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# Drug Use Frequency Among Street-Recruited Heroin and Cocaine Users in Harlem and the Bronx Before and After September 11, 2001

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**ABSTRACT** *We determined if illicit drug use frequency changes after a disaster by comparing drug use frequency in two street-recruited samples of heroin and cocaine users, ages 15–40 years. The users were interviewed between July 11 and November 11 and divided into before- and after-September 11th groups for analysis. The before and after groups were similar in the mean number of days of drug use per month (sniff cocaine 6.8 days vs. 9.4 days, respectively,* P = *.17; snorted heroin 13.9 vs. 14.0, respectively,* P = *.96; smoked crack 16.9 vs. 15.6, respectively,* P = *.96; and smoked marijuana 17.5 vs. 15.3, respectively,* P = *.36) and in the proportion of daily users: sniffed cocaine 10% versus 17%, respectively (*P = *.28); snorted heroin 47% versus 40%, respectively (*P = *.91); smoked crack 33% versus 37%, respectively (*P = *.68); and smoked marijuana 47% versus 40%, respectively (*P = *.41). Among street-recruited heroin and cocaine users in Harlem and the Bronx, the frequency of drug use did not increase following the events of September 11, 2001.*

**KEYWORDS** *Cross-sectional Study, Disaster, Drug Users, Illicit Drug Use, Terrorism.*

## INTRODUCTION

Both the frequency and prevalence of substance use increase among survivors following a disaster.[1–4] Recently, rates of cigarette, alcohol, and marijuana use increased[5] among the general population of Manhattan after the events of September 11, 2001. The degree to which the frequency of illicit drug use among heroin and cocaine users increases after a disaster has not been studied. To address this question, we examined the drug use frequency among two street-recruited samples of heroin and cocaine users.

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## METHODS

The study population included all drug users who came to the Center for Urban Epidemiologic Studies (CUES) Harlem or Bronx storefronts between July 11, 2001, and November 11, 2001, for the first time. Potential participants were recruited using "street outreach" techniques, described elsewhere.[6] Briefly, outreach workers, familiar with places in the community where drugs were bought and/or used, engaged drug users in conversations about ongoing research at the storefront. Outreach workers offered information about preventing human immunodeficiency virus (HIV), hepatitis B, and hepatitis C and encouraged interested drug users to go to the research storefront to participate in research about disease transmission among young drug users.

Potential participants completed a screening interview. Eligibility criteria were age 15 to 40 years and previous use of heroin or cocaine. Following informed consent, eligible participants completed a detailed risk behavior questionnaire. Specifically, participants were asked if they had ever used a specific drug (e.g., cocaine or heroin) by route of administration (e.g., sniffing, smoking, or injection). If they had ever used the drug by the specific route of administration, they were asked how often they had used that drug in the past 6 months. This study was approved by the internal review boards of the New York Academy of Medicine and the Centers for Disease Control and Prevention.

For this study, we identified two cross-sectional groups: a before group (interviewed between July 11, 2001, and September 10, 2001, inclusive) and an after group (interviewed between September 12, 2001, and November 11, 2001, inclusive). We then compared the groups by identifying which drugs had been used by 50% or more of the sample, the proportion of drug users who had used those drugs in the last 6 months, the mean number of times per month that the drug was used among those using the drug, and the proportion of drug users who were using the drug daily. We used the $\chi^2$ test to compare proportions in univariate analysis. Any differences found significant in univariate analysis ($P < .05$) were tested using multivariable logistic regression controlling for sex and race. We used the Student $t$ test to compare means.

## RESULTS

A total of 86 drugs users presented to one of the storefronts between July 11, 2001, and September 10, 2001, for the first time, and 93 presented between September 12, 2001, and November 11, 2001, for the first time. The two groups were similar in age, with a median of 31 years in the before group and a median of 32 years in the after group; age ranges were 19 to 40 years and 18 to 40 years, respectively. The before group was similar to the after group in sex (65% men vs. 53% men, $P = .11$) and race (47% African American vs. 53% African American, $P = .45$; 47% Latino vs. 40% Latino, $P = .32$).

