

An Overview of Heroin Trends in New York City: Past, Present and Future

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Abstract

Heroin abuse has been a long-standing problem in the United States, especially in New York City, which is a major heroin trafficking center and home to the largest population of heroin addicts in the country. As a consequence, New York City is also the major center for methadone treatment. Over time, however, the heroin problem seems to have changed in terms of demographic characteristics of abusers, as well as heroin purity, its associated health consequences, modes of use, and other drug patterns. Past and present heroin-involved events for New York City are examined, with some projection about the future of the heroin problem.

To identify these changes, a variety of indirect indicators of heroin abuse are analyzed. These indirect indicators include admissions to New York City heroin treatment programs, as well as heroin-involved deaths, arrests and emergency room episodes, and heroin purity levels. Additionally, a recent study of heroin abusers in New York City yielded patterns of heroin use and estimates of heroin prevalence.

The salient results indicate that, over time, Hispanics have become the predominant user group, the population of abusers is an aging cohort, heroin purity levels have risen dramatically, and intranasal use has become more prominent than injecting.

The findings have important consequences for prevention, treatment, and programs that target special populations.

Key Words: Heroin trends, heroin prevalence, epidemiology of heroin abuse, New York City heroin problem.

Introduction

NEW YORK CITY has long been the major center of heroin activity in the United States, and what happens here has consequences far beyond its boundaries. This paper presents an overview of New York City's heroin trends, underscoring notable changes over time — changes in the demographic characteristics of users, in the source, quality and availability of street-level heroin, and in the modes of use, as well as the health consequences associated with heroin addiction. In tracing the trends, three time perspectives are addressed: the historic past, prior to the 1970s; the recent past, the 1970s through the 1990s; and the future.

The Historic Past

According to historic analysis, opium smoking preceded heroin use, especially in New York City (1). Most narcotic abusers in the United States were women who were addicted to morphine or patent medicines containing opium. With the immigration of Chinese laborers in the mid-nineteenth century, opium smoking became a more visible form of narcotic use and spread to others in the larger community, especially artists, writers, and actors, as well as criminals.

The widening market also spurred the smuggling of opium into the country. Opium smoking, however, was perceived by the general society as a vice, leading to corruption, crime and depravity. As a consequence, in 1909, federal legislation banned the importation of prepared opium; this in turn reduced the opium supply for smoking. This decrease in availability led many who had previously smoked opium to inject morphine or heroin, a morphine derivative which had the advantages of being less bulky than opium and easily smuggled into the country. Injecting illicit narcotic

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drugs became even more widespread with the passage in 1914 of the Harrison Narcotic Act, which prevented the sale of morphine and heroin for nonmedical use.

By the 1930s, criminal organizations controlled heroin trafficking. A major consequence of this was that injection became the prominent mode of use. Since heroin was soluble and could be adulterated, and since the profit motive was obviously very strong and quality control minimal, it was most efficient and economical for the narcotic supplier to provide low-quality heroin for injection.

Helpern and Rho (2) identify the years between the end of World War I and the beginning of World War II as the period when this major change in the way narcotic addicts used drugs really took hold. The authors believe that the practice of using heroin intravenously originated in Cairo, Egypt, and spread to visiting seamen, who then introduced the practice in their ports of call (3). An important aspect of this use was the indiscriminate sharing of unsterilized syringes for intravenous injection of drugs. As a result, infections spread easily among users. Fatalities were often due to malaria, bacterial endocarditis, septic thrombophlebitis and viral hepatitis. Interestingly, quinine was used as a diluent in heroin during the 1930s. Addicts and those in the heroin trade quickly realized that quinine was a cure for and prophylaxis against malaria. Quinine as a diluent solved the problem of transmitting malaria among addicts sharing paraphernalia for injecting drugs.

The period after World War II saw an escalation in narcotic addiction. Restrictions in international travel and commerce were lifted, and criminal organizations resumed the smuggling and trafficking of heroin. Helpern and Rho, physicians with New York City's Office of the Chief Medical Examiner, and keen observers of the narcotic addict's street scene, wrote (2): "Diluted heroin mixtures sold to addicts by 'pushers' are dispensed in glassine envelopes, containing 0.2 to 0.3 gm of diluted drug of which about 18% is heroin. There is considerable variation in the total weight and strength of samples."

