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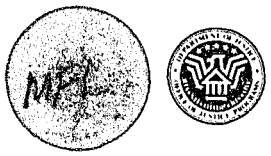


Research in Action

James K. Stewart, Director

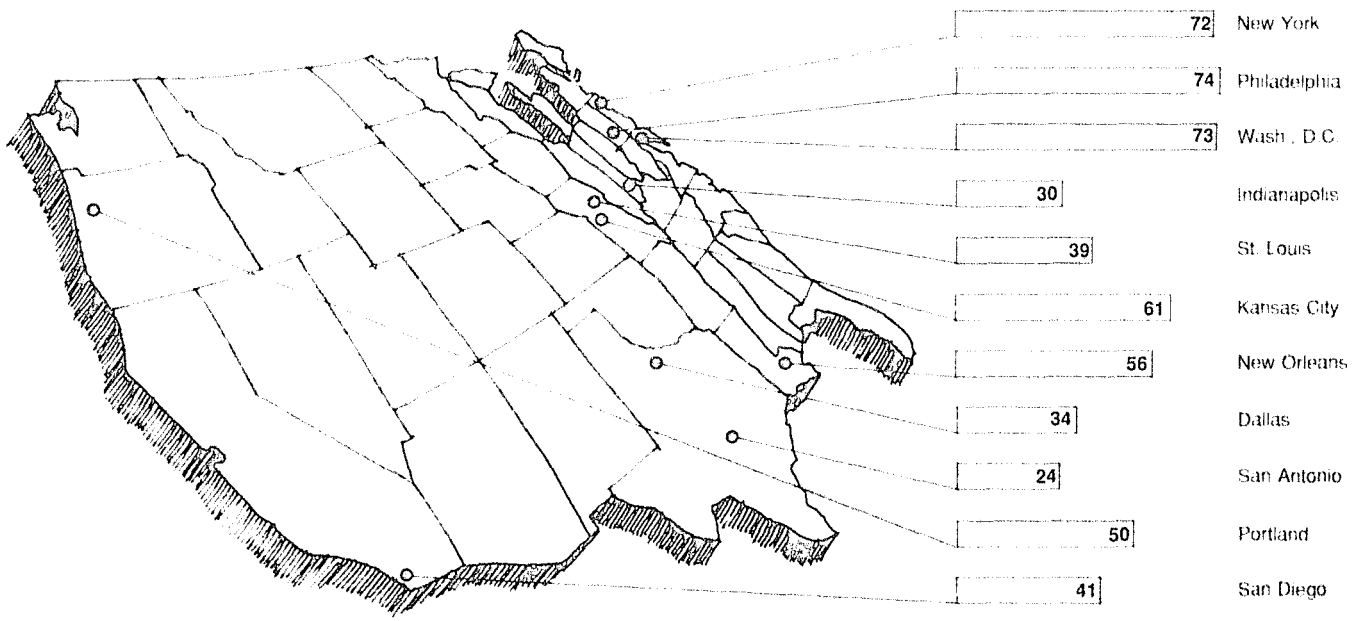
September 1989

DUF

DRUG USE FORECASTING

JANUARY TO MARCH 1989

Female Arrestees: Use of Cocaine*



Source: National Institute of Justice
*Positive by urinalysis, January through March 1989

A Program of the National Institute of Justice — Cofunded by the Bureau of Justice Assistance

Drug Use Forecasting (DUF) Research Update

by Eric D. Wish and Joyce Ann O'Neil

DUF Research

The Drug Use Forecasting program provides the country with the first objective measure of recent drug use in an extremely deviant segment of the population. Recent drug use in arrestees is more than 10 times higher than is reported in surveys of persons in households or senior high schools. With DUF data, innovative research is now possible into: the prevalence of drug use among criminal justice populations; cyclical trends in drug use; the age of onset and progression of drug use; the relationship of drug use to crime type; the validity of arrestees' self-reports; and AIDS risk behaviors in arrestees.

An ongoing NIJ-sponsored study, for example, suggests that DUF statistics may enable a city to predict other community problems. Urine test results from arrestees in Washington, D.C., have predicted trends in emergency room drug episodes and child abuse cases a year in advance.

For more on this research, see last page.

