EPIDEMIOLOGIC TRENDS IN DRUG ABUSE

INTERNATIONAL EPIDEMIOLOGY WORK GROUP ON DRUG ABUSE
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PROCEEDINGS

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The reports contained in this document are substantively the same as originally submitted by the authors. However, reports have been reformatted and edited to enhance the presentation. The contributions made by the members of the International Epidemiology Work Group (IEWG) on drug abuse are acknowledged.

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FOREWORD

The International Epidemiology Work Group (IEWG) on Drug Abuse is a network of drug abuse researchers from various countries, regions, and international organizations. Modeled after the Community Epidemiology Work Group (CEWG), the IEWG is an outgrowth of efforts to establish a global drug abuse surveillance network. It is based on a recognition of the essential need to coordinate and share the most timely and accurate information about the changing dynamics of drug abuse worldwide.

The IEWG, which meets annually, provides a forum for the representatives of different nations and regions of the world to exchange information about:

- Current drug abuse patterns and trends
- Emerging drugs of abuse
- Risk factors
- Vulnerable populations
- Consequences of use
- Sources of data/information
- Methods of collecting, analyzing, and reporting data/information

IEWG representatives at this June 1999 meeting presented data on drug abuse patterns and trends in:

- Asia
- Australia
- Canada
- Mexico
- South Africa
- United States

In addition, the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) presented data from European Member States.

Also presented were data on drug abuse patterns and trends in Thailand. The Organization of American States provided information on the future plans and objectives of its Inter-American Drug Use System (SIDUC). Global trends were presented by representatives of the United Nations International Drug Control Programme (UNDCP) and the Substance Abuse Department of the World Health Organization.

Members participating in the IEWG continue to develop and improve their drug abuse surveillance systems. The findings in these Proceedings demonstrate the value of their efforts at the national, regional, and international levels.

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CONTENTS

THAILAND REPORT

INTER-AMERICAN SURVEILLANCE

GLOBAL TRENDS IN DRUG ABUSE

LIST OF PARTICIPANTS

EPIDEMIOLOGIC TRENDS IN DRUG ABUSE

VOLUME II

INTRODUCTION

At the International Epidemiology Work Group (IEWG) on Drug Abuse meeting in June 1999, drug abuse indicator data collected in various regions of the world were presented by representatives from Australia, Canada, Mexico, South Africa, Thailand, and the United States. In addition, representatives of the Asian Multicity Epidemiology Work Group reported data on cities within countries included in its networks. Also reported were drug abuse patterns and trends in 15 member countries of the European Monitoring Centre for Drugs and Drug Addiction. The Organization of American States provided information on the future plans and objectives of its data system in the Americas. Global trends were presented by representatives of the United Nations International Drug Control Programme and the Substance Abuse Department of the World Health Organization.

All reports were based on indicator data and some included findings from household and student surveys. Sources of data differed by area and network. Most surveillance systems used multiple indicators. Specific types of indicators, such as treatment, vary by country and network, in terms of how they are operationally defined. Given the variability in indicators, it is not possible to make valid comparisons between countries. However, much can be learned about drug use patterns and trends in each country/ region. As has been learned, an emerging drug problem in one area of the globe can easily spread to another area. IEWG representatives, through their meetings, have an opportunity to learn from one another about drug abuse surveillance methods and how their systems might be improved. The findings from each surveillance system can, in turn, be used to assist planners and policymakers in improving drug abuse prevention and treatment.

OVERVIEW

OVERVIEW

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The Community Epidemiology Work Group (CEWG) has gone through a remarkable development since it was established by the National Institute on Drug Abuse (NIDA) in 1976, and currently serves as a model for drug abuse epidemiologic surveillance around the world. One of the most important discussions occurred at the CEWG meeting in Atlanta, Georgia in December 1981. The venue provided an opportunity to extend an invitation to officials of the Centers for Disease Control and Prevention (CDC) to present findings from some of CDC's health surveillance activities.

A report by Alexander Kelter, M.D., CDC, on Kaposi's Sarcoma (KS) and its possible association with drug use was of particular interest. Dr. Kelter reported that two diagnosable diseases—KS and pneumocystis carinii pneumonia (PCP)—were occurring with growing frequency among gay men in New York City, San Francisco, and Los Angeles. The data suggested the occurrence of a single epidemic.

CDC researchers were seeking leads and opportunities to clarify the relationship between the environment, the host, and the agent—knowledge that could potentially contribute to resolving this outbreak. The sudden and highly focal occurrences of these illnesses suggested potential risk factors and encouraged collaboration between experts in drug abuse and other areas of public health.

It was not understood at that time that men who inject drugs and share injection paraphernalia are at extreme risk for HIV transmission, as are their sexual partners. However, one drug-use behavior among these men that emerged from the data raised concern: the use of nitrite inhalants. The data showed that the use of nitrite inhalants was closely related to the frequency and number of male sex partners and raised the possibility that other types of drug use might be implicated in the epidemic.

While the CEWG was seen as an important source of information about drug use patterns and trends in 1981, there was, as yet, no indication that injection drug users were soon to be a population at high risk for AIDS. Had the CEWG been at a more advanced level of development at that time, it migh have been able to identify drug-abusing populations at risk and, perhaps, help limit the spread of the epidemic among drug abusers and their sexual partners. In subsequent years, the CEWG has devoted time to gathering data on AIDS and drug use.

Since the 1981 Atlanta meeting, many advancements have been made in accessing indicator data from a variety of sources and in developing standardized methods for analyzing and reporting indicator data. As a result, the CEWG has been effective in iden-

tifying a number of emerging drug abuse problems, including the following:

- The beginning of the crack epidemic in the mid-1980s
- The emergence and spread of methamphetamine in the late 1980s
- Early reports of MDMA (ecstasy) abuse in 1988
- The use of marijuana in cigar wrappers (known as "blunts"), often in combination with other substances, in the early 1990s
- The resurgence of heroin abuse in the early 1990s
- The use by youth of the "rape drug," Rohypnol (flunitrozepan), at bars, nightclubs, and raves in 1993

Based on data produced by the CEWG over the years, health care practitioners, policymakers, and researchers were alerted to emerging problems and were able to take action. Examples include Federal prohibition of the importation of Rohypnol into the United States and State and Federal measures to restrict the availability of gamma-hydroxybutrate (GHB). Clearly, the CEWG has demonstrated the vital role that drug abuse surveillance systems can play in identifying and monitoring drug abuse problems and preventing epidemics from spreading. In doing so, it has served as a model for other nations.

During the past decade, drug abuse surveillance systems have been instituted throughout the world. Regional epidemiology networks now include the following:

- The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and the Pompidou Group of the Council of Europe, which provide regional epidemiologic surveillance in Europe
- The Asian Multicity Epidemiology Work Group (AMCEWG) on Drug Abuse, coordinated by the University of Science in Malaysia, which provides drug abuse surveillance throughout South and East Asia
- The Inter-American Drug Use Data System (SIDUC) of the Organization of American States, which is a surveillance network for the Americas

Australia, Canada, Mexico, and South Africa have established national drug abuse surveillance systems. China and Thailand are also developing drug abuse surveillance systems. Some national programs offer the foundation for expanding into regional systems. For example, the South African Community Epidemiology Network on Drug Use is seeking to expand its work to developing countries in southern Africa.

As new substances become available and drugs are increasingly used in combination, patterns of drug abuse have become more complex. Drug abuse surveillance systems can help meet the challenge. Using the advancements in telecommunications and transportation that have contributed to the spread of drug abuse, researchers can rapidly exchange information within and across surveillance networks. In this way, drug abuse patterns can be identified as early as possible and appropriate actions taken.

INTERNATIONAL EPIDEMIOLOGY WORK GROUP REPORTS

A COMPARISON OF DRUG ABUSE PATTERNS IN SELECTED EAST ASIAN AND SOUTH ASIAN CITIES

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Drug treatment and law enforcement data were collected using a standardized instrument in four East and four South Asian cities. Treatment data from the cities show substantial variations in patterns of illicit drug use. Heroin admissions were predominant in three East Asian cities (Bangkok, Hanoi, and Kuala Lumpur) and three South Asian cities (Colombo, Islamabad, and Dhaka). In Manila, amphetamines continued to be the predominant drug of abuse and polydrug abuse of amphetamines, alcohol, cannabis, and cough syrups was widespread. Alcohol consumption was high in Madras. Buprenorphine abuse, observed in previous reporting periods in several South Asian cities, was not reported in 1998 in Colombo, Dhaka, and Islamabad. Heroin injecting was common in Bangkok and Hanoi. In Kuala Lumpur, smoking or 'chasing the dragon' was the main route of drug administration. In most of the South Asian cities, smoking/chasing was the primary mode of heroin use. Heroin injecting was more widespread in Madras and Islamabad, while other/multiple modes of drug administration were prevalent in Colombo. There were variations in the sociodemographic characteristics of treatment admissions between the cities in the two sub-regions. The number and rate of drug-related arrests varied between the cities, as did the types and amounts of drug seized.

INTRODUCTION

1. Overview

Asia confronts serious problems of drug abuse, illicit production, and trafficking of narcotic drugs and psychotropic substances. In recent years, there have been notable changes in the drug abuse trends in the region. Opium smoking is diminishing in the east and southeast regions, but unfortunately is being replaced by heroin injecting. A similar trend is observed in South Asia. In Bangladesh, India, and Pakistan, opium has been substituted for heroin. Recently, buprenorphine has been substituted for opium. Also the route of administration is shifting from inhalation (smoking) to injection and "chasing the dragon." Systematic assessment and monitoring of the extent and nature of the problem at the national and regional levels are important for effective control.