Thus, the stage was set for an extreme form of drug addiction in New York City, with severe health consequences. Table 1 summarizes demographic characteristics from several data sets over a 39-year period. The data for 1950 through 1967 are especially informative. First, data for 1,586 fatalities due to narcotism — mainly, chronic or acute intravenous narcotism — are presented for a period of 12 years. Clearly, the vast majority of the decedents were male (78%); more than half were black (57%), followed by whites (29%) and

Hispanics (14%); and the median age was about 27 years.

Table 1 also presents the demographic characteristics of individuals who were reported to the New York City Health Department's Narcotics Register. The Register, active from 1963 to 1974, was mandated by the City Health Code to collect records of known or suspected addicts. More than 500 law enforcement, treatment, and health-related agencies cooperated in the reporting effort, yielding almost 900,000 reports on approximately 300,000 individuals. More than 95% of the reported individuals were using heroin. Interestingly, the demographic characteristics of the individuals reported to the Narcotics Register from 1964 through 1967 resemble very closely the decedents who died of narcotism from 1950 through 1961, as shown in the first two columns of Table 1. The gender ratio and the median age are very similar. However, the number of deaths in the Hispanic group increased from about 8% in the interval from 1950 through 1961. The Narcotic Register recorded a 26% increase during the years 1964 through 1967.

The Recent Past: 1970s–1990s

Over the last three decades, important changes have taken place in the population of heroin users, the quality of street-level heroin and the preferred mode of use. The sections below highlight these changing trends.

A. Demographic Trends

Table 1 also shows recent demographic findings for New York City heroin users, in the last years of the Narcotics Register (1971 through 1974), and in admissions to treatment programs in the 1980s and 1990s (4–7). The treatment data show the appearance of a population somewhat different from that of the earlier years. First, females represent a larger proportion of the heroin-using population in recent years, particularly among those entering treatment. Second, the ethnic composition of this more recent population is different, with Hispanics now as the modal group. Finally, the median age of this population increased from 32 to 37 years, as shown by the treatment admission findings from 1986 to 1998.

B. Trends in Heroin Purity

New York City remains the major port of entry and distribution center for much of the

TABLE 1
Demographic Trends of Heroin Users in New York City
From Multiple Sources, 1950–1998

	Decedents 1950-1961 (Ref #2)	Reports to Narcotics Register 1964-1967 (Ref #3)	First Reports to Narcotics Register 1971-1974 (Ref #4)	Treatment Admissions to New York City State-Funded Programs 1986-1987 (Ref #5)	Treatment Admissions to New York City State-Funded, Federal-Funded and Private Programs	
					1991-1993 (Ref #6)	1996-1998 (Ref #7)
Total	1,586	64,890	145,577	23,057	50,805	58,338
Gender						
Male-%	78	79	77	70	69	71
Female-%	22	21	23	30	31	29
Race/ Ethnicity-%						
White	21	24	28	23	28	27
Black	39	50	42	31	29	30
Hispanic	8	26	15	45	40	42
Other/ Unknown	32	NA	15	1	3	1
Median Age years	27	27	22	32	34	37

heroin coming into the United States (8). The quality, however, had been relatively low until the 1990s. Fig. 1 shows the dramatic increase in potency in New York City, especially since the late 1980s — from an average purity of less than 10% before 1988 to more than 60% over the last several years. In the past, only a few areas were serving as sources for heroin coming into this country. From the mid-1960s to the 1970s, Turkey was the primary source country, followed by Mexico in the mid-1970s. Since then, how-

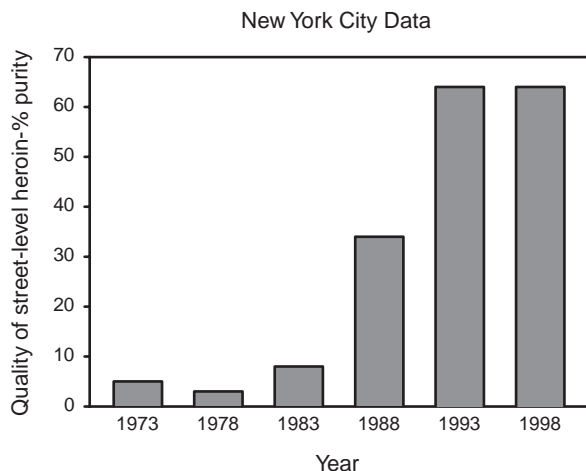


Fig. 1. Purity of heroin obtained on the streets in New York City for the years indicated.

ever, Pakistan, Afghanistan, Iran, Thailand, Burma and Laos have been exporting heroin to the U.S. The latest addition to this list is Colombia, South America, with sample street-level purity that is practically the highest in the world.

