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National Institute of Justice

Research in Action

James K. Stewart, Director

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Drug Use Forecasting: New York 1984 to 1986

by Eric D. Wish, Ph.D.

As part of research funded by the National Institute of Justice, staff of Narcotic and Drug Research, Inc. (NDRI), entered Manhattan Central Booking in 1984 and 1986. Researchers interviewed and obtained voluntary urine specimens from persons who had recently been arrested. This report compares the level of drug use found in the 1984 drug testing with that found in 1986.

Background of the studies

During a 6-month period in 1984, NDRI staff were stationed in Manhattan Central Booking to obtain voluntary interview information and urine specimens from 6,406 male arrestees. In requesting participation, priority was given to persons charged with nondrug felony offenses. Ninety-five percent of the arrestees approached consented to an interview, and 84 percent of these provided a specimen. The New York State laboratory in Brooklyn analyzed the specimens. The results indicated that

56 percent of male arrestees in 1984 tested positive for opiates, cocaine, PCP, or methadone.

After completion of the study in 1984, the use of cocaine processed for smoking—"crack"—became prevalent in New York City. Researchers at NDRI and officials at the New York City Police Department (NYPD) expressed interest in learning if drug use and crime patterns had changed in arrestees in Manhattan in the 2 years since the first study. Concurrently, NIJ had been planning to establish a national drug forecasting system based upon periodic drug screening of arrestees in the largest cities across the United States. Because of their experience obtaining urine specimens, NIJ staff felt that New York City would be a good site to test procedures for this new national data system. NDRI staff were asked to return to Manhattan Central Booking for a few months to obtain additional interviews and urine specimens from male arrestees.

The current study

We returned to Manhattan Central Booking in September, October, and November 1986. Each month, NDRI staff approached arrestees for approximately 1 week, during the busiest period (between 3:00 and 11:00 p.m.), until at least 200 specimens had been obtained. We followed the same procedures used in 1984, with one exception: this study was totally anonymous and no names were recorded. (We had obtained names of arrestees in the earlier study to track each person's case disposition.) Participation in the brief interview regarding prior and current drug use and provision of a urine specimen were voluntary. At the completion of each month's data collection, the urine specimens were

delivered to the New York State Laboratory in Brooklyn for analysis by EMIT™ and by thin layer chromatography (TLC). Primary drugs tested for were opiates, cocaine, marijuana, PCP, and methadone. The interviews and test results were sent to NDRI offices in Harlem for analysis.

Findings

Response rates. We obtained the same high level of cooperation in 1986 that we achieved in our study in 1984. In September, 96 percent of the 247 eligible male arrestees approached agreed to the interview and 85 percent of these provided a urine specimen. The figures for October were 92 percent (of 262) and 88 percent, respectively, and 94 percent (of 235) and 91 percent for November. A primary reason that arrestees cooperated with our research is that staff interacted with them in a nonthreatening and supportive manner.

Charge at arrest. Both studies under-sampled persons charged with the sale or possession of drugs and oversampled persons charged with a felony offense. In 1984, 20 percent of the arrestees in the interviewed sample who also gave urine specimens were charged with a drug offense, compared with 22 percent of the arrestees in 1986. In 1984, 76 percent of the sample were charged with a felony offense. In 1986, oversampling felony cases was more difficult because we were collecting data for only 1 week each month. Thus, 63 percent of the persons studied in 1986 were charged with a felony offense. To ensure that changes in drug use found in 1986 were not a function of any changes in the distribution of the charges in the samples, some of the analyses reported here examine persons charged with specific offenses.

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Drug Use Forecasting: New York 1984 to 1986

Age. The age distribution of the arrestees from the two studies was very similar, as shown in Table 1. Any marked differences in results from the two studies, therefore, cannot be attributed to age differences in the samples.

Table 1
Age distribution of arrestees interviewed and submitting a urine specimen, by year

Age at arrest	Arrestees in 1984 (n = 4,821*) %	Arrestees in 1986 (n = 614**) %
16-20	22	18
21-25	25	27
26-30	21	22
31-35	13	16
36+	19	17
	100%	100%

*Age information missing for 26 persons.
**Age information missing for one person.