The DUF interview can be modified to address new research topics as they arise. For example, questions about the route of administration of cocaine were added to the interview when crack cocaine became a national problem.

First-Quarter Results

Between 50 percent and 85 percent of male arrestees and 44 percent and 87 percent of female arrestees tested positive for one or more drugs.

Eric D. Wish, Ph.D., is a Visiting Fellow and Joyce O'Neil, M.A., is a social science analyst at the National Institute of Justice.

Regional differences in drug use were detected. Cocaine use was found in all cities, but PCP was limited primarily to Washington, D.C., and St. Louis; amphetamines were limited primarily to San Diego and Portland, Oregon. Opiates (heroin) are found primarily in female arrestees in Washington, D.C., Portland, Oregon, and San Antonio.

In most cities, injection of cocaine was as likely as injection of heroin.

The table to the right shows the percent of male and female arrestees who reported that they need treatment for drug or alcohol problems. Arrestees are more likely to say they need treatment in cities such as New York, Philadelphia, and San Diego where they are especially likely to test positive for drugs.

Purpose of DUF

In 1986, the National Institute of Justice began the Drug Use Forecasting Program in New York City. This report includes results from 13 cities. Now a total of 22 cities have joined the program, and information from them will be available in future reports. DUF is designed to provide each city with information for detecting changes in drug use trends in arrestees. This information can be used to plan the allocation of law enforcement treatment and prevention resources, as well as to gain an indication of the impact of local drug use reduction efforts. By the end of 1989, DUF will be expanded to 25 cities.

Method

DUF data are collected in central booking facilities in the largest cities across the United States. For about 10 consecutive evenings each quarter, trained local staff obtain voluntary and anonymous urine specimens and interviews from a new sample of arrestees. In each site, about 250 male arrestees are sampled. Some sites also obtain smaller samples of female arrestees and juvenile detainees. Response rates are consistently high, with over 90 percent agreeing to be interviewed. More than 80 percent of the persons interviewed provide a urine specimen.

To obtain samples with a sufficient distribution of charges, DUF interviewers limited the number of persons in the sample who are charged with the sale or possession of drugs. Because such persons are most likely to be using drugs at arrest and are undersampled, DUF statistics are minimal estimates of drug use in the arrestee population.

Urine specimens are analyzed by EMIT™ for 10 drugs: cocaine, opiates, marijuana, PCP, methadone, Valium, methaqualone, Darvon, barbiturates, and amphetamines. Positive results for amphetamines are confirmed by gas chromatography to eliminate over-the-counter drugs.

Drug or Alcohol Treatment Needs of Arrestees*

	% Needing Treatment	
City	Male	Female
Cleveland	33	N/A
Dallas	18	8
Detroit	29	N/A
Indianapolis	32	22
Kansas City	32	29
New Orleans	19	12
New York	41	40
Philadelphia	43	48
Portland	27	26
San Antonio	18	15
San Diego	41	38
St. Louis	28	20
Wash., D.C.	22	38

Source: National Institute of Justice/Drug Use Forecasting Program

*Data based on voluntary self-reports, January through March 1989

Drug Use: Trends Among Arrestees

Did cocaine use supplant the use of other drugs? In most cities, the rise in cocaine has been accompanied by a reduction in the use of other drugs by arrestees. It appears that the greater availability of inexpensive cocaine has changed drug distribution patterns.

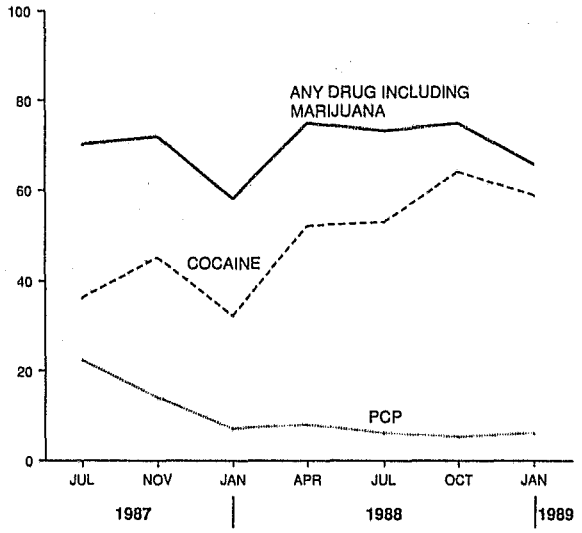
New Orleans. From 1987 to 1989, cocaine use has risen from under 40 percent to just under 60 percent. During the same period, PCP has declined and is found in less than 10 percent of arrestees.