The Asian Multicity Epidemiology Program on Drug Abuse was initiated in 1993 to respond to regional problems and policy needs related to drug abuse. A major program aim is to develop and utilize common drug abuse indicators in selected cities to assess and compare the drug abuse patterns and trends within the national, cultural, and socio-political contexts. A city-based surveillance network of 12 cities (7 East Asian and 5 South

Asian) has been established. In addition to providing information for the implementation of effective national treatment and prevention intervention services, the network serves as an early warning system of emerging problems that have implications for the control of drug abuse in the region. The National Center for Drug Research, Universiti Sains Malaysia, coordinates the program and compiles and analyzes the data biannually.

This paper represents a comparison of the drug abuse profiles in four East Asian and four South Asian cities based on information obtained in the latest reporting period, that is, January though December 1998, for most of the reporting cities. The East Asian cities included in the presentation are Bangkok, Thailand; Kuala Lumpur, Malaysia; Manila, Philippines; and Hanoi, Vietnam. The South Asian cities include Colombo, Sri Lanka; Dhaka, Bangladesh; Islamabad, Pakistan; and Madras, India.

2. Method

A standard instrument is used by individual cities to gather data on a quarterly basis; it contains a range of drug indicators that have been shown to reflect trends in prevalence, patterns of drug abuse, and associated problems.

The two primary sources of data are those from drug treatment facilities and those from law enforcement agencies. Information on treatment admissions includes the total number of admissions, client sociodemographic characteristics, primary drug of abuse, and use patterns. Data from the criminal justice system include the total and types of drug-related arrests, and the number and types of drug seizures. Available information on drug-related health and social indicators also was reported.

3. Data Sources

There are variations in data sources across the cities. Kuala Lumpur reported aggregated data on all drug dependents contacted for the first time by government agencies (e.g., police, prison, treatment centers). Information on drug treatment indicators from the other cities was obtained either from specialized drug treatment facilities, primary health facilities, or from both of these types of services. However, the total number of reporting facilities varied by city. Data on law enforcement indicators from each city were collected from the police and prisons.

The comparability of the drug abuse data across the cities was limited not only because of the variation in sources of information, but also because of differences in the types of cases from which data on treatment indicators were collected (i.e., new or first admissions, or total admissions, which included both new cases and readmissions). Nonetheless, the use of a standardized data collection instrument has facilitated the collection of data on selected core indicators. Despite the differences in data sources, some common features, as well as city variations, could be inferred from the available information.

This paper is divided into two parts. The first presents a cross-city comparison of the drug abuse patterns in the four East Asian cities; the second provides a description of the drug abuse patterns in the four South Asian cities.

CROSS-CITY COMPARISON OF EAST ASIAN CITIES

1. Demographic Characteristics of East Asian Cities

Among the four East Asian cities, Bangkok has the largest population, approximately 6 million people (exhibit 1). Hanoi has about 2.5 million people, whereas both Manila and Kuala Lumpur have a population of less than 2 million. The ratio of male and female is similar within each city. Kuala Lumpur and Manila have a comparatively younger population. In three cities, about one-half of the population are unmarried (data from Hanoi were not available). In the three cities reporting educational data, Kuala Lumpur and Hanoi have the highest proportions of the population with 7–12 years of education (37.5 and 42 percent, respectively, compared with 29.4 percent in Bangkok).

2. Drug Treatment Data—East Asian Cities

Total Number of Treatment Admissions. Many factors affect treatment admission numbers, including program emphasis and capacity. This is reflected in the substantial variation in the total number of treatment admissions between the cities.

Although the reporting period for Bangkok (January–June 1998) is shorter than that for the other cities, Bangkok reported the largest total number of treatment admissions for the year—5,730. Of this total, 75 percent were readmissions and the rest were new cases. Kuala Lumpur recorded a total of 3,116 admissions from January–December 1998; 61.4 percent were new cases and 38.6 percent old cases. For the duration of 9 months (April–December 1998), Hanoi reported a substantially larger number of admissions comparatively—2,108 cases, with 86 percent readmissions. Manila had the fewest total admissions for the year (756 cases); 89 percent were new admissions.

A comparison of available information for the previous year shows that the total number of new admissions in Kuala Lumpur tripled from 1,034 cases in 1997 to 3,116 cases in 1998. Manila, too, showed a fluctuation from 500 cases in 1997 to 756 cases in 1998.

Patterns of Illicit Drug Use in East Asian Cities. Heroin was the primary drug of abuse among most of the drug dependents who were admitted for treatment in Bangkok (83.2 percent), Kuala Lumpur (70.7 percent), and Hanoi (56.7 percent; see exhibit 2). Substantial variations in the mode of heroin administration were observed between the cities. Smoking or "chasing the dragon" was the most common route among clients in Kuala Lumpur (69.9 percent); smoking was less characteristic in Bangkok (28.9 percent) and Hanoi (13.6 percent). Heroin injection was the main mode in Bangkok (69.2 percent), and a sizeable proportion of the clients (17 percent) in Hanoi injected heroin. In Kuala Lumpur, injection drug use was minimal (6.2 percent). Drug use through inhalation was popular in Hanoi, with 67.2 percent of the admissions reporting this mode.

The proportion of addicts abusing heroin in Kuala Lumpur increased substantially from that reported in 1997—from 57 percent in 1997 to almost 71 in 1998.

The increase was even greater in Bangkok where, for the first 6 months of 1998, 83.2 percent of the treatment admissions were reported to be heroin addicts as opposed to only 76 percent reported in1997. The proportions of treated addicts in Hanoi that abused heroin fluctuated little from the pre-

vious reporting period—from approximately 51 percent between January 1997 and April 1998 to 57 percent between April and December 1998.

Opium admissions remained the highest in Hanoi (37.9 percent), although they declined from the previous 6-month reporting period (44 percent from January 1997 to April 1998). A major shift from opium to heroin use has been reported in Hanoi since 1997. This is probably associated with the increasing availability of heroin in the city and the growing user preference for heroin. Opium use in Hanoi was mainly through injection. However, in recent years, inhalation has been the practice favored over smoking and injecting because of the ease of use and the perception that "only inhaling is noble."

Morphine abuse among treatment admissions was reported mainly from Kuala Lumpur (6 percent), lower than in 1997 (9 percent). In Hanoi, a small percentage (3.9) of admissions reported morphine abuse, a slight increase from the previous reporting period (2.8 percent).

Cannabis abuse among treatment admissions was reported in all East Asian cities except Hanoi. It was more widespread in Manila (38.6 percent) and Kuala Lumpur (21.4 percent) than in Bangkok (0.1 percent). Cannabis was reported to be used primarily as a "gateway" drug in cities such Bangkok and Kuala Lumpur. In these three East Asian cities, cannabis use among treatment admissions decreased substantially—from 39 percent in 1997 to 21 percent in 1998 in Kuala Lumpur; from 45 percent in 1997 to 38 percent in 1998 in Manila; and from 1 percent in 1997 to 0.1 percent in the first 2 quarters of 1998 in Bangkok.

In Manila, unlike the other cities, **polydrug** use of non-opiate drugs was common (89.1 percent). Methamphetamine, or *shabu*, continued to be the most common drug of abuse and was reported by 92.4 percent of the total treatment admissions in Manila—a tremendous increase from the previous year (79 percent). Methamphetamine was usually inhaled orally. The use of alcohol (40.8 percent) and cough syrups (15.8 percent) containing codeine and pethedine was fairly common. Among Manila admissions, benzodiazepines and analgesics were abused also, but to a much lesser extent. Other drugs such as heroin, lysergic acid diethyamide (LSD), ecstasy, and other hallucinogens are generally not available and abuse of such drugs is limited to the affluent. The abuse of cocaine was only reported among Manila treatment admissions (0.1 percent).

In summary, heroin has maintained dominance in most cities over the last 5 years, although methamphetamine use in Manila has been prevalent in recent years. Injecting continues to be the most frequently reported primary route of administration among heroin treatment admissions in Bangkok, whereas smoking or "chasing the dragon" remains the preferred route in Kuala Lumpur. In Hanoi, heroin users are reportedly shifting to inhalation.

Although heroin still ranked as the number one drug in most East Asian cities, there are new emerging patterns of use in Bangkok, Manila, and Hanoi that are worth noting. For example in Bangkok, the use of methamphetamine and inhalants was reported to have increased rapidly over the last year. This change was associated with the sharp decline in heroin availability in 1996 which, in turn, resulted in an increase in the price of

heroin and a decrease in its quality and purity. These factors led to changes in heroin addicts' behavior, such as switching to other drugs and mixing drugs. There was also an emerging abuse of tranquilizers such as diazepam, sedatives, nitrazepam, and codeine in Bangkok. In Hanoi, a shift from opium to heroin smoking (inhalation) and injecting was reported in the last year. This was probably associated with the increasing availability of heroin and the change in drug preference among addicts.

Characteristics of Treatment Admissions in East Asian Cities. Males dominated the treatment scene in each East Asian city (exhibit 3), an indication of the severity of the drug abuse problem among the male population in all four cities. The proportions of female admissions were low, with the highest being in Manila (17.2 percent) where female admissions were higher than in 1997 (12 percent). However, it must be noted that the extent of the drug problem among women may not be reflected in the data because existing treatment facilities in most cities are primarily for males.

Other demographic data such as age, employment status, level of education, and marital status showed variations across the four East Asian cities. Although most of the treatment admissions in each city were between the age of 20 and 34, there were substantial variations in percentages of "adolescent" admissions (15–19 year-olds). For example, Manila reported the highest proportion of adolescent admissions (21 percent), while Bangkok and Hanoi reported 14.5 percent and 19.5 percent, respectively. In Kuala Lumpur, teenagers accounted for 8.4 percent of the total admissions.

Compared to the prior reporting period, the proportion of adolescent admissions in Manila increased substantially from 16.2 percent in 1997 to 21 percent in 1998, while in Kuala Lumpur the figure decreased two-fold from 16 percent in 1997 to 8.4 percent in 1998. Overall, the age distribution of the drug abusers contacted within each city differed from that of the city's general population. From an analysis of the age categories, it was evident that the reported age-specific incidence of drug abuse cases was significantly higher among admissions between the age of 20 to 34 compared with the other age categories.

The distribution of employment status among admissions differed substantially across the four East Asian cities. All the cities, except Kuala Lumpur, reported a substantial percentage of unemployed clients. An increase in the proportion of unemployed clients admitted to treatment was observed in Hanoi (from 20 percent in 1997 to 53 percent in 1998) and in Bangkok (from around 28 percent in 1997 to 37 percent in 1998). An alarming increase in student admissions was observed in Manila—from 9 percent in 1997 to almost 24 percent in 1998. Hanoi and Bangkok also reported sizeable percentages of student admissions (5.7 and 13.4 percent, respectively; see exhibit 3).

Among employed clients admitted to treatment, information on the types of occupation varied among the East Asian cities. All four cities listed a large proportion of employed clients in the "other occupation" category which included a variety of occupations, primarily laborer jobs. Except in Hanoi, a small but important group were drivers or transport workers. In Kuala Lumpur, over one-fifth of the admissions were sales and clerical workers. Almost 13 percent of the admissions in Hanoi were cultivators.

Information on years of educational attainment revealed that a majority of drug abusers admitted to treatment in East Asian cities had between 7 to 12 years of education.

There was no significant difference in the proportion of addicts with fewer than 6 years of education (between about 18 to 29 percent). Manila had the highest proportion (15.6 percent) of total admissions who had more than 12 years of education. A majority of the drug abusers in Bangkok and Manila were unmarried.

Data that were available for the last 5 years indicated no significant changes in the age of treatment admissions in Bangkok, Kuala Lumpur, and Manila. Admissions between the age of 20 and 34 remained the dominant group in these three cities. However, as noted earlier, there was some evidence of increases in admissions age 15 to 19 in these cities over the last 5 years, most notably in Manila and Bangkok.

The differences in the background characteristics of drug abusers admitted for treatment in the East Asian cities reflect the types of drug abusers that were contacted by treatment facilities or other governmental agencies in each city. They may or may not represent the general drug-abusing population within each city.

3. Law Enforcement Data from East Asian Cities

Drug-Related Offenses. Law enforcement indicators, such as the number of drug seizures and arrests, often reflect policy rather than level of abuse. The total number and rate per 100,000 persons arrested for drug-related offenses varied substantially among the four East Asian cities. These differences may reflect the extent of police activity or law enforcement in each city. The wider policy and legal aspects associated with drug abuse also may be influencing factors.

Among the four East Asian cities, Bangkok had the highest number (10,295) of arrestees, while Hanoi reported the highest rate (215.66 per 100,000 population) of arrestees (exhibit 4). Bangkok reported the next highest rate (175.01 per 100,000 population), followed by Kuala Lumpur (126.11) and Manila (103.28).

The types of offenses differed substantially among the cities. The rate of arrests per 100,000 population for use was most predominant in Hanoi (172.78), while arrests for possession were predominant in Bangkok (93.05). Kuala Lumpur reported sizeable rates of 20.61, 21.22, and 29.17 for sale of drugs, possession, and trafficking, respectively. In Manila, the rate of arrests for possession was significant (89.38). Arrests for conspiracy, which was not reported in any city in the previous year, were reported in 1998 in Manila (6.04).

Drug Seizures. The types and quantity of drugs seized varied across the cities (exhibit 4). A wider range of drugs was seized in Bangkok between January–December, 1998. Of the total drug seizures in Bangkok, approximately 85 percent involved amphetamines (a substantial increase from the 57 percent reported in the previous year), 6 percent involved solvents/inhalants, and 4 percent cannabis (a dramatic decrease from the 12 percent reported in the previous year). Of the total opiate and cannabis seizures in Kuala Lumpur, 68 percent were for cannabis (a decrease from the 83 percent reported in 1997) and almost 32 percent were for heroin (an increase from the 17 percent reported in 1997). In Manila, cannabis seizures decreased dramatically from 85 percent of all seizures in 1997 to almost 41 percent in 1998, while amphetamine seizures increased from 15 percent in 1997 to more than 59 percent in 1998. Manila also reported seizures of 885 bottles of solvent/inhalants. In Hanoi, opiates were the main drug seized; almost 70 percent were seizures of opium

and 4 percent were for heroin (an increase of 1 percent from the previous year).

4. Health and Social Indicators

Information on health and social indicators was incomplete for most East Asian cities. Drug-related cases of the human immunodeficiency virus (HIV) were reported by Bangkok and Manila. Unlike the previous year, Bangkok reported no cases of HIV or the acquired immunodeficiency syndrome (AIDS) in the first 2 quarters in 1998. Manila reported 175 HIV cases, 49 AIDS cases, and 340 drug-related psychological cases for the year 1998.

CROSS-CITY COMPARISON OF SOUTH ASIAN CITIES

1. Demographic Characteristics of South Asian Cities

Population sizes differ between the four South Asian cities (exhibit 5). Dhaka has the largest population (6.6 million) followed by Madras (3.8 million). The cities of Colombo and Islamabad have smaller populations (1.7 and 1.2 million, respectively). The male-female ratio is similar in all cities, with slightly larger proportions of males. Comparisons by age group were limited by the variation in the data categories used by the cities. Comparable data from Dhaka and Islamabad show that both cities have a similar age distribution. In both cities, around one-quarter of the population is 35 years of age and older, and large proportions are under 15 years of age.

Compared with Islamabad (29 percent), a larger proportion of the population in Dhaka (55 percent) and Colombo (60 percent) is single. In Islamabad, a larger proportion of the population is married. With respect to level of education, Islamabad and Dhaka have a larger proportion of the population with no formal education (41 percent and 43 percent, respectively) than does Colombo (18 percent). Overall, available data for these four South Asian cities indicated that more than half of the population had some formal education.

2. Drug Treatment Data—South Asian Cities

Total Number of Treatment Admissions. Data from the four cities were obtained from specialized drug treatment facilities. Colombo, Dhaka, and Madras reported totals of between 1,250 and 1,862 treatment admissions in 1998, while Islamabad reported a total of 775 (exhibit 6). Colombo and Madras did not distinguish between new admissions and readmissions. In Dhaka, 80 percent of the total admissions were new cases. In Islamabad, 55 percent were readmissions.

Patterns of Illicit Drug Use in South Asian Cities. Heroin admissions predominate in Colombo and Islamabad, accounting for more than 90 to 93 percent of the total treatment admissions, respectively (exhibit 6). Heroin was also used by 70 percent of the admissions in Dhaka. In Madras, only a small proportion (13.8 percent) of the drug dependents were heroin users.

Opium and **morphine** abuse were reported by small percentages of the total admissions in Colombo, Dhaka, and Islamabad.

The abuse of **other types of opiates**, such as pethedine and codeine, was fairly widespread among treatment admissions in Dhaka (22.8 percent).

With the exception of Islamabad, **cannabis** accounted for a small proportion of the total admissions in the South Asian cities (1–6 percent). **Alcohol** consumption was high in Madras (74.2 percent of all admissions).

In 1997, the abuse of **buprenorphine**, a potent synthetic opioid manufactured in India, was reported as an emerging problem among youth. In 1998, only Madras reported buprenorphine abuse—5.3 percent of the total admissions, up from 3.7 percent in the previous year.

Polydrug use was a common feature among drug dependents admitted to treatment in Islamabad, with 77.7 percent reporting such behavior. A sizeable proportion (40.5 percent) of treatment admissions in Madras also reported use of multiple drugs. Most heroin abusers in Islamabad used other drugs such as tranquilizers, cannabis, opium, and buprenorphine as secondary drugs.

In summary, trend data for the last 6 years show that heroin continued to be the dominant drug of abuse in Colombo, Dhaka, and Islamabad. Cannabis abuse rarely exceeded 6 percent of the treatment admissions, except in 1998 when Madras reported that 6.4 percent of the total admissions abused cannabis. Also in Madras, alcohol was the most frequently abused drug over the past 3 years. Newer substances, such as buprenorphine, have emerged recently in most of the cities. For example, in Madras, the rise in the use of buprenorphine among heroin addicts was attributed to the easy availability and low cost of the drug and the scarcity of heroin. Substituting one drug for another because of the reduction in the availability of a drug is a common behavior among most heroin users. Dependence on psychotropic substances is of recent origin in Colombo and appears to be on the increase. These substances are usually used as adjunctive drugs with heroin.

The route of drug administration among admissions varied between the South Asian cities. Smoking or "chasing the dragon" was the most popular mode among admissions in Islamabad (74.1 percent), Dhaka (71.7 percent), and Madras (33.5 percent), but characterized only 15 percent of the Colombo admissions in 1998. More than half of the heroin and buprenophine users in Madras were injecting users. Injection drug use was reported to have increased significantly in Islamabad—from 7 percent in 1997 to 55.5 percent in 1998, whereas, in Dhaka the practice decreased slightly from 11 percent in 1997 to 10.7 percent in 1998. Oral drug intake also was evident among the addicts in Dhaka (15 percent) and Islamabad (7.1 percent).

Available information shows that street sales were the primary source of drugs for users in Dhaka (100 percent) and Islamabad (89.3 percent).

Characteristics of Treatment Admissions in South Asian Cities. Males accounted for almost all admissions in each of the four South Asian cities. Madras reported the highest female admissions (2.1 percent; see exhibit 7). Drug abusers in the 20 to 34 age group accounted for the largest proportion (between 47 and 80 percent) of the treatment admissions in Colombo, Dhaka, and Islamabad. In these same cities, the second largest age group of drug abusers were age 34 and above. In Madras, more than a third (39.7 percent) of the admissions were age 20–34, while more than half (53.2 percent) were over 34 years of age.

The distribution of treatment admissions by marital status was similar in the South Asian

cities, with the exception of Colombo, where more were unmarried (52.9 percent).

Unemployment was quite prominent among admissions in Dhaka (35.9 percent) and Islamabad (29.2 percent). In Colombo, slightly more than half of the admissions were listed under the "other" category, and were mostly laborers. Admissions in the self-employed/small business category comprised a sizeable minority (14–27 percent) in 1998 in all four South Asian cities, whereas drivers accounted for between 8 and 23 percent of the admissions. The proportions of treatment admissions who were sales and clerical workers ranged from approximately 2 percent in Colombo, to 13 percent in Dhaka and Islamabad, to 23 percent in Madras. Only Dhaka had a notable proportion of student admissions (7 percent).

The percentage distribution of treatment admissions by level of educational attainment differed across the cities. Those who did not receive any formal education accounted for around one-fifth of the total admissions in Dhaka (21.7 percent) and Islamabad (19 percent). Colombo (81.9 percent) and Madras (68 percent) had the largest proportion of treatment admissions who had between 7 and 12 years of education. Around one-tenth of the admissions in Dhaka and Islamabad had more than 12 years of education.

Data on ethnicity of admissions were available only for Colombo and Islamabad. In Colombo, consistent with the ethnic distribution of the city population, the Sinhalese formed the largest group of treatment admissions (86 percent). In Islamabad, the Punjabis (80 percent) accounted for the largest category of admissions. In Madras, the data on religion showed that a slim majority (54 percent) were Hindus, followed by Christians (34.7 percent). In Dhaka and Islamabad, most admissions were Muslim (92.7 and 88.6 percent, respectively).

3. Law Enforcement Data from South Asian Cities

Drug-Related Offenses. In 1998, the rate of drug-related arrests per 100,000 population was highest for Colombo 214.80 (3,650 cases) followed by Islamabad, 94.75 (1,099 cases) and Dhaka, 28.40 (1,868 cases; see exhibit 8). The differences may reflect variations in policy and extent of police activity in each city.

Available information on the types of arrests in Colombo and Islamabad indicates there are significant variations between these two cities. The arrest rate for drug use (173.37) accounted for the largest proportion in Colombo. In Islamabad, the rate for drug arrests was only 28.11 per 100,000 population. A sizeable rate of arrests in both cities was for drug selling—39.02 in Colombo and 18.79 in Islamabad. In Islamabad, the rate for "other" drug-related offenses was 24.92 per 100,000 population. Data on the types of drug-related arrests were not available for Dhaka and Madras during the reporting period.

Drug Seizures. Available information on drug seizures in 1998 in Dhaka and Islamabad shows that cannabis accounted for 99 percent of the seizures in Dhaka. Opium seizures were highest in Islamabad (27.1 percent; see exhibit 8). In Islamabad, heroin accounted for 1.2 percent of the 1998 seizures. Seizures of other opiates, such as codeine and pethedine, were reported in Dhaka (2,432.83 litres and 21,452 ampoules, respectively). Both Dhaka (14,303 litres) and Islamabad (67.6 percent of total drug seizures) reported confiscation of alcohol.

A substantial amount of buprenorphine was seized in Dhaka (1,447 ampoules) in 1998, a reduction from the 10,037 ampoules seized in 1997. Data on drug-related arrests and drug seizures were not available for Madras during 1998.

EXHIBIT 1

EAST ASIAN CITIES
GENERAL POPULATION DEMOGRAPHIC INDICATORS BY CITY
1998

Indicators	Bangkok	Kuala Lumpur	Manila	Hanoi
Year	1990	1991	1995	1997
Total Population	5,882,411	1,145,075	1,654,761	2,551,260
	Percent	**Percent**	**Percent**	**Percent**
Gender				
Male	48.1	51.0	49.9	49.8
Female	51.9	49.0	50.1	50.2
Age				
≤ 14	21.5	36.8	31.3	29.6
15–19	11.3	13.2	11.3	9.6
20–34	36.2	37.5	31.5	25.0
≥ 35	31.0	12.5	25.9	35.0
Years of Education				
0	6.7	24.7	N/A	9.0
1–6	46.2	34.2		39.0
7–12	29.4	37.5		42.0
≥ 13	17.6	3.6		8.8
Not Stated	–	–		1.2
Marital Status				
Single	45.8	50.6	46.6	N/A
Separated	2.6	0.8	0.6	
Married	47.4	44.8	48.7	
Widowed	3.9	3.8	3.8	
Other	0.3	0.0	0.3	

NA = Not Available

SOURCE: The Asian Multicity Epidemiology Work Group

EXHIBIT 2

EAST ASIAN CITIES
TYPES OF DRUGS ABUSED AND ROUTE OF ADMINISTRATION BY CITY
1998

Characteristic	Bangkok	Kuala Lumpur	Manila	Hanoi
Time Period	Jan–Jun 1998	Jan–Dec 1998	Jan–Dec 1998	Apr–Dec 1998
Number of Addicts	5,730 (Total)	1,914 (New)	671 (New)	2,108 (Total)
	Percent	**Percent**	**Percent**	**Percent**
Primary Drug of Abuse			*	
Opiate-type				
- Opium	0.2	0.5	1.0	37.9
- Morphine	0.0	6.0	0.0	3.9
- Heroin	83.2	70.7	0.0	56.7
- Other Opiates	0.0	0.0	0.0	1.5
Cannabis	0.1	21.4	38.6	0.0
Cocaine	0.0	0.0	0.1	0.0
Amphetamines	14.8	0.0	92.4	0.0
Minor Tranquilizers	0.0	0.0	0.0	0.0
Solvents	0.2	0.0	0.6	0.0
Alcohol	0.0	0.0	40.8	0.0
Cough Syrups	0.0	0.0	15.8	0.0
Psychotropics/Other	1.4	1.4	6.3	0.0
Polydrug Users	8.0	0.0	89.1	10.2
Route of Administration				
Inhalation	1.1	0.0		67.2
Injection	69.2	6.2		17.0
Oral	0.5	1.4	N/A	0.1
Smoking	0.0	21.9		0.0
Smoking/Chasing	28.9	69.9		13.6
Sniffing	0.0	0.1		0.0
Other	0.1	0.5		2.2
Drug Sources			(Range)	
Street Sales			72–81	43.2
Legal Prescription	N/A	N/A	2–6	0.0
Diversion of Prescription			3–12	0.0
Other (Black Market)			7–9	56.8

NA = Not Available
* = Multiple Reporting (represents polydrug abuse)

SOURCE: The Asian Multicity Epidemiology Work Group

EXHIBIT 3

EAST ASIAN CITIES
DEMOGRAPHIC CHARACTERISTICS OF DRUG ABUSERS BY CITY
1998

Characteristic	Bangkok	Kuala Lumpur	Manila	Hanoi
Time Period	Jan–Jun 1998	Jan–Dec 1998	Jan–Dec 1998	Apr–Dec 1998
Number	5,730 (Total)	1,914 (New)	671 (New)	2,108 (Total)
	Percent	**Percent**	**Percent**	**Percent**
Patient Gender				
Male	97.6	98.8	82.8	97.2
Female	2.4	1.2	17.2	2.8
Patient Age				
≤ 14	0.7	1.2	3.3	0.7
15–19	14.5	8.4	21.0	19.5 (<18)
20–34	60.7	59.8	61.5	68.9 (18-30)
35–44	19.3	24.7	14.2 (>34)	10.9 (>30)
≥ 45	4.6	5.9		
Patient Occupation				
Professionals	0.0	0.4	11.8	0.4
Administrators	5.7		0.0	1.8
Sales and Clerical	0.1	22.3	0.0	6.3
Drivers	7.0	7.9	1.5	0.0
Cultivators	0.3	0.5	0.0	12.7
Unemployed	37.2	9.7	26.6	53.3
Self-Employed	12.1	0.0	6.7	2.0
Students	13.4	0.5	23.7	5.7
Other	24.3	58.6	29.7	17.6
Years of Education				
0	0.9	2.8	5.4	0.9
≤ 6	29.3	21.4	26.4	18.7
7–12	60.2	74.6	52.5	74.7
≥ 13	9.6	1.2	15.6	5.7
Patient Marital Status				
Single	64.8		55.2	
Separated	5.7	N/A	2.9	N/A
Married	24.9		38.8	
Widowed	3.7		0.0	
Other	0.9		3.0	

NA = Not Available

SOURCE: The Asian Multicity Epidemiology Work Group

EXHIBIT 4

EAST ASIAN CITIES
LAW ENFORCEMENT INDICATORS BY CITY
1998

Indicators	Bangkok	Kuala Lumpur	Manila	Hanoi
Time Period	Jan–Mar 1998	Jan–Dec 1998	Jan–Dec 1998	Apr–Dec 1998
Number Arrested for Drug-Related Offenses	10,295	1,444	1,709	5,502
	Rate	**Rate**	**Rate**	**Rate**
Rate per 100,000 Population	175.01	126.11	103.28	215.66
Arrests for Use	63.95	43.93	2.05	172.78
Arrests for Possession	93.05	21.22	89.38	0.00
Arrests for Sales	17.90	20.61	10.70	0.00
Arrests for Trafficking	0.00	29.17	1.15	42.88
Arrests for Conspiracy	0.00	0.00	6.04	0.00
Other Drug-Related Offenses	0.10	11.18	0.00	0.00
Drug Seizures (kg)	16.334	291.336	0.9863095	591.27
	Percent/Qty	**Percent/Qty**	**Percent/Qty**	**Percent/Qty**
Opiate-type				
Opium	2.7	0.0	0.0	26.5
Heroin	1.6	31.9	0.0	69.5
Morphine	0.0	0.0	0.0	3.9
Cannabis	3.8	68.1	40.8	0.1
Cocaine	0.0	0.0	0.0	0.0
Methamphetamine	85.4	0.0	59.1	0.0
Solvents/Inhalants	5.7	0.0	885 (bottles)	0.0
Other Drugs	0.7	< 0.1	13 (pieces)	0.0

NA = Not Available

SOURCE: The Asian Multicity Epidemiology Work Group

EXHIBIT 5

SOUTHEAST ASIAN CITIES
GENERAL POPULATION DEMOGRAPHIC INDICATORS BY CITY
1998

Indicators	Colombo	Dhaka	Islamabad	Madras
Year	1981	1995	1981	1991
Total Population	1,699,241	6,577,308	1,159,916	3,841,396
	Percent	**Percent**	**Percent**	**Percent**
Gender Male Female	 52.6 47.4	 55.9 44.1	 54.0 46.0	 51.7 48.3
Age ≤ 14 15–19 20–34 ≥ 35	 35.9 (<18) 64.1 (>18)	 46.4 17.2 (15–24) 13.2 (25–34) 23.2	 40.6 10.4 23.3 25.7	NA
Ethnicity	77.6 (Sinhala) 11.2 (Tamil) 8.3 (Moor) 0.3 (Malay)	NA	70.0 (Punjabi) 30.0 (Others)	NA
Years of Education 0 ≤ 6 7–12 ≥ 13	 18.0 (0) 14.6 (1–5) 63.8 (6–12) 3.6 (13+)	 43.2 24.9 (1–5) 27.6 (6–12) 4.3 (13+)	 41.2 (0) 15.8 (1–5) 26.0 (6–12) 17.0 (11+)	NA
Marital Status Single Separated Married Widowed Other	 59.5 0.3 37.0 3.2	 55.4 0.5 39.8 4.3	 29.4 5.6 65.0	N/A

NA = Not Available

SOURCE: The Asian Multicity Epidemiology Work Group

EXHIBIT 6

SOUTHEAST ASIAN CITIES
TYPES OF DRUGS ABUSED AND ROUTE OF ADMINISTRATION BY CITY
1998

Characteristic	Colombo	Dhaka	Islamabad	Madras
Time Period	Jan–Dec 1998	Jan–Dec 1998	Jan–Dec 1998	Jan–Dec 1998
Number of Addicts	1,250	1,862	775	1,516
	Percent	**Percent**	**Percent**	**Percent**
Primary Drug of Abuse				
Opiate-type				
- Opium	0.2	0.0	3.5	0.0
- Morphine	0.0	0.1	1.0	0.0
- Heroin	90.4	70.4	93.4	13.8
- Other Opiates	0.0	22.8	1.8	0.0
Cannabis	0.2	5.6	0.0	6.4
Cocaine	0.0	0.0	0.0	0.0
Amphetamines	0.0	0.0	0.0	0.0
Minor Tranquilizers	0.0	0.8	0.0	0.0
Solvents	0.0	0.0	0.0	0.0
Alcohol	0.0	0.6	0.3	74.2
Cough Syrups	0.0	0.0	0.0	5.3
Psychotropics/Other	9.2	0.1	0.0	0.3
Polydrug Users	0.0	4.9	77.7	40.5
Route of Administration				
Inhalation	0.0	0.0	0.0	0.0
Injection	0.3	10.7	55.5	57.2
Oral	0.5	15.0	7.1	0.0
Smoking/Chasing	15.1	71.7	74.1	33.5
Sniffing/Snorting	1.0	0.0	13.3	0.0
Other	83.1	2.5	0.0	9.3
Drug Sources				
Street Sales	N/A	100.0	89.3	N/A
Over-the-Counter		0.0	2.7	
Legal Prescription		0.0	0.0	
Diversion of Prescription		0.0	0.0	
Other (Black Market)		0.0	8.0	

NA = Not Available

SOURCE: The Asian Multicity Epidemiology Work Group

EXHIBIT 7

SOUTH ASIAN CITIES
DEMOGRAPHIC CHARACTERISTICS OF DRUG ABUSERS BY CITY
1998

Characteristics	Colombo	Dhaka	Islamabad	Madras
Time Period	Jan–Dec 1998	Jan–Dec 1998	Jan–Dec 1998	Jan–Dec 1998
Total N	1,250	1,862	775	1,516
Patient Gender-	*Percent*	*Percent*	*Percent*	*Percent*
Male	99.8	100.0	99.1	97.9
Female	0.2	0.0	0.9	2.1
Patient Age	*Percent*	*Percent*	*Percent*	*Percent*
≤ 14	0.1	0.1	0.6	0.0
15–19	3.3	4.6	11.2	7.0
20–34	75.1	79.6	47.0	39.7
35–44	20.0	15.7	41.2	53.2
≥ 45	1.5			
Patient Occupation	*Percent*	*Percent*	*Percent*	*Percent*
Professionals	0.2	0.8	1.2	2.3
Administrators	0.0	0.0	2.1	0.6
Sales and Clerical	2.0	13.1	12.6	22.9
Drivers	12.8	8.8	22.2	23.1
Cultivators	0.2	0.5	12.8	3.5
Unemployed	18.8	35.9	29.2	6.7
Self-Employed	15.6	27.9	14.4	27.4
Students	0.0	7.7	0.5	0.8
Other	50.4	5.3	5.0	12.6
Years of Education	*Percent*	*Percent*	*Percent*	*Percent*
0	1.4	21.7	19.0	2.8
≤ 6	8.0	21.3	42.2	24.9
7–12	81.9	46.3	27.3	68.0
≥ 13	8.6	10.6	11.3	4.2
Patient Marital Status	*Percent*	*Percent*	*Percent*	*Percent*
Single	52.6	45.3	39.2	47.1
Separated	1.0	3.2	8.0	0.0
Married	46.2	51.3	52.8	52.9
Widowed	0.1	0.3	0.0	0.0
Other	0.0	0.0	0.0	0.0
Patient Ethnicity	86.0 (Sinhala) 5.3 (Tamil) 6.2 (Moor) 1.5 (Malay) 1.0 (Burgher)	399 (Mixed)	80.1 (Punjabi) 13.8 (Pathan) 1.8 (Sindi) 4.3 (Others)	NA
Patient Religion	*Percent*	*Percent*	*Percent*	*Percent*
Hindu	2.2	6.8	0.0	54.0
Muslim	9.2	92.7	88.6	9.8
Christian	13.9	0.5	11.3	34.7
Buddhist	74.6	0.0	0.0	0.0
Other	0.0	0.0	0.0	1.4

EXHIBIT 8

SOUTHEAST ASIAN CITIES
LAW ENFORCEMENT INDICATORS BY CITY
1998

Indicators	Colombo	Dhaka	Islamabad	Madras
Time Period	Jan–Dec 1998	Jan–Dec 1998	Jan–Dec 1998	Jan–Dec 1998
Number Arrested for Drug-Related Offenses	3,650	1,868	1,099	
	Rate	**Rate**	**Rate**	**Rate**
Rate per 100,000 Population	214.80	28.40	94.75	
Arrests for Use	173.37	*	28.11	
Arrests for Possession	0.00		0.00	NA
Arrests for Sales	39.02		18.79	
Arrests for Trafficking	2.41		22.93	
Arrests for Conspiracy	0.00		0.00	
Other Drug-Related Offenses	0.00		24.92	
Drug Seizures (kg)	NA			NA
	Percent/Qty	**Percent/Qty**	**Percent/Qty**	**Percent/Qty**
Opiate-type				
Opium		0.9	27.1	
Heroin		0.0	1.2	
Cannabis		99.1	4.0	
Codeine (litres)	NA	2,432.8		NA
Pethedine (ampoules)		21,452		
Alcohol (litres)		14,303.86	67.5	
Phensedyl (litres)		0.0		
Buprenorphine (ampoules)		1,447		

NA = Not Available
* = Dhaka provided only the total number of offenses

CHANGING DRUG PATTERNS AND TRENDS IN QUEENSLAND AND AUSTRALIA: THE SHIFT INTO THE NEW MILLENNIUM

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Heroin continues to be highly available and relatively cheap and pure. The number of women and youth abusing heroin is increasing. Opioid mortality is increasing also and accounts for close to 10 percent of deaths among Australians age 24–25. Most agencies are reporting increases in the use of amphetamines, usually in conjunction with other drugs. Although not highly prevalent, cocaine abuse appears to be increasing, as are purity levels of the drug. There are reports of increasing use of lysergic acid diethylamide (LSD) among youth, usually as a second drug. Increases in injection of ecstasy (methylenedioxymethamphetamine or MDMA) among youth are reported as well. Cannabis remains the most widely abused illicit drug and an increasing number of users are presenting for treatment.

INTRODUCTION

1. Area Description

Australia is comprised of 6 states and 2 territories with a land mass of 7,775,000 square kilometers; this is equivalent to approximately 80 percent of the land area of the United States. The population of Australia is estimated at 17.8 million.

2. Data Sources

Data were obtained from the following sources:

- The 1988 and 1999 meetings of the Queensland Community Based Drug Reporting Working Groups (CBDRWG) (Davey and Davies 1999a,b). These 6-month meetings involve more than 30 treatment and service agencies in the Brisbane and Gold Coast regions.
- Interviews with user groups, health workers, researchers, and law enforcement authorities.
- The publications, as cited in the Reference section. In particular, use is made of the December 1998 findings from the Illicit Drug Reporting System (IDRS) (McKetin et al. 1998), and the Australian Bureau of Criminal Intelligence (ABCI) Illicit Drug Report (1999).

3. The Political Climate

Since the 1980s, Australian government policies related to substance use have been recognized as an example of progressive government action founded on a philosophy of harm minimization. However, over the last 3 years, a variety of commentators and key players have remarked on the Common-

wealth Government's particularly conservative approach to substance use issues. The change in approach is characterized by the government's use of terminologies, such as "zero tolerance" and "get tough on drugs." The ongoing controversy over and the subsequent rejection of the proposed ACT Heroin Trial is another example of the change in government strategy.

This is in contrast to the somewhat more liberal views of the mid-1980s and early 1990s. At the New York meeting of the CEWG, the characteristics of this trial were outlined and it was noted that the then newly elected government was taking the matter under consideration. In the following CEWG meeting, it was reported that the Prime Minister flatly rejected the trial, despite the fact that it had nearly the unanimous support of all States and territories.

It is not suggested that the current Commonwealth government has neglected the substance use field. In fact, there is an increase in the allocation of funding for drug and alcohol services to be delivered over the next 3 years. However, the attention of the Commonwealth Government is currently centering more directly on treatment, prevention, and law enforcement. This represents a shift from a more fundamental harm minimization perspective that characterized the field in the recent past.

Currently, community organizations, family and church groups, and both local and State governments are challenging the Federal Government and calling for a change in direction in dealing with substance use. This reaction is in response to a rapidly growing number of heroin-related overdose deaths and what could be interpreted as a shifting trend towards conservatism by the Federal Government. It is interesting to note that, up until the mid-1990s, the Commonwealth was more often than not challenging the States to embrace more progressive approaches to substance use.

There is currently an intense public and political debate in Australia. As a result, the socio-political climate surrounding substance use is creating one of the greatest challenges for government since the onset of the acquired immunodeficiency syndrome (AIDS) epidemic in the early 1980s. Two recent examples of challenges to the Federal Government have been a series of proposals put forward by the Australian Capital Cities Lord Mayors Drug Advisory Committee and the New South Wales Government Drug Summit. Together with support for continuing and increased efforts in treatment, education and policing, one of the more controversial proposals of these groups has concerned the use of medically-supervised *shooting galleries*.

Such proposals may seem radical. However, to put this in perspective, the 5-day governmental drug summit in New South Wales (NSW) was held against the background of the recent closure of an illegal shooting gallery. This service was operating in a church located in the inner city suburb of Kings Cross. This service was widely supported by key health, academic, and political figures. Following a massive media and public debate regarding this radical move, the police eventually closed the shooting gallery. The day after the closure, a young man was found dead of a heroin overdose in the church toilet block. This incident was used to argue in favor of supervised shooting galleries. What is of particular salience is that this argument now has the support of both State and local governments. For example, the Drug Summit agreed to a resolution that the "*NSW Government should not veto proposals from non-government organizations for a trial of safe injecting room*."

DRUG ABUSE PATTERNS AND TRENDS

1. Heroin

Importation. Approximately 80 percent of heroin in Australia is imported from the Golden Triangle (ABCI 1999). According to Australian Customs, the number of heroin seizures has decreased but the quantity of each seizure has increased:

1997	23 seizures	137.1 kilograms
1998	13 seizures	487.9 kilograms

Customs believes that large seizures have no impact on the street availability or price. In the last 12 months, two of the largest seizures of heroin in Australia's history were successfully executed. Following these seizures, authorities undertook a national survey to gauge the impact of these seizures on supply and price. This survey of "street level" availability showed virtually no impact on price, availability, and/or purity of heroin.

Price, Purity, and Availability. The Queensland Police Service reports no significant changes in the price, purity, and availability of heroin during the last 6 months: one cap (0.1–0.3 gram) sells for $50; one-fourth gram sells for $120; one-half gram (.4-.6 gram) sells for $250; and 1 "street" gram sells for $400–500. Purity ranges from between 56 to 86 percent. However, the price has steadily declined since 1997–98. At a recent meeting of the Gold Coast CBDRWG (Davey and Davies 1999b), there were reports of smaller amounts (approximately one-twentieth of a gram) being sold for $25. This trend towards the marketing of smaller quantities may be indicative of an increase in purity and availability. This data is consistent with trends in Sydney and Melbourne where prices have decreased also. In Sydney in 1998, 1 gram could be purchased for $280, and in Melbourne and Sydney, a cap of heroin can be bought for only $25. According to key informants on the Gold Coast, the lower priced "packets" are believed to assist those who have "no money" and users who may be "hanging out." The key informants regard the smaller quantities as suitable for new users who have little or no tolerance to heroin. This is consistent with reports that heroin is being used as a "party drug" by young people who are breaking with the traditional usage stereotypes. It was understood also that some "dealers" are only interested in selling small quantities of heroin, generally no more than single grams. This could indicate a relatively flat supply structure, with users selling to other users (Davey and Davies 1999a,b).

Heroin Related Mortality. Heroin continues to be a drug of high availability. Over the last few years, "street prices" have fallen and the increase in purity since 1995–1996 has been maintained. Heroin-related deaths among persons age 15–44 have risen from 1.38 per million in 1964 to 63.5 per million in 1996 (a 46–fold increase). Opioid deaths now account for almost 10 percent of deaths among young Australians age 24–25 and are fast overtaking the figure for road traffic accidents (Penington 1999; Lindski and Hall in press).

Heroin deaths continue to increase at an alarming rate in Australia. There were 600 heroin-related overdose deaths recorded in 1997; overdose deaths are expected to reach 1,000 in 1999 (Hall 1999). Research recently undertaken in New South Wales indicates that heroin overdose deaths have increased by 134 percent in Sydney and 230 percent in non-metropolitan regions during the last 5 years (Darke et al. 1999). This report also reveals that there has been an in-

crease in "morphine blood concentration" in those who have died of overdose within the last 5 years, indicating the substantial rise in purity levels during this time.

This increase in overdose deaths is not unique to Sydney. Victorian police reports indicate that overdoses have tripled in the last 5 years. In Melbourne, overdose deaths at the beginning of 1999 were averaging two per day, twice the rate for the previous year (Crosbie 1999). Overdose morbidity has increased in all States, and ambulance officers have reported massive increases in overdose call-outs. Ambulance services in Melbourne attended 12 to 13 overdoses per day and administered approximately 1,150 doses of Narcan during a 5-month period in 1998. This represents a 50 percent increase from the previous 6 months. Other States, such as Queensland, have reported up to a 70 percent increase in the administration of Narcan during the past 12 months (Davey and Davies 1999a,b).

Trends. Like many areas in Australia, research carried out in the Gold Coast regions (Davey and Davies 1999a) and Brisbane (Davey and Davies 1999b) with drug agencies and treatment services clearly suggests an increase in the number of people seeking treatment and support for their problematic heroin use. While males still dominate presentations, the number of women and young users is growing.

The ABCI (1999) suggests that there is a steady decline in the average age of first time heroin users. For example, a busy inner Brisbane youth community-based organization reported that the age of "first use" or "experimentation" has decreased to 14.7 years in the last 3 years. While some Queensland agencies (Davey and Davies 1999a,b) do not necessarily show a decline in age of first use, data indicate a notable increase in the number of younger heroin users accessing services, particularly needle availability support programs (NASPs).

A recent survey (Davey and Davies 1999b) of clients conducted at this youth service indicates that heroin as a drug "ever used" was reported by 60 percent of the sample age 12–25. This represents a 20 percent increase in use since 1994, a trend which is comparable with Sydney and other centers. It should be noted that heroin is not necessarily the "drug of choice" among these young people and that many young people tend to use a variety of drugs opportunistically.

The majority of agencies in the Queensland CBDRWG (Davey and Davies 1999a,b) report that, for young people, heroin is consistently the third or fourth most frequently used drug after alcohol, cannabis, and amphetamines. This also is more indicative of the trend towards polydrug use rather than traditional "primary drug" use. A recently completed survey of clients at a major Brisbane injecting drug user (IDU) community-based organization found that heroin was the first drug injected by 24 percent of respondents, second after amphetamines (62 percent) (BYS and Logan YFS 1999).

Reporting on heroin use in Sydney, Melbourne, and Adelaide, the IDRS (McKetin et al. 1998) noted an increase in use by existing heroin users, particularly in Sydney and Melbourne. Nine out of ten IDUs had injected in the past 6 months with a frequency of 6–7 days per week. It was reported also that one in five IDUs had smoked heroin in the past 6 months. The Queensland CBDRWG (Davey and Davies 1999a,b) also identified a growing cohort of heroin smokers; this was most prevalent among Vietnamese and middle-class users.

The IDRS (McKetin et al. 1998) reports that in Sydney and Melbourne, there is a grow

ing trend for heroin to be the first drug injected. This was more pronounced among those who had begun injecting in the last 5 years, with 76 percent in Sydney and 62 percent in Melbourne using heroin the first time they injected, compared with 60 percent and 32 percent, respectively, for other IDUs. Queensland reports (Davey and Davies 1999a,b) also support this trend toward heroin being the first drug injected. Field reports indicate that this shift into injection of heroin becomes more predominant when supplies of amphetamines are low. There also have been reports of highly dependent cannabis users shifting directly to heroin injection.

2. Amphetamines

Manufacture and Purity. The purity of amphetamines continues to vary; the overall range in purity for amphetamine is up to 66 percent, and for methamphetamine up to 80 percent. Although amphetamines and methamphetamine constitute the bulk of the market, there is a growing crystallized methamphetamine hydrochloride *(ice)* market, as indicated by increasing custom seizures and usage reports. Methamphetamine is the major illicit substance produced by clandestine laboratories. The majority of the labs use easily-obtained Sudafed tablets (pseudoephedrine) and use hypophosphorous acid to reduce the pseudoephedrine. The "box lab" still remains the popular choice for "cooks." It is small and portable (the size of a tool box) and contains all the necessarily tools and chemicals.

Price and Availability. The Queensland Police Service reports no significant change in the price and purity of amphetamines. As with heroin, price tends to vary with purity; 1 gram sells for $300 (66 percent pure). Key informants on the Gold Coast (Davey and Davies 1999b) indicate that one street gram (which is generally one-tenth *speed* cut with glucose) sells for approximately $50. One gram of *base*, a much more potent "speed" (sometimes described by users as crystal methamphetamine), can be bought for between $250 and $300. In Sydney, 1 street gram of speed sells for $100, double the price in Melbourne and Adelaide (McKetin et al. 1998).

While purity levels in Sydney and Melbourne are low, ranging from 5–20 percent (McKetin et al. 1998), Queensland-based research also points to an increase in the availability of the very pure type of amphetamine known as base and is described as being "super strong" at around 60 to 70 percent pure. Anecdotal reports suggest that "a $50 packet will wreck you for days." Treatment agencies are seeing an alarming increase in clients who use base and show signs of psychosis. The drug is identified as containing a high level of impurities and is generally purchased in "points."

One issue that contrasts Queensland against the other States is the high level of local amphetamine production. The ABCI (1999) indicates that there is an increase in the availability of amphetamines in Queensland and New South Wales and attribute this to widespread local production. Australian Customs believe that this issue may be contributing to a decrease in seizures. Customs also indicates that there has been a huge increase in the number of ephedrine seizures, and that most of these importations are directed to individuals through the mail system. It is unknown whether these importations are used for further manufacture, although it is certainly feasible. Seizures for amphetamines and ephedrine for all of Australia are shown below.

Amphetamines	*Ephedrine*
1997 37 seizures	1997 63 seizures
1998 25 seizures	1998 233 seizures

Trends. The ABCI (1999) reports that those who use "amphetamine-type substances" are generally polydrug users, with intravenous injection being the favored administration method. An increase in the injection of speed has been recorded in Queensland. A Brisbane "initiates to injecting survey" recently found that an amphetamine was more often the first drug injected (62 percent) (BYS and Logan YFS 1999). A widespread increase in the number of speed users attending NASP's has been noted by all agencies involved in the Queensland CBDRWG (Davey and Davies 1999a,b). Some agency workers point out that the increase in injection may be a result of the new form of amphetamine (base) being sold in a moist crystal form that makes snorting almost impossible unless the drug is mixed with glucose. Interestingly, youth workers report that many of their clients seem to distinguish between being an injecting speed user and being a heroin "junkie." Regional and rural reports also indicate high and growing patterns of speed use in these areas. This trend is supported by Needle and Syringe Support Program data.

The Brisbane CBDRWG (Davey and Davies 1999a) reported that there has been an increase in the number of amphetamine users describing a severe, protracted withdrawal syndrome. There also are anecdotal reports of the use of poppy seeds to come down from "speed binges." In areas of Brisbane, school nurses report that after the school holiday period, there is a notable increase in the number of students seeking support as a result of amphetamine use during the vacation. This also coincides with an age decrease in the onset of amphetamine use in the Brisbane area. Several agencies in Brisbane note that amphetamine presentations often describe concurrent heavy cannabis use.

Almost all agencies are reporting increases in amphetamine use in conjunction with other drugs. Associated with this is the growing trend to medicate or soften the speed "comedowns" with marijuana or benzodiazepines. During the last 6 months, the Government Medical Officer has reported an increase in the number of prisoners in the watch house and remand centers with comorbidity between amphetamines, cannabis, alcohol, and schizoaffective disorders (Davey and Davies 1999a).

There has been a rapid rise in the use of naltrexone as a treatment for opioid dependence during the past 12 months. Treatment agencies and outreach workers in Queensland report that there are incidents of clients on naltrexone regimes who are using amphetamines to "get a high." This is understood in light of the fact that users are unable to get a high from heroin because of the blocking off of their opioid receptors (Davey and Davies 1999a). This may indicate that heroin users are turning to naltrexone to manage drug use rather than to abstain.

3. Cannabis

Price, Purity, and Availability. The Queensland Police Service Intelligence indicates that there is no shortage of cannabis on the market. They suggest that price varies according to tetrahydrocannabinol (THC) content:

Leaf	$25	(a deal, about 1 gram)
Head	$220	(ounce bag, 28 grams)
Plant	$2,000	

Key informants on the Gold Coast (Davey and Davies 1999b) report that the price of hydroponically grown marijuana has remained fairly stable over the past 6 months; 0.8 of a gram sells for approximately $25,

2.5 to 3 grams for approximately $50, and 1 ounce sells for between $350 and $400. In Sydney, Melbourne, and Adelaide, the price of cannabis per gram and per ounce has slightly decreased during the last 12 months, with Adelaide recording the cheapest prices. An ounce can be purchased for between $200 and $250 in Adelaide and Brisbane, compared with $350 in Sydney and $320 in Melbourne (McKetin et al. 1998). Adelaide has the most liberal marijuana legislation in Australia; consequently, cheaper prices are not unexpected.

The IDRS suggests that cannabis is "easy to obtain" in all States (McKetin et al. 1998). In Queensland, most agencies participating in the CBDRWG reported an increase in the availability and purity of hydroponically grown cannabis, otherwise known as "skunk." Interestingly, key informants on the Gold Coast believe that the market for non-hydroponic cannabis is decreasing. The ABCI also suggests that "*domestic production of hydroponically cultivated cannabis appears to have reduced the demand for imported herbal cannabis"* (ABCI 1999:10). The ABCI reports that hydroponic cannabis cultivation is increasing as a result of difficulties experienced by law enforcement in the detection of these types of crops. The cultivation is increasing as market demand increases (ABCI 1999).

Australian Customs reported that the quantity of cannabis seized has diminished. They believe that the readily-available, more potent local product has possibly reduced the demand for imported compressed heads or "*Thai sticks*." Seizure data show:

1997	458 seizures	490 kilograms
1998	583 seizures	17.25 kilograms

Trends. The IDRS reports that there has been a decrease in cannabis use among injecting drug users in Sydney and Melbourne, but that use has remained stable in Adelaide (McKetin et al. 1998). Sydney IDRS data indicate a higher frequency of heroin use among cannabis users. This trend has been observed consistently over the past 12 months in the Queensland reporting groups (Davey and Davies 1999a,b).

There also continues to be a rapidly increasing number of cannabis-related presentations at the various treatment services across the country. A large number of these clients have psychosis and psychological problems associated with cannabis use. As in other States, treatment services in Brisbane and the Gold Coast report that significant withdrawal symptoms are observable among clients who are heavy cannabis users, and that cannabis is increasingly becoming a drug of dependence. Cannabis remains the most popular and frequently used illicit drug (Davey and Davies 1999a,b).

4. Cocaine

Price, Purity, and Availability. The ABCI (1999) reports that, as a result of the stabilization of the United States cocaine market, traffickers are seeking out alternate sites. This may account for the increase in cocaine use in Sydney during the last 12 months. Cocaine is cheapest in Sydney at $200 per gram. Over the last 12 months, the price has decreased in Melbourne (from $300 to $200), Adelaide (from $250 to 200), and Brisbane (from $250 to $220). In other parts of Australia (non-eastern States), 1 gram of cocaine can sell for as high as $500 (ABCI 1999). The availability of caps also has increased in Sydney and the price has dropped from $80 to $50. However, caps are not as prevalent in Melbourne and Brisbane.

Purity levels have generally increased in all east-coast States, with New South Wales recording the highest—59 percent in 1997

and 64 percent in 1998 (McKetin et al. 1998). In Victoria, Queensland, Western Australia, and South Australia, the purity levels averaged 54 percent, 35 percent, 29 percent, and 44 percent, respectively (ABCI 1999).

Customs border detection of cocaine has increased, with Sydney remaining the favored point of entry and Queensland the second favored point of entry (ABCI 1999). Seizure data show:

1996–1997	7.5 kilograms
1997–1998	78.2 kilograms

Trends. Recently, a disturbing trend has been observed in Sydney: heroin injectors have been increasing their injection of cocaine (ABCI 1999). In Sydney during the last half of 1998, the proportion of IDUs who had used cocaine rose from 35 to 59 percent, with the median frequency of use rising from 4 days per 6-month period to 25 days per period. Compared with the previous 12 months, daily injection of cocaine among the Sydney IDU survey population rose from 2 to17 percent by the end of 1998 (McKetin et al. 1998). Cocaine use in other major centers such as Brisbane, Melbourne, and Adelaide remains very low (McKetin et al. 1998; Davey and Davies 1999a,b).

Key informants in both Brisbane and the Gold Coast have observed an increase in the basing of cocaine (crack), but only in very isolated cases. Mixing cocaine with speed (crank), and mixing cocaine with heroin (speedballing) for injecting is not an unusual occurrence. Nonetheless, cocaine use is minimal in Brisbane and on the Gold Coast. Recent reports from field workers on the Gold Coast indicated that the slight increase in the visibility of use might be attributed to small pockets of people who frequently travel to Sydney (Davey and Davies 1999a,b).

5. Naltrexone

Government funded naltrexone trials, including ultra rapid opioid detoxification (UROD), have commenced in various sites in Australia. Both the pros and cons of naltrexone continue to be enthusiastically debated. In the last Queensland CBDRWG, many of the agencies voiced a variety of concerns about naltrexone, including an increase in the number of overdose presentations (requiring resuscitation) who cited a recent history of naltrexone use. Furthermore, there are increasing reports of polydrug users adding naltrexone to their repertoire, potentially as a drug use management option (Davey and Davies 1999a,b). There are also anecdotal reports of naltrexone being sold on the street on the Gold Coast.

6. Lysergic Acid Diethylamide (LSD)

LSD is becoming increasingly popular among "designer" drug consumers and young people. During the last few years, LSD popularity increased in the dance party scene. However, in more recent times, the user market has grown more broadly. Treatment and youth agency workers in Queensland report that the most noticeable increase occurred in the younger age groups (14 years and above). The price of LSD has remained relatively stable over the past 6 months. One of the major factors that characterizes the popularity of LSD is its affordability. In Queensland, a tab can be purchased for $20 to $25; 100 tabs sell for $800 to $1,000; and 200 tabs sell for $1,400. The Brisbane CBDRWG (Davey and Davies 1999a) indicates that young adolescents tend to use LSD in conjunction with other drugs, especially alcohol and amphet-

amines. A recent survey conducted at a busy Brisbane city youth service showed that lifetime use of LSD has risen from 56 percent in 1994 to 74 percent in 1998. A recent Brisbane CBDRWG pointed to a resurgence of the 1960s culture, observing that this may continue to influence increases in the use of LSD. Almost all agencies recognized the underreporting of LSD use. Clients tend to use LSD as part of a polydrug use behavior and, while LSD may have been mentioned in their recent drug use history, it was often overlooked because it was not the major primary or secondary drug requiring specific treatment attention.

7. Ecstasy (MDMA)

The Queensland Police Service indicates that many tablets being sold as MDMA (methylenedioxymethamphetamine) contain no MDMA. These generally contain caffeine or amphetamine. However, on occasion, a tablet contains combinations of MDMA and heroin, MDEA and MDMA, or methamphetamine and MDMA. Key informants on the Gold Coast believe ephedrine is sometimes substituted for and sold as ecstasy. They also suggest that MDMA has recently been made available on the market in powder form. The range of prices is:

1 tab/cap (one-fifth MDMA)	$35–50
3 tabs	$90
10 tabs	$400
50 tabs	$1,800

Most of the agencies participating in the Queensland CBDRWG (Davey and Davies 1999a,b) reported a variance in the quality of ecstasy with generally low purity levels.

A survey of young people conducted by an inner-city Brisbane youth service indicates that 48 percent of young men and 32 percent of young women have "ever used" ecstasy. However, only 18 percent of the sample reported "current use."

All agencies and informants participating in the Queensland CBDRWG research believe there is a steady increase in the injection of ecstasy. Furthermore, an increase in injection has been observed among members of the "rave party scene," traditionally a non-injecting user group.

8. Prescription Medications

There are two dominant trends in the use or abuse of prescription medications. First, general practitioners are increasingly prescribing IDUs with antidepressants. This is regarded as problematic in two ways. The tricyclic antidepressants are now being implicated in heroin overdoses (NDARC 1999). Also, these types of medications are being used to treat dependent drug use without any ancillary support. This is being seen more frequently in younger cohorts (Davey and Davies 1999b). Second, with the advent of more controlled prescription drug practices, and the reclassification of Rohypnol (flunitrazepam), there has been an increase in the injection of benzodiazepines.

NEEDLE AVAILABILITY SUPPORT PROGRAMS (NASPs)

NASPs in Australia are constantly working to fulfill growing demands. For example, in 1998, the Queensland needle and syringe exchange program experienced a 60 percent increase in the supply of needles and syringes compared with the previous year. This coincided with the population growth in Queensland and a perceived increase in the

number of IDUs accessing NASPs. This year, it is estimated that over 5 million needles and syringes will be distributed via pharmacies or NASPs throughout Queensland (Davey and Davies 1999a).

HIV/AIDS

The cumulative human immunodeficiency virus (HIV) diagnosis profile for Australia through December 31, 1998 was 19,437. There were 80,707 diagnoses of AIDS and 5,682 deaths following the onset of AIDS. The total diagnoses for the year ending December 31, 1998 were 726 diagnoses of HIV infection, 265 diagnoses of AIDS, and 123 deaths following AIDS. In the 4-month period ending December 31, 1998, there were 174 new diagnoses of HIV, 85 diagnoses of AIDS, and 40 deaths following AIDS; these figures are fairly comparable to the same 4-month period in the previous year when there were 196 new diagnoses of HIV, 80 diagnosis of AIDS, and 34 deaths following AIDS (NCHECR 1999).

The average age of people diagnosed with HIV infection in 1998 was 36 years. Just over 2 percent were between 13 and 19 years of age and 86 percent were male. Of the newly reported HIV infections for 1998, a history of heterosexual contact was only reported in 17 percent of the cases (NCHECR 1999).

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CANADIAN COMMUNITY EPIDEMIOLOGY NETWORK ON DRUG USE (CCENDU): HIGHLIGHTS

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Substance abuse is a major health, legal, economic, and social issue in Canada. The economic cost of alcohol use in Canada in 1992 was estimated at about $7.52 billion, representing 40.8 percent of the total costs of substance abuse and 1.1 percent of Gross Domestic Product. Of the 6,701 deaths resulting from alcohol consumption in Canada in 1992, 14.3 percent were from alcohol liver cirrhosis. With an estimated economic cost of $9.56 billion, tobacco use was responsible for the largest share (51.8 percent) of the economic costs associated with substance use in 1992. Tobacco is also the leading cause of death from substance abuse—it is estimated that about one in every five deaths in Canada is attributable to smoking. In 1992, 732 deaths in Canada were attributed to illicit drugs, accounting for $1.37 billion and representing 7.4 percent of the total economic costs of substance use in Canada that year. Canada initiated a concerted effort to address substance abuse in 1987 with two consecutive 5-year strategies. As reaffirmed in 1998, Canada's Drug Strategy aims to reduce the harm associated with alcohol and other drugs to individuals, families, and communities. The Federal drug strategy specifically recognizes the important role of CCENDU as part of research knowledge and development.

INTRODUCTION

1. The Canadian Epidemiology Network on Drug Use

CCENDU was created in response to an identified need for a surveillance system spanning Canada, bringing together locally-relevant information on drug use, its health and legal consequences, treatment, and law enforcement. The compilation of such essential information is intended to facilitate the development, implementation, and evaluation of effective strategies to deal with substance abuse at the local, provincial, and national levels.

Beyond coordinating and facilitating the collection, organization, and dissemination of surveillance information, CCENDU was conceived to foster networking among key multi-sectoral partners to improve the quality of data currently being gathered, and to ultimately serve as an early warning network on emerging trends. Since its earlier pilot phase, reported in the *Inaugural National Report*, CCENDU has also acknowledged and undertaken a role in responding quickly to requests for current information on emerging drugs of abuse and issues of concern. The adopted model facilitates rapid dissemination of these types of requests across the country and an equal ability to respond quickly. This is a "first" in this field in Canada, a country typically limited in its country-wide approach to substance use because health issues are a provincial rather than national mandate.

Fourteen cities are currently involved with CCENDU to varying degrees. Eight sites provided local reports for inclusion in the 1999 national report: Halifax, Fredericton, Montreal, Toronto, Winnipeg, Regina, Calgary, and Vancouver (CCENDU 1999). Two other sites, St. John and Whitehorse, have been part of the network for nearly a year, but have not yet been able to provide local reports. Three additional sites—Ottawa, Edmonton, and Victoria—are at various stages of involvement and are exploring the feasibility of becoming full network members.

The Canadian Centre on Substance Abuse provides national coordination. A Steering Committee provides ongoing guidance to the overall initiative, as well as funding for various components.

Data and information are collected in nine major areas: alcohol, cocaine, cannabis, heroin, sedative-hypnotics and tranquilizers, hallucinogens other than cannabis, stimulants other than cocaine, the human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS), and needle exchange. Summaries of national data as well as local site information are provided for indicators in each issue area. For the 1999 annual report, a special section was dedicated to injection drug use and communicable disease. In addition, special reports were provided by Toronto on three issues of concern: young homeless parents, methadone maintenance, and alcohol and harm reduction.

2. Sources and Quality of Information