Urine test results, 1986. Table 2 shows the percentage of arrestees who tested positive for drugs in each of the 3 months in 1986. It is clear that drug use was consistently high in September and October. Cocaine was the drug most likely to be found each month, in 82 percent and 84 percent of the arrestees, respectively. Marijuana was the next most common drug, found in a little more than one-quarter of the arrestees. Opiates were found in approximately one-fifth of the arrestees. Methadone, some of which may have been prescribed as part of treatment, and PCP, were found in a small minority of the arrestees.

The results for November were similar to the prior 2 months for all drugs except cocaine, which declined to 68 percent. The decline in cocaine is impressive given the stability in the other drugs. It should be noted that in November the

Table 2

Percentage of arrestees with a positive urine test, by month of arrest

Tested positive for:	September 1986 (n = 203)	October 1986 (n = 211)	November 1986 (n = 201)
Cocaine	82%	84%	68%
Marijuana	29%	25%	23%
Opiates	21%	23%	20%
Methadone	6%	10%	10%
PCP	3%	5%	3%
Any of above	86%	89%	79%
2+ of above	44%	49%	41%

Table 3

Comparison of urine test results for arrestees in 1984 and 1986

Tested positive for:	Arrestees in 1984 (n = 4,847)	Arrestees in Sept + Oct. 1986 (n = 414)	Arrestees in Nov. 1986 (n = 201)
Cocaine	42%	83%	68%
Opiates	21%	22%	20%
Methadone	8%	8%	10%
PCP	12%	4%	3%
Any of above	56%	85%	73%
2+ of above	23%	30%	23%

NYPD was considering the potential transfer of large numbers of police officers throughout the city. Resulting reassignments and reductions in police activity during this period may have altered the types of persons that were arrested. Table 4 shows, however, that the decline in cocaine was found for all arrest charges. (Because of the strong similarity in the drug use results for September and October, subsequent tables will combine the findings from these 2 months.)

Comparison of drug use in 1984 and 1986. Table 3 compares the test results for 1984 and 1986. Since marijuana was

not tested for in 1984, findings regarding marijuana use in 1986 are not included in the table.

Cocaine use has increased considerably since 1984. More than 80 percent of male arrestees tested positive for cocaine in September and October 1986, compared with 42 percent in 1984.

The increase in cocaine contrasts with the relative stability found for the other drugs. Even after the decline in November, the prevalence of cocaine is still 26 percentage points above that found in 1984. Use of opiates and methadone was unchanged, while PCP use actually

The Assistant Attorney General, Office of Justice Programs, coordinates the criminal and juvenile justice activities of the following program Offices and Bureaus: National Institute of Justice, Bureau of Justice Statistics, Bureau of Justice Assistance, Office of Juvenile Justice and Delinquency Prevention, and Office for Victims of Crime.

declined. The decline in PCP raises some doubts about reports of the popularity of combined use of crack and PCP in Manhattan.

In spite of the rise in cocaine use, the percentage of arrestees testing positive for more than one drug was relatively stable over the 2 years—between 23 and 30 percent. Contrary to what was found in 1984, arrestees detected as cocaine users were not likely to be using other drugs. In 1984, 52 percent of the persons positive for cocaine were also positive for opiates, PCP, or methadone. This was true of only 35 percent of the cocaine positives in 1986.

These findings suggest that many of the additional cocaine users may be limiting their drug use to cocaine. On the other hand, it is also possible that many of these cocaine users will eventually progress to the use of heroin and other hard drugs because of their experiences with cocaine. This appears to be a critical question for future research so New York City may better estimate whether there will be an influx of new heroin abusers in the near future.