Also, smuggling is now in the hands of new groups that no longer have the monopoly enjoyed by traditional organized crime groups in the past. Each source area, whether from Southeast Asia, Southwest Asia or Colombia, has developed or is in the process of developing competing distribution networks based on ethnic, familial and tribal relationships. The Drug Enforcement Administration has identified Chinese, Albanian, Sicilian, Dominican, Russian and Nigerian groups, among others, that have developed separate distribution networks (8). The result is the ready availability in New York City of high-quality heroin at prices that average well under \$1 per milligram of pure heroin.

C. Trends in Modes of Heroin Use

Originally, heroin use was synonymous with injecting drug use. More recently, the intranasal route (heroin sniffing) has become much more frequent. The availability of high purity heroin has encouraged the use of heroin by this route, thereby avoiding the problems associated with transmission of diseases promoted by unsterile intravenous injections.

The trend has moved most decisively to intranasal use, as reported by treatment admissions in New York City, with heroin as the primary drug of abuse. Fig. 2 shows the mode of heroin use reported by primary heroin admissions between 1988 and 1998. Injection declined from 71% to 39%, while inhalation increased from 25% to 59%. Fig. 1 indicates that heroin purity increased dramatically during this period.

Clearly, the quality of currently available heroin has given rise to an alternative to heroin use by injection, but the spread of AIDS among injecting drug users has probably played a major role in discouraging drug injection. As of the first quarter of 1999, the New York City Department of Health has reported a total of 110,395 adult cases of AIDS and 1,924 pediatric cases (9). Injecting drug use is the major risk factor for 47% of the adults (51,504 adults) and 65% of the children (1,249 children), whose parents had been involved in injecting drug use or were the partners of injecting drug users. Unprotected sexual activity between male homosexual partners is the second leading risk factor, representing 32 % of the adults cases. Approximately 63 % of New York City's AIDS patients succumbed between 1980 and 1999.

A direct measure of the decline in overall injecting drug use in New York City is evident from drug treatment admissions data. In 1992, for instance, 25% of all treatment admissions reported injecting as their primary mode of use, regardless of specific drug of abuse; by 1998, 17% reported injecting. Of those who inject, however, heroin remains by far the drug that is most often injected (10).

Interestingly, treatment admissions show ethnic differences by mode of heroin use. Whites, as

presented in Fig. 3, are more likely to inject heroin than use it intranasally (38% of injectors were white compared to 19% of sniffers in 1998). In contrast, Hispanics and blacks are more likely to use heroin intranasally than inject it (47% of sniffers were Hispanic compared to 36% of injectors; 32% of sniffers were black compared to 24% of injectors).

D. Cocaine Trends and Heroin Trends

To understand New York City's heroin trends in the recent past, it is also necessary to follow recent cocaine trends. In fact, current trends in heroin activity are probably related to the increase of cocaine activity in New York City in the mid-1980s (11).

Table 2 shows the trends, as indicated by hospital emergency department admissions, arrests and treatment admissions specifically involving cocaine and involving heroin, for the past several years in the New York City area. At the beginning of this period, cocaine emergency department episodes were three times the number of comparable heroin episodes and cocaine-involved arrests were almost twice the number of heroin-involved arrests. By the end of the period in 1998, all trends generally show increases with a final leveling off.

There are several reasons why heroin trends seemed to follow cocaine trends over the past decade or so. First, for cocaine users, heroin had helpful or healing effects. After extended cocaine use and days of sleeplessness, hyperactivity and paranoia, the soothing effects of heroin were very much appreciated by cocaine users (11). This need among cocaine users may have spurred increased heroin use. Second, the up and down or

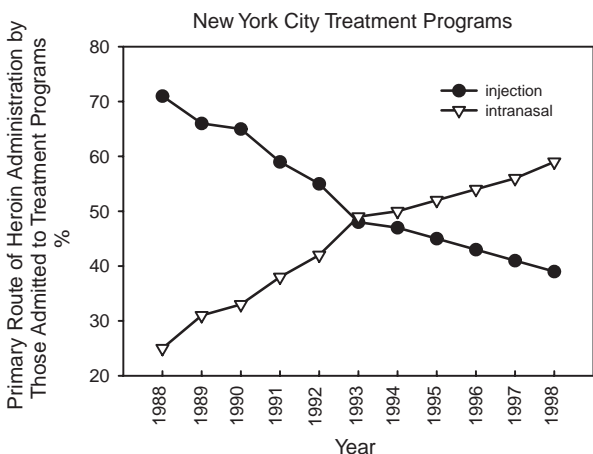


Fig. 2. Route of heroin self-administration for those undergoing treatment in New York City in the years indicated.

