An estimated 61 percent had at least a high school education, and 67 percent reported having worked in the past year. Most (71 percent) were located in DC, while 15 percent were in Virginia and 14 percent were in Maryland. Approximately 39 percent were intermittently homeless, 24 percent were chronically homeless, 18 percent were newly homeless, and 20 percent were at risk of homelessness. A total of 41 percent reported past year institutionalization, 13 percent in correctional facilities and 28 percent in other types of institutions.

Table 2 shows that an estimated 76 percent of the DC MSA homeless and transient population reported use of marijuana in their lifetimes, with 38 percent reporting use in the past year. Approximately 66 percent said they had used cocaine in their lifetimes, and 49 percent had done so in the past year. Almost 25 percent had used needles nonmedically in their lifetimes, while past year needle use was reported by 15 percent.

Table 3 shows the unadjusted and adjusted ORs and 95 percent CIs for the three dependent variables; the unadjusted ORs are provided in the table to show the association between the variables before controlling for their joint effects. Men were more likely than women to have used marijuana (adjusted OR = 2.32, 95 percent CI, 1.3 to 4.2) and cocaine (adjusted OR = 1.97, 95 percent CI, 1.1 to 3.5) in the past year, but needle use did not differ significantly for men and women.

Homeless and transient whites were half as likely as homeless and transient blacks to have used cocaine in the past year (adjusted OR = .47, 95 percent CI, 0.3 to 0.9). However, there were no significant differences by race-ethnicity for past year use of marijuana or needles.

Homeless and transient persons ages 26 to 34 were more likely than those 35 and older to report past year use of marijuana (adjusted OR = 2.32, 95 percent CI, 1.4 to 3.9) and cocaine (adjusted OR = 1.84, 95 percent CI, 1.2 to 2.9). By contrast, both this age group and the youngest group were less likely to have used needles in the past year compared to those 35 and older (for 18-25-year-olds, adjusted OR = 0.09, 95 percent CI, 0.02 to 0.4; for 26-34-year-olds, adjusted OR = 0.48, 95 percent CI, 0.2 to 1.0).

Location within the DC MSA was correlated with

past year use of marijuana and needles, but not with use of cocaine. Persons located in DC and the Maryland counties of the MSA were more twice as likely as persons located in the Virginia jurisdictions to have used marijuana (for DC, adjusted OR = 2.72, 95 percent CI, 1.4 to 5.3; for MD, adjusted OR = 2.16, 95 percent CI, 1.0 to 4.6). Homeless people in DC were more than 14 times as likely to have used needles than those in Virginia (adjusted OR = 14.59, 95 percent CI, 3.6 to 59.8), and homeless people in Maryland had more than a 7 times greater likelihood of needle use (adjusted OR = 7.46, 95 percent CI, 1.9 to 30.0) than their counterparts in Virginia.

Stage of homelessness was significantly related to cocaine and needle use but not to marijuana use. Chronically homeless persons were less than half as likely as those at risk of homelessness to have used cocaine in the past year (adjusted OR = 0.36, 95 percent CI, 0.1 to 1.0). Needle use was less likely among newly and intermittently homeless persons than among those at risk of homelessness (for newly homeless, adjusted OR = 0.18, 95 percent CI, 0.1 to 0.7; for intermittently homeless, adjusted OR = 0.40, 95 percent CI, 0.2 to 1.0).

Homeless and transient people who had been incarcerated in correctional institutions in the past year were more likely to have used marijuana (adjusted OR = 2.86, 95 percent CI, 1.3 to 6.5) and cocaine (adjusted OR = 2.72, 95 percent CI, 1.4 to 5.4) than were persons who had not been institutionalized. Those institutionalized in noncorrectional facilities also had a greater likelihood of using marijuana (adjusted OR = 1.93, 95 percent CI, 1.2 to 3.2) and cocaine (adjusted OR = 1.70, 95 percent CI, 1.1 to 2.6) compared with the noninstitutionalized. Neither type of past year institutionalization was significantly related to the likelihood of needle use.

Discussion

Findings from the NHSDA (14,15) indicate that the groups at highest risk of drug use in the general household population of the United States tend to be persons who have less than a high school education; the unemployed; persons who have never been married, followed by those who are divorced or separated; 18–25-year-olds; and for drugs other than psychotherapeutics and heroin, men. Findings pertaining to race-ethnicity and drug use tend to vary by drug type and frequency of use. Race-ethnicity is also likely to be confounded with other drug use correlates, which may include sociodemographic or cultural factors that have not as yet been identified or measured.