Was the rise in cocaine use limited to certain age groups? As Figure 1 shows, the increase occurred at all age levels. Perhaps most significant, however, is the rise in cocaine use among arrestees age 16 to 20. Only a minority of youths (28 percent) were positive for cocaine in 1984 while almost three-fourths were positive in September and October 1986. Interestingly, the November decline in cocaine use was most marked in young arrestees and those above age 35. Arrestees at these extremes tend to be less likely overall to be found to be using cocaine. In contrast, almost 80 percent of the arrestees age 21 to 35 were positive for cocaine in November.

Cocaine and charge at arrest. Table 4 shows the percentage of persons charged with specific offenses who were positive for cocaine. All offenses for which we had at least 20 persons charged in the September and October samples are included in the table.

As the table shows, cocaine use has increased dramatically for all offenses. Even drug dealers, who might be expected to have been already using cocaine in 1984, registered an increase

Figure 1
Percentage of arrestees positive for cocaine in 1984 and in 1986, by age (n = 4,821 in 1984, 413 in Sept/Oct. 1986, and 201 in Nov. 1986)

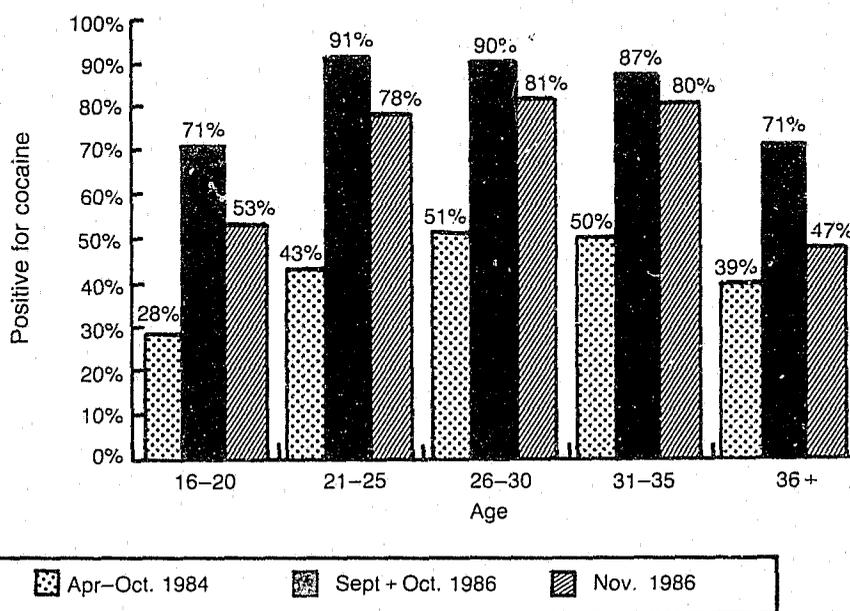


Table 4
Percentage of arrestees positive for cocaine, by date and charge at arrest

Charge at arrest	1984 (n*)%	Sept + Oct. 1986 (n)%	Nov. 1986 (n)%
Sale of drugs	(355) 55%	(27) 96%	(18) 89%
Possession of drugs	(615) 60%	(61) 92%	(28) 82%
Robbery	(676) 38%	(51) 92%	(17) 59%
Fare beating	(98) 21%	(26) 85%	(8) **
Larceny	(667) 44%	(50) 82%	(42) 69%
Burglary	(348) 43%	(31) 81%	(17) 71%
Assault	(506) 25%	(37) 65%	(15) 27%

*Number of persons charged with this offense.
**Too few cases.

(from 55 percent to 96 percent in September/October). Perhaps most significant, between 59 percent and 92 percent of the persons charged with robbery in 1986 were positive for cocaine, compared with 38 percent in 1984. Persons charged with assault were least likely to have been detected to be

using cocaine, although use did increase from 25 percent to 65 percent in September and October. By November, the percentage of persons charged with assault who were positive for cocaine had declined to the level found in 1984.

The fact that the November decline in cocaine was found for each charge

is a 1-month aberration or a true change in trend will be discovered once January's new data have been analyzed. (A preliminary assessment indicates that the percentage testing positive for cocaine in January rose to 73 percent, which is still below the high levels found in September and October.) This decline probably is genuine, in view of the added attention given by law enforcement and treatment agencies to the cocaine problem, and the greater societal warnings against cocaine use that have become common.