Manhattan. Cocaine use doubled between 1984 and 1986 and has since then remained between 65 percent and 85 percent. At the same time, use of opiates, marijuana, and PCP have fallen to their lowest levels.

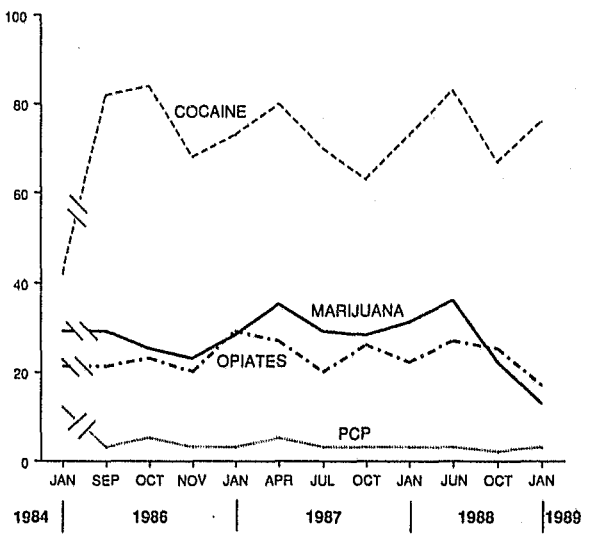
San Diego. The rise in cocaine use has not brought about a decline in amphetamines in San Diego. Use of both these stimulants has risen since 1987, contributing to the city's high rate of drug use among arrestees.

Washington, D.C. Cocaine use has tripled since 1984. Opiates and PCP have declined to their lowest levels.

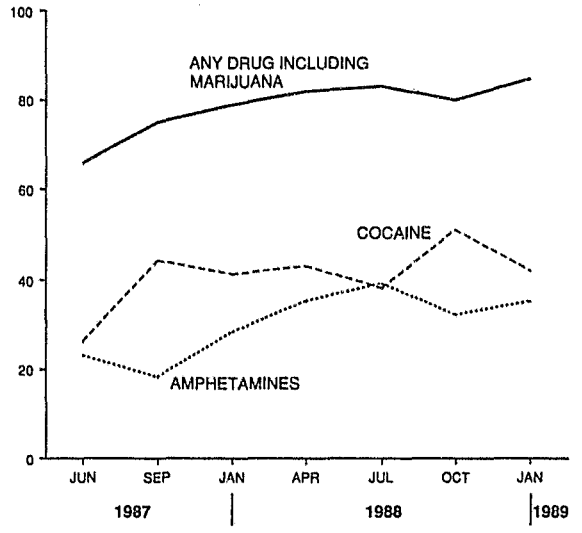
Drug Use: Male Arrestees in New Orleans



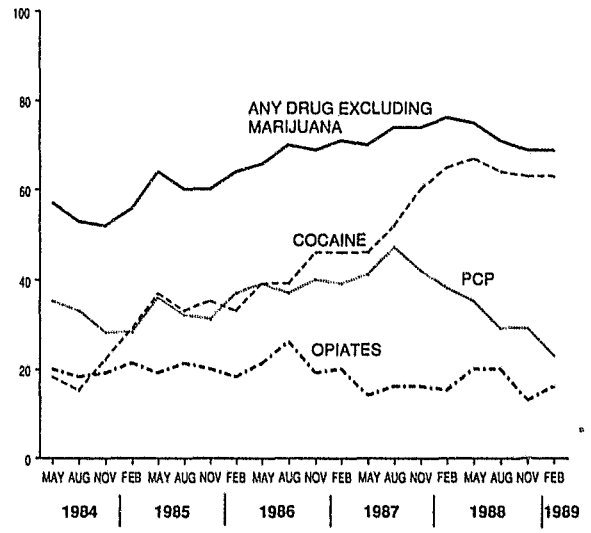
Drug Use: Male Arrestees in Manhattan



Drug Use: Male Arrestees in San Diego



Drug Use: All Arrestees in Washington, D.C.*



Source: National Institute of Justice/Drug Use Forecasting Program

*Data based on male and female arrestees tested through Wash., D.C. Pretrial Services Agency

Drug Use by All Arrestees*

More than 70 percent of the male and female arrestees in San Diego, New York, Philadelphia, and Washington, D.C., tested positive for one or more drugs. San Antonio and Indianapolis had the lowest rates of drug use.