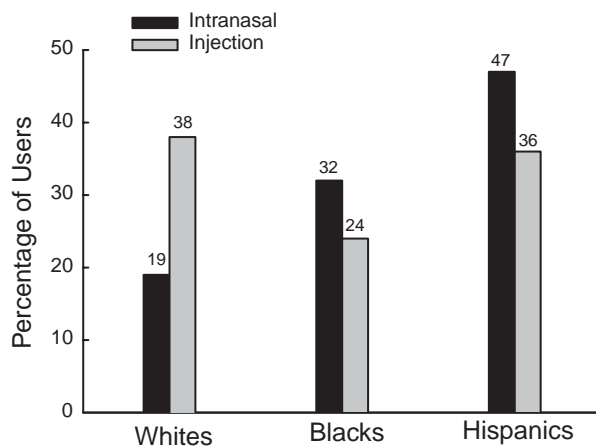


Fig. 3. Data from 1998. Mode of heroin self-administration by ethnic groups.

TABLE 2
New York City Data for Cocaine and Heroin

Year	Emergency Department Mentions		Arrests		Treatment Admissions	
	Cocaine	Heroin	Cocaine	Heroin	Cocaine	Heroin
1988	16,917	5,394	49,014	25,152	NA	NA
1989	14,925	5,437	53,915	28,083	NA	NA
1990	12,633	3,810	46,348	24,421	NA	NA
1991	16,099	6,019	37,769	23,622	15,742	16,142
1992	20,413	8,382	33,708	23,509	17,910	16,974
1993	21,085	11,351	31,296	24,595	16,706	17,689
1994	20,214	11,185	38,200	33,206	17,853	18,956
1995	19,723	10,728	40,846	38,131	17,636	18,495
1996	21,592	11,167	38,813	37,901	17,383	18,707
1997	20,202	9,491	35,431	35,325	16,785	20,052
1998	19,549	9,244	35,377	37,483	16,596	19,726

NA—not available

“speedball” effects of heroin and cocaine together — especially for the injectors — has long been a preferred combination among drug users (11). Third, drug dealers in New York could more easily accommodate the demand for both drugs when Colombia, with its long-standing coca cultivating, started producing opium poppies (12).

Although cocaine has long been a secondary drug of abuse for many heroin addicts, more recently this pattern has been showing signs of moderating. Primary heroin admissions to New York City treatment programs, for instance, show these declines. In 1992, 52% of primary heroin admissions to treatment reported cocaine as the secondary drug of abuse; by 1995, the comparable proportion was 44%, and in 1998 it was 39%. This change may be due to the decline in injecting heroin, as discussed above, and the increase in intranasal use of heroin. Although heroin users have tried to use a combination of heroin and crack/cocaine to achieve a “speedball” effect, this practice has not become widespread. Also, the more recent perception of crack/cocaine as a lowly drug in the hierarchy of drugs may be a deterrent for status-conscious heroin users (13).

E. Trend in Prevalence of Heroin Abuse in New York City

In the mid-1970s, the prevalence of heroin abuse in New York City was estimated to be about 200,000. This estimate was based on reports to the New York City Narcotics Register, using a capture-recapture method to account for

“hidden” heroin abusers who had never been reported to the Register (14).

More recently, efforts have been made to update the estimate of heroin abuse. Research was undertaken by the New York State Office of Alcoholism and Substance Abuse Services in 1997 to develop an estimate of heroin prevalence based: (a) on the State’s treatment population with primary heroin abuse; and (b) on a qualitative study in which 1,035 interviews were carried out among heroin abusers in 12 communities in New York State. The characteristics of heroin abusers were based on respondents’ reports of heroin abusers they knew. Based on these interviews, it was estimated that 24% of heroin abusers were currently in treatment. Based on treatment data, there are approximately 49,000 heroin abusers currently in treatment in New York State. Therefore, given this information, the total number of heroin abusers for the State is estimated to be about 200,000 (15). For New York City, with about 80% of the State’s heroin abusers, the current estimate is about 160,000. With the deaths of more than 30,000 injecting drug users in New York City due to AIDS and the general aging of heroin abusers entering treatment, a current estimate of the number of heroin abusers in the City is now predicted to be less than the original 200,000 thought to be the case in the mid-1970s.