New York City's participation in NIJ's Drug Use Forecasting system (DUF)

will ensure that policymakers will continue to obtain invaluable information about drug abuse and crime in Manhattan. The DUF system will provide information needed to forecast future drug epidemics, to plan the allocation of scarce law enforcement and treatment resources, and to assess the impact of societal actions to reduce drug abuse in the offender population.

Acknowledgments

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category suggests that a real decline has occurred in cocaine use in offenders from the extreme levels found in September and October. Nevertheless, cocaine use remains high for almost all charges, compared to that found in 1984.

Self-reported drug use in 1986. Brief interviews were held with each arrestee studied in 1986 before he was asked to provide a urine specimen. Each arrestee was asked questions about his lifetime and recent use of cocaine and crack, and about need for treatment. Table 5 presents these findings.

Arrestees tend to underreport their recent use of illicit drugs, even in confidential research interviews, when held in the potentially threatening environment of a booking facility. Nevertheless, the self-report information can be used to establish trends over time, as long as we remember that the figures themselves grossly underestimate the level of drug use. The following information from the interviews should

therefore be considered to yield minimal estimates of the degree of drug abuse and treatment in this population.

Responses were highly stable over the 3 months. A little under one-half of the arrestees reported having ever used cocaine. (This underscores the magnitude of the underreporting of drug use by arrestees: although nearly twice as many arrestees were positive for cocaine in 1986 than in 1984, the percentage of arrestees who *admitted* to ever having used cocaine in the two studies was about the same—46 percent vs. 40 percent.)

A little more than one-quarter of the arrestees in 1986 said they had tried crack. (The statistics for crack and cocaine should not be combined because many of the persons who reported crack use are included among those who reported cocaine use.) A small minority (7 percent) of the arrestees reported having been on crack, and this was constant over the 3 months. Almost three-fourths of the persons who reported

using cocaine said they typically smoked or snorted the drug. Injection of cocaine was relatively rare. We asked persons who used cocaine whether they would prefer to have cocaine or crack, if they had a choice. Three-quarters of those with a preference indicated they would prefer cocaine over crack. Many of them expressed fear of the quick dependence that crack produces. About 40 percent of the persons who reported using cocaine first tried it before age 18.

A small percentage of the arrestees indicated that they were currently receiving drug or alcohol treatment. Arrestees are often reluctant to report on treatment experiences in interviews in Central Booking for fear of possible repercussions if their programs were to learn of their arrest. It is noteworthy that the percentage admitting to treatment increased over the 3 months and may reflect the increased attention being given to the cocaine problem in New York City. Almost one-fourth of the arrestees were not in treatment but indicated a desire for some treatment services. Their need for treatment was underscored by the finding that these persons were especially likely to be positive for cocaine by the urinalysis test.

Discussion

This study shows a dramatic increase in the prevalence of cocaine in the arrestee population in New York City. Recent use of cocaine by arrestees doubled since our study 2 years ago, and exceeded 80 percent in September and October. The increase was found at all age levels and for persons charged with a variety of offenses. In September and October, 92 percent of the persons charged with robbery and 81 percent charged with burglary were positive for cocaine.

Similar findings have also been obtained for arrestees in Washington, D.C. The prevalence of cocaine among arrestees tested by the D.C. drug testing program doubled in the same period, to about 48 percent. It is clear that, while national surveys of the general population indicate some moderation in drug abuse, use of cocaine has increased dramatically among offenders.