More arrestees tested positive for multiple drug use in San Diego than any other city. Arrestees there tended to use cocaine, marijuana, and methamphetamines (speed).

PCP is found in about one-quarter of arrestees in Washington, D.C. The only other city where PCP is prevalent is St. Louis, where 20 percent of female arrestees tested positive for the drug.

The highest rates of cocaine use—above 60 percent—were found in Washington, D.C., New York, and Philadelphia.

There is no evidence of an increase in heroin use in male arrestees. In every city, opiates were found in fewer than 20 percent of tested males. Opiates were more common in females, especially in Washington, D.C., Portland, Oregon, and San Antonio, Texas.

City	% POSITIVE ANY DRUG (0 20 40 60 80 100)	RANGE OF % POSITIVE LOW	LOW DATE	HIGH	HIGH DATE	% POSITIVE 2+ DRUGS	COCAINE	MARIJUANA	AMPHETAMINES	OPIATES	PCP
Males											
San Diego	85	66	6/87	85	1/89	48	42	44	35	18	6
New York	80	78	10/88	90	6/88	30	76	13	**	17	3
Philadelphia	79	79	8/88	82	11/88	33	74	24	**	10	3
Wash., D.C.	72	Data not available				36	65	13	0	14	22
Detroit	68	66	6/88	69	10/88	17	54	24	0	7	0
Dallas	67	57	12/88	72	6/88	29	50	34	4	7	2
New Orleans	66	58	1/88	75	10/88	29	59	26	0	6	6
Cleveland	66	66	2/89	68	11/88	22	56	22	0	4	3
St. Louis	64	56	10/88	64	1/89	26	47	24	1	4	9
Kansas City	60	54	11/88	60	2/89	15	44	22	2	2	2
Portland	54	54	1/89	76	8/88	21	36	27	7	9	0
San Antonio	51	51	2/89	63	8/88	23	24	28	6	14	0
Indianapolis	50	50	2/89	60	2/87	14	26	30	0	2	**
Females											
Wash., D.C.	87	Data not available				46	73	10	0	34	24
San Diego	83	78	8/88	87	12/87	54	41	36	45	19	2
Philadelphia	80	77	1/89	82	8/88	24	74	12	0	12	**
New York	78	76	10/88	83	2/88	28	72	4	2	16	2
Kansas City	73	70	11/88	73	2/89	24	61	21	2	6	3
Portland	69	69	1/89	82	8/88	33	50	22	11	26	0
New Orleans	65	46	11/87	65	1/89	30	56	22	0	6	6
St. Louis	53	45	11/88	53	1/89	25	39	13	0	4	20
Indianapolis	47	52	6/88	61	6/87	15	30	20	0	6	0
San Antonio	45	45	2/89	51	8/88	25	24	16	3	20	1
Dallas	44	44	3/89	71	6/88	18	34	14	7	5	0