The Future

Substantial changes have taken place in New York City’s heroin scene, especially over the past three decades. As already discussed, the purity of retail-level heroin has exceeded 60% for most of

the 1990s. The impact of AIDS among injecting drug users coupled with heroin's high purity have been major factors in causing the dominant mode of use to change from injecting to intranasal use. Finally, heroin abusers are an aging population, with a median age well into the thirties.

Given these changes, what can be expected in the future? If heroin purity remains high, the likelihood is that "snorting" heroin will continue to be the dominant mode of use. Also, continued experimentation with modes of use other than injecting, such as "smoking," will probably take place as will combinational use with cocaine and other drugs to simulate the "speedball" effect. New York City's heroin abusers, however, will probably continue to be an aging population for the next decade or so. A major factor is the avoidance of heroin among inner-city youth and young adults.

Golub and Johnson have studied the trend using arrestee data for Manhattan's criminal justice system (16). They identify three inner-city cohorts: the first, born in the years from 1945 through 1954 who are the "Heroin Injector Generation"; the second, born in the years from 1955 through 1969 who are the "Cocaine/Crack Generation"; and the third, born since 1970 who are essentially the marijuana or "Blunt Generation." The latter cohort is unlikely to fill the ranks of the earlier cohorts. Boyle and Brunswick offer the explanation that inner-city youth have witnessed the consequences of addiction among parents and older siblings, and have successfully resisted these patterns of drug abuse (17).

In the years to come, a different heroin abuser may become more prominent. It is likely that the New York City suburbs and the less urban areas throughout the state and nation will see more heroin abusers. A recent series of focus groups among professionals in the drug abuse field held by the New York State Office of Alcoholism and Substance Abuse Services throughout the upstate and downstate regions repeatedly discussed the increase in heroin use especially among young adults from affluent suburbs (18). Interestingly, treatment admissions with heroin as the primary drug of abuse are increasing at a faster rate in the several counties closest to New York City than comparable treatment admissions in the City. In the five counties closest to New York City, the number of primary heroin admissions to treatment increased 86% (from 4,480 to 8,333) between 1994 and 1998; during the same period the comparable admissions to New York City treatment programs increased 16% (from 16,974 to 19,726) (10).

Possible explanations for heroin's new attraction include the fact that the inhalation or "snorting" of heroin has made the drug more appealing, and has placed it in the category of powder cocaine. Also, the fashion industry has promoted a "chic" image for heroin. Although there has been an effort on the part of the industry to withdraw the image, the image remains, especially for the young who are fascinated with New York City style and trends (19). Also, there is some evidence that heroin has become used more commonly among the young, especially abroad. Davey and Davies cite reports (20) that in Australia, for instance, "heroin is being used as a 'party drug' by young people who are breaking with the traditional usage stereotypes." Hartnoll cites reports (21) in Europe, "from several countries for increased heroin use, especially smoking, among new young groups."

Thus, a new and young subgroup may be gaining prominence among heroin abusers. Perhaps the dangers of the drug are not appreciated by younger generations and educational efforts are not effectively underscoring the drug's addictive potential and tragic consequences. It is clear that strong and continuing prevention efforts targeting heroin use are needed.

In the event that heroin purity declines and returns to 1970 and early 1980 levels, the likelihood of heroin abusers turning to injection as the mode of use is much greater. With an increase in this mode of use, the host of health, social and criminal consequences that New York City knows all too well from the past will surely exacerbate. In any case, regardless of heroin purity, New York City is likely to remain the major center of heroin activity in the United States.

References

1. Courtwright D, Joseph H, Des Jarlais DC. Addicts who survived: American addicts in the classic era of narcotic control 1925–1965. Nashville (TN): University of Tennessee Press; 1987.
2. Helsen M, Rho Y-M. Deaths from narcotism in New York City. *N Y State J Med* 1966; 66(18):2391-2408.
3. O'Donnell J, Jones J. Diffusion of the intravenous technique among narcotic addicts. In: Ball J, Chambers C, editors. *The epidemiology of opiate addiction in the United States*. Springfield (IL): Charles C. Thomas; 1970. pp. 147-164.
4. New York State Narcotic Addiction Control Commission. *Opiate use in New York City*. 1969. (This report may be obtained from Dr. Blanche Frank, New York State Office of Alcoholism and Substance Abuse Services, 501 Seventh Avenue, New York, NY 10018.)
5. New York City Department of Health. *New York City Narcotics Register: 1974 Statistical Report*. 1975. (This report may be obtained from Dr. Blanche Frank, New York State Office of Alcoholism and Substance Abuse Services, 501 Seventh Avenue, New York, NY 10018.)