Table 5

Self-reported drug use and treatment in the arrestees in 1986, by month (n = 701 interviewed arrestees)

	September 1986 (n = 238)	October 1986 (n = 241)	November 1986 (n = 222)
Ever used cocaine:	43%	47%	47%
Of those who have used cocaine, usually snort or smoke it:	73%	71%	73%
Of those who have used cocaine, first tried it <i>before</i> :			
age 18:	37%	41%	41%
age 20:	63%	61%	56%
Ever used crack:	27%	27%	27%
Now dependent on crack:	7%	7%	7%
Of those who stated a preference, preferred cocaine over crack:	73%	74%	70%
Are in drug/alc treatment now:	3%	7%	10%
Not currently in treatment but need treatment now:	20%	22%	22%
Of those who need treatment now, positive by urinalysis for cocaine:	91%	96%	85%

Drug Use Forecasting: New York 1984 to 1986

It is difficult to attribute the rise in cocaine positives in arrestees solely to the use of crack. A urine test cannot differentiate use of crack from cocaine. And more persons admitted to having used cocaine than crack. On the other hand, most users indicated that they smoked or snorted their cocaine, rather than injecting it. When given a chance to specify their preference for crack or cocaine, many persons volunteered that crack was too dangerous a drug to use. Therefore much of the increase detected by the tests may stem from a more general increase in cocaine use rather than just crack use.

Almost one-quarter of the 1986 arrestees said they were not currently in a treat-

ment program but that they needed treatment. These persons were among those most likely to test positive for cocaine and represent a challenge for future treatment outreach efforts.

As was found in our earlier study, use of cocaine (and PCP) typically begins in the teenage years. This suggests that prevention programs might need to focus on youths in their early teens. Furthermore, since most users were not injecting drugs, treatment programs aimed at current cocaine users may be able to stop these users from progressing to the injection of cocaine and heroin. The cocaine users in 1986 differed from those in 1984 by their apparent lower likelihood of multiple drug use. Re-

search should be initiated to determine whether the increased number of cocaine users will result in a future rise in the number of heroin users or whether most of these persons will limit their drug abuse to cocaine and refrain from injecting the drug.

Finally, the results underscore the value of a national drug crime forecasting system envisioned by the National Institute of Justice. By obtaining urine samples from arrestees periodically, one can document trends in drug use in the offender population. Besides showing the dramatic increase in cocaine use among offenders, the findings provide some promise that the rising trend may have ended in November. Whether this

About the Drug Use Forecasting System

The National Institute of Justice has begun a Drug Use Forecasting system (DUF) for tracking drug-use trends in offenders. In 1987 DUF will be established in 10 of the largest cities in the United States. Next year the system will be expanded to 25 cities.

Every 3 months, a new sample of about 200 arrestees in each participating city will provide voluntary urine specimens. Because the estimates of drug use will be based on urinalysis results rather than on the person's self-report, the DUF system will provide the most objective information available regarding recent drug use by offenders.

In addition to uncovering national trends in drug use, the DUF system will enable each site to gather information useful for the early detection of drug epidemics; for planning and allocating law enforcement, treatment, and prevention resources; and for measuring the impact of efforts to reduce drug abuse and crime.

DUF selection criteria. During the first year of the project NIJ is selecting large cities that meet the following criteria:

- Have a central booking facility.
- Have a large number of index crimes.
- Have a suspected drug abuse problem.
- Provide DUF with geographic diversity.

DUF is currently operating in eight cities: New York; Indianapolis; Washington, DC; Phoenix; Portland, Oregon; New Orleans; San Diego; and Houston.

DUF training and funding. NIJ will assist each DUF site in selecting and interviewing volunteer arrestees, obtaining the urine specimens, and preparing the data for delivery to NIJ. Each site will receive a contract from

NIJ to cover all local costs of data collection.

DUF results. NIJ will prepare annual reports that compare the information from each city. Using the test results and information about the annual number of arrests, NIJ will make estimates of the total number of drug users in the offender population in each DUF city. The Institute will examine the trends in drug use in each city and make projections of future trends. The DUF information will also be compared with other indicators of community drug use. Reports will specify the relationship between recent drug use and charge at arrest, age and other demographic characteristics of the arrestees.

To obtain more information about the DUF system or details on becoming a DUF site, please contact Mr. John Spevacek or Dr. Eric Wish at the National Institute of Justice, 633 Indiana Avenue NW., Washington, DC 20531, 202-272-6010.