The before and after groups were similar in the drugs ever used by 50% of the sample. In both groups, more than 50% had ever sniffed or snorted cocaine; sniffed or snorted heroin; smoked crack, ready-rock, or freebase cocaine; and smoked marijuana or hashish. In addition, the before and after groups had similar proportions who had used the following drugs in the previous 6 months: sniffed cocaine (59% vs. 57%, respectively, $P = .87$), smoked crack (59% vs. 67%, respectively, $P = .39$), and smoked marijuana (64% vs. 68%, respectively, $P = .71$) (Table). In univariate

**TABLE. Frequency of drug use in drug users before and after September 11, 2001, Harlem and the Bronx, July 11, 2001–November 11, 2001 (N = 179)**

| | Number (%) who have used drug in the past 6 months | | | Mean frequency of use (in days/month) | | | Number (%) of those using a drug who reported using daily | | |
|---|---|---|---|---|---|---|---|---|---|
| | Before (N = 86) | After (N = 93) | *P** | Before (N = 86) | After (N = 93) | *P*† | Before (N = 86) | After (N = 93) | *P** |
| Sniff or snort cocaine | 51 (59) | 53 (57) | .75 | 6.8 | 9.4 | .17 | 5 (10) | 9 (17) | .28 |
| Sniff or snort heroin | 51 (59) | 40 (43) | .82‡ | 13.9 | 14.0 | .96 | 16 (31) | 13 (33) | .91 |
| Smoke crack, ready-rock, or freebase cocaine | 51 (59) | 62 (67) | .31 | 16.9 | 15.6 | .55 | 17 (33) | 23 (37) | .68 |
| Smoke marijuana or hashish | 55 (64) | 63 (68) | .59 | 17.5 | 15.3 | .36 | 26 (47) | 25 (40) | .41 |

*$P$ determined using a $\chi^2$ test.
†$P$ determined using a Student $t$ test.
‡Using logistic regression controlling for sex and race.

analysis, the before group was more likely than the after group to have sniffed or snorted heroin (59% vs. 43%, respectively, $P = .04$). However, this apparent decrease disappeared when we used multivariable logistic regression and controlled for sex and race ($P = .82$).

The before group was similar to the after group in the mean number of days of drug use per month before and after September 11th and in the proportion of drug users who sniffed cocaine, sniffed heroin, smoked crack, or smoked marijuana daily (see the Table).

## CONCLUSION

For street-recruited heroin and cocaine users sampled in Harlem and the Bronx, the frequency of drug use did not increase following the events of September 11, 2001. The proportion using different types of drugs, the mean number of days per month, and the percentage of persons who used drugs daily did not change after the disaster.

Our findings are consistent with the study by Weiss et al.,[7] also in this volume. Their study consists of ongoing qualitative interviews with 57 current and former injecting drug users who live throughout New York City. The authors found that heroin and cocaine users used drugs with the same frequency before and after September 11, 2001.

Following the events of September 11, 2001, heroin and cocaine users did not respond like the general population.[5] While the general population responded to events with an increase in use of cigarettes, alcohol, and marijuana, heroin and cocaine users did not increase their drug use. Importantly, this study looked at a particularly marginalized population. They are marginalized both in their status as "drug users" and in living in poor inner-city neighborhoods. Though very much affected by the events of September 11th, as noted by Weiss et al., their stress response differed from that of the larger population.

It is possible that the observed lack of change in drug use patterns following this disaster may be due to sampling error. Some drug users may have been too upset by the events of September 11th to come to the storefront for an interview. We would not have observed changes in their drug use frequency. In addition, these drug users were interviewed in East and Central Harlem (northern Manhattan) and the Bronx. Drug users living closer to the site of the disaster were not included in this sample, and any changes in their drug use would not be reflected here.

Finally, there were overlapping time periods used in the data collection. Specifically, the last 6 months for the after group included a before period. This is particularly important when thinking about those participants interviewed on September 12th and 13th. Any acute or transient increases in drug use may not be reflected in our study. Weiss et al.[7] did note some transient changes that our study did not detect in the use of drugs by a minority of drug users.

There were no major changes in drug use frequency among heroin and cocaine users in Harlem and the Bronx. Immediately after the events of September 11th, the public expected that drug availability in New York City would drop quickly: the worldwide drug supply would decrease as Afghanistan closed its borders during the war with the United States, the US drug supply would decrease due to careful screening at the borders, and the New York City drug supply would decrease due to careful screening of incoming traffic at the bridges and tunnels. Health professionals were concerned about the impact of a decrease in drug supply without

a concurrent increase in drug treatment options. Though this report is early, it does not appear that these measures led to decreased drug availability or any change in drug use among heroin and cocaine users in Harlem and the Bronx.

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