6. New York State Office of Alcoholism and Substance Abuse Services. Client characteristics on admission from 01/01/1986 to 12/31/1987. (This report may be obtained from Mr. Vincent Felon, New York State Office of Alcoholism and Substance Abuse Services, 1450 Western Avenue, Albany, NY 12203.)
7. New York State Office of Alcoholism and Substance Abuse Services. Client characteristics on admission from 01/01/1991 to 12/31/1993 and 01/01/1996 to 12/31/1998. (This report may be obtained from Mr. Vincent Felon, New York State Office of Alcoholism and Substance Abuse Services, 1450 Western Avenue, Albany, NY 12203.)
8. Rice L. Drugs in New York: Illicit use and trafficking. Drug Enforcement Administration, New York Division; April 8, 1999. (This report may be obtained from Mr. Lewis Rice, Drug Enforcement Administration, 99 Tenth Avenue, New York, NY 10011.)
9. New York City Department of Health. AIDS New York City: AIDS Surveillance Update, First Quarter 1999. May 1999. (This report may be obtained from the New York City Department of Health, Office of AIDS Surveillance [phone: (212) 442-3388].)
10. New York State Office of Alcoholism and Substance Abuse Services. Client characteristics on admission 1992 and 1998. (This report may be obtained from Mr. Vincent Felon, New York State Office of Alcoholism and Substance Abuse Services, 1450 Western Avenue, Albany, NY 12203.)
11. Frank B, Galea J. Cocaine trends and other drug trends in New York City, 1986-1994. *J Addict Dis* 1996; 15(4):1-12.
12. Frank B, Galea J. Current drug use trends in New York City, June 1998. New York State Office of Alcoholism and Substance Abuse Services. 1998. (This report may be obtained from Dr. Blanche Frank, 501 Seventh Avenue, New York, NY 10018.)
13. Furst RT, Johnson BD, Dunlap E. The stigmatized image of the "crack head": A sociocultural exploration of a barrier to cocaine smoking among a cohort of youth in New York City. *Deviant Behavior* 1999; 20:153-181. (This report may be obtained from Dr. RT Furst, New York State Office of Alcoholism and Substance Abuse Services, 501 Seventh Avenue, New York, NY 10018.)
14. Frank B, Schmeidler J, Johnson B, Lipton DS. Seeking truth in heroin indicators: The case of New York. *Drug Alcohol Depend* 1978; 3:345-358.
15. New York State Office of Alcoholism and Substance Abuse Services. State demand and needs assessment: Estimation of heroin prevalence in New York State. Final Report submitted to Center for Substance Abuse Treatment. Contract No. 270-96-0019.
16. Golub AL, Johnson BD. Cohort changes in illegal drug use among arrestees in Manhattan: from the heroin injection generation to the blunts generation. *Subst Use Misuse* 1999; 34(13):1733-1763.
17. Boyle J, Brunswick AF. What happened in Harlem? Analysis of a decline in heroin use among a generational unit of urban black youth. *J Drug Issues* 1980; 10:109-130. (This paper may be obtained from Dr. Brunswick, Columbia University School of Public Health, 722 West 168 Street, New York, NY 10032.)
18. New York State Office of Alcoholism and Substance Abuse Services. Epidemiology focus groups and regional trends: OASAS Planning Forums. May 1999. (This report may be obtained from Dr. Blanche Frank, New York State Office of Alcoholism and Substance Abuse Services, 501 Seventh Avenue, New York, NY 10018.)
19. Spindler AM. *N Y Times* 1997 May 20;Sect. A:1.
20. Davey J, Davies A. Changing drug patterns and trends in Queensland and Australia: The shift into the new millennium. In: National Institute on Drug Abuse. *Epidemiologic Trends in Drug Abuse*. 1999 Jun. NIH Publication No.: 00-4530. II, p. 29.
21. Hartnoll R. Drug trends in the European Union. In: National Institute on Drug Abuse. *Epidemiologic Trends in Drug Abuse*. 1999 Jun. NIH Publication No.: 00-4530. II, p. 53.