Source: National Institute of Justice/Drug Use Forecasting Program

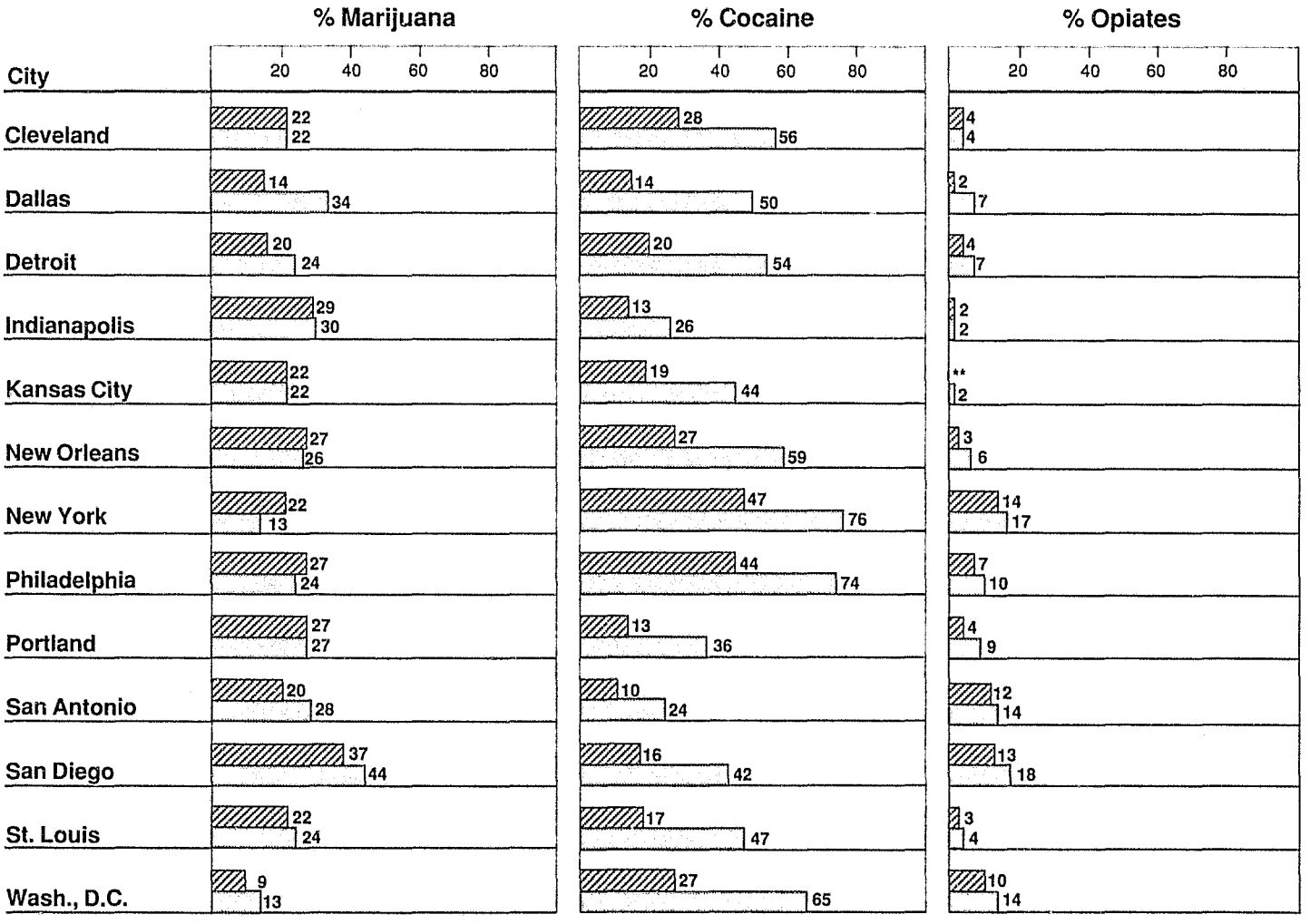
* Positive urinalysis, January through March 1989
** Less than 1%

Drug Use by Self-Report and Urinalysis: Male Arrestees*

Researchers collected urine specimens and interview information from arrestees in Washington, D.C., and New York City in 1984. These early studies indicated that self-reports underestimated recent drug use by about one-half. The DUF data confirm and extend these findings to arrestees throughout the country.

Estimates of drug use from arrestee self-reports and the urine tests tend to agree most for marijuana and opiates. Extreme underreporting of cocaine was evident, however. In many cities the urine tests detected twice as many users of cocaine as did the self-reports. In Dallas, 14 percent reported cocaine use but 50 percent tested positive for the drug.

Why arrestees appear more willing to admit to using marijuana or opiates is not clear. However, other NIJ research on juvenile detainees has found that youths are more likely to report recent marijuana use than recent cocaine use.



Source: National Institute of Justice/Drug Use Forecasting Program

Self-report of recent drug use
% positive by urinalysis

* January through March 1989
** Less than 1%

Distribution of Arrest Charges*

DUF interviewers are trained to undersample males charged with drug offenses so that a variety of charges will be represented in the samples. For this reason, DUF estimates of drug use are less than one would find in the total arrestee population in any city.

The percentage of males charged with drug offenses varied from a low of 5 percent of the sample in Dallas to a high of 34 percent in San Diego. Additional analyses have shown that these sample differences in drug offenses do not significantly affect the comparisons of drug use between cities.

Because of their smaller numbers, all available female arrestees are included in DUF samples. The percent of drug offenses in female samples varied from 6 percent in Dallas and San Antonio, to 45 percent in San Diego.

City	N	CHARGE AT ARREST: ASSAULT	BURGLARY	DRUG SALE/POSS.**	HOMICIDE	LARCENY	ROBBERY	SEX OFFENSES	STOLEN PROP./ VEHICLE	WEAPONS	OTHER	TOTAL
Males												
Cleveland	204	13	14	17	2	7	7	2	20	5	13	100%
Dallas	260	20	11	5	***	17	6	3	9	7	21	100
Detroit	226	***	3	26	4	3	3	12	5	4	39	100
Indianapolis	248	10	7	14	***	20	2	9	2	2	33	100
Kansas City	247	22	7	9	2	13	6	2	5	6	28	100
New Orleans	213	9	15	6	5	18	9	1	8	14	15	100
New York	253	6	14	27	***	19	13	2	2	***	15	100
Philadelphia	305	10	12	28	2	12	13	***	11	***	10	100
Portland	188	14	9	20	1	12	4	4	8	3	25	100
San Antonio	230	4	1	14	***	22	***	3	4	4	47	100
San Diego	161	8	18	34	0	5	5	2	16	0	12	100
St. Louis	253	20	19	12	2	12	5	4	3	11	12	100
Wash., D.C.	222	10	4	25	***	12	9	2	14	5	18	100
Females												
Dallas	131	12	4	6	1	34	0	18	4	2	21	100
Indianapolis	98	4	1	9	1	21	1	8	1	0	54	100
Kansas City	108	15	2	12	0	19	3	11	0	0	38	100
New Orleans	69	18	2	19	1	28	1	6	1	1	23	100
New York	102	8	5	38	0	23	3	11	2	1	9	100
Philadelphia	113	13	7	21	1	28	7	3	2	1	17	100
Portland	102	8	3	22	0	14	6	24	2	0	21	100
St. Louis	73	14	0	7	0	19	1	6	0	4	49	100
San Antonio	100	2	2	6	0	37	0	1	2	1	49	100
San Diego	103	1	14	45	6	8	1	2	8	1	20	100
Wash., D.C.	82	6	4	28	0	6	0	20	6	0	30	100

Source: National Institute of Justice/Drug Use Forecasting Program

* January through March 1989
** Drug sale and possession charges are undersampled
*** Less than 1%

Self-Reported Injection Rates of All Arrestees*

City	N	% Ever injected: Any drug	% of injectors who ever injected: Cocaine	Heroin	Amphetamines	Comments**
Males						
Cleveland	204	17	74	71	15	*"If I let someone use my works, they can keep them. Won't shoot behind anyone."*
Dallas	260	15	67	46	51	*"Used to share often, but only share with my wife now because of AIDS."*
Detroit	225	19	60	95	5	*"Buys new needles because of AIDS."*
Indianapolis	248	17	81	44	46	*"Thinks about AIDS but when really wants needles will share."*
Kansas City	247	18	66	39	61	*"[AIDS] caused slow down in sharing of needle-cleans with boiling water and alcohol."*
New Orleans	212	18	80	69	5	*"AIDS had an effect on my sharing needles-I don't anymore."*
New York	250	21	91	89	19	*"If there's no other needle, I'll share. Already HIV positive."*
Philadelphia	305	19	83	64	44	*"My life is on the line and don't want to die from just getting high."*
Portland	187	30	71	64	70	*"Only people who I have sex with will I share with."*
San Antonio	226	24	68	76	36	*"Only shares with people close to me."*
San Diego	161	38	57	70	49	*"More concerned about having my own supply but will use if necessary. Has got hepatitis twice."*
St. Louis	253	18	91	64	40	*"Don't pick needles off street anymore."*
Wash., D.C.	216	19	78	78	5	*"Uses bleach but still shares. Learned about bleach on news."*
Females						
Dallas	130	18	61	61	44	*"I share mostly with my friends when they ask for it."*
Indianapolis	98	22	100	41	23	*"Before AIDS used to share all of the time, now only sometimes."*
Kansas City	108	16	94 ***	47 ***	71 ***	*"Stopped sharing after onset of AIDS problems. "*
New Orleans	67	19	****	****	****	*"I only share with my boyfriend. I wouldn't do it with anyone else."*
New York	101	17	53 ***	100 ***	6 ***	*"Friend died so I stopped sharing."*
Philadelphia	113	19	81	57	38	*"I only use it with my husband."*
Portland	102	55	73	73	55	*"Now has access to new needles."*
San Antonio	99	28	75	79	22	*"Friends have AIDS, used to share needles with them. "*
San Diego	104	42	70	75	75	*"Was very sick in hospital . . . from sharing needle. Yet still shares, cleans with peroxide. "*
St. Louis	74	20	****	****	****	*"Only share needles with husband."*
Wash., D.C.	80	30	79	79	4	*"Tested positive for AIDS."*

Source: National Institute of Justice/Drug Use Forecasting Program

* Data based on voluntary self-reports, January through March 1989
** Self-report statements regarding the effects of AIDS on injection and needle sharing
*** Based on 17 cases
**** Too few cases to compute a meaningful percent

Using Arrestee Drug Test Results To Forecast Community Drug Problems

Preliminary results from NIJ-sponsored research suggest that trends in arrestee drug use can predict changes in community crime, drug-related emergency room episodes, and child abuse by as much as 1 year in advance.

The study correlated urine test results from arrestees in Washington, D.C., with a number of community indicators, including crime, drug abuse, and child abuse. These new findings, if replicated in other cities, suggest that the test information from the Drug Use Forecasting program may give participating cities a valuable new tool for forecasting law enforcement and drug treatment and prevention needs.

The Institute for Social Analysis, which conducted the study for NIJ, tested the hypothesis that increases in arrestee drug use would precede increases in drug use in the wider community. Criminals, it was reasoned, would be the first to take up an illicit drug as it became available in a community.

The research compared trends in arrestee drug use with other indicators of community drug use and associated problems in Washington, D.C., over a 51-month period.

Measures

Drug use was measured by EMIT™ urinalysis from all arrestees tested by the District of Columbia Pretrial Services Agency between April 1984 and June 1988. The percentage of arrestees testing positive for five drugs (cocaine, opiates, PCP, amphetamines, and methadone) was calculated for each of the 51 months covered by the study. Trends in drug-related health problems in Washington were measured using monthly data on the number of emergency room drug episodes and drug overdose deaths recorded in the Drug Abuse Warning Network (DAWN). Treatment trends were measured by obtaining the number of admissions to publicly supported drug treatment programs. Crime rates were measured by the monthly incidence of property crimes and violent crimes. A separate analysis of homicides was also completed. Child abuse trends were measured by the number of reports made to the city's Department of Child Protective Services.

Findings

The study reported that the percentage of arrestees who tested positive for any drug climbed from 50 percent in April 1984 to about 70 percent in June 1988. During this same period, increases occurred in the city's drug-related emergency room episodes, overdose deaths, property crimes, homicides, and child abuse reports. The research found strong correlations between drug use and these indicators when trends were examined separately according to charge at arrest, type of drug, and arrestee age and gender. Trends in arrestee drug use were not found to be associated with violent crimes and treatment admissions since neither of these indicators increased during the period studied.

The preliminary findings indicate that the arrestee test results improved the ability to predict drug-related problems over and above what was possible by examining the trends in community indicators alone. Changes in crime rates, drug-related overdose deaths, emergency room episodes, and child abuse reports were predicted by the arrestee test data 12 months in advance, even after taking the trends in these indicators into account. Public drug treatment program admissions were not related to previous arrestee drug use trends, possibly because of constraints on the type or availability of treatment.

This summary is based on information from Adele Harrell, Ph.D., director of the research project. Dr. Harrell is now a senior research associate with The Urban Institute.

To receive more drug testing information or to be added to the DUF mailing list, contact:

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