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Socioeconomic correlates of drug use among the general household population (that is, education, employment status, and marital status) were not significant predictors of drug use among the homeless. And unlike the NHSDA, there were no sex differences among the homeless in past year needle use. However, like the NHSDA, in this analysis we found that men were significantly more likely than women to have used marijuana and cocaine in the past year.

Only past year use of cocaine was found to differ significantly by race-ethnicity, with homeless whites nearly half as likely to have used in the past year compared to homeless blacks after adjusting for other correlates. When the general household population of the DC MSA was oversampled by the NHSDA in 1990, the rate of current cocaine use was also found to be higher among blacks than among whites (22). This finding of a greater likelihood of past year cocaine use among DC MSA homeless blacks than among whites may also be related to differentials in income or in stage of homelessness—both of which merit further exploration, particularly among the DC MSA homeless population, but also among homeless populations in other large metropolitan areas.

Persons at greatest risk of marijuana and cocaine use among the homeless and transient population were 26–34 years of age, while past year needle use was almost twice as likely among persons 35 and older than among those 26–34 years old and 10 times as likely than among those 18–25 years old. Studies on needle exchange programs to prevent the spread of human immunodeficiency virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) have found decreases in the numbers of younger initiates to needle use (23,24). Although participants were not

necessarily representative of the area's entire needle using population, in a recent pilot syringe exchange program in Washington, DC (25), the average age of the program enrollees was a relatively old 38 years, with a range of 24 to 55 years, and the average duration of injection drug use was 18 years.

A 1993 report in the "Proceedings" of the Community Epidemiology Work Group, National Institute on Drug Abuse (26), for the DC MSA also describes a general aging of the heroin using population treated at hospital emergency rooms in the DC MSA from 1990 to 1992 for problems related to heroin use. These data suggest a downward trend in the number of younger needle users in the DC MSA population generally, which might explain the higher rates of past year needle use found among older segments of the DC MSA homeless population.

Chronically homeless people were less likely to have used cocaine compared with those at risk of homelessness, and needle use was less prevalent among persons who were newly or intermittently homeless than among those at risk of homelessness. Stage of homelessness reflects the chronicity of the homeless person's immediate circumstances. For example, newly homeless people may be homeless because of a crisis or precipitating life event like a recent family disruption, loss of employment, or financial reversal. Those at risk of homelessness—who were not literally homeless but were using soup kitchens and had been homeless before—may have had greater access than other homeless persons to the financial resources and social networks necessary for obtaining cocaine and using needles.

Homeless and transient persons who had been institutionalized in either correctional or noncorrectional facilities in the past year had a greater likelihood of past year marijuana and cocaine use than did those who had not been institutionalized. This finding is supported by research on substance use and criminal and delinquent behaviors (27,28), and it is consistent with deviant and high-risk behavior patterns that tend to cluster among and distinguish persons who have been incarcerated. Such patterns may also differentiate persons institutionalized in noncorrectional facilities from those who have never been institutionalized (29).

Other indicators of behavioral and health risks among homeless and transient people were evident from the findings of this study and should be explored further to improve epidemiologic assessment of the population. For example, degree of urbanization was related to increased risks for both past year marijuana and needle use, but not for use of cocaine. The nonsignificance of urbanization in use of cocaine

suggests that the drug is widely available both inside the city and outside it.

Additional indicators for future consideration in assessing health risks among the homeless are those that reflect the "quality of life," such as amount and sources of income, psychological and physical illness, social and medical service needs, use of hospital emergency departments for primary health care, criminal activity, victimization, and social isolation and vulnerability.

There were no significant effects in drug use among the homeless based on measures of social achievement and socioeconomic status, including education, employment, and marital status, despite the variability of the population along these dimensions. These findings attest to the overwhelming effect that being homeless has on traditional social indicators of drug use. Although the data we present represent only homeless and transient people in the DC MSA, they demonstrate a need to develop appropriate and specific indicators—like a history of institutionalization, chronicity of homelessness, and degree of urbanization—for accurate epidemiologic assessment of the homeless population in general. Such indicators will help to improve the effectiveness of health care, drug treatment, and efforts to reduce behavioral risks among the homeless and to ensure proportionate allocation of scarce resources to those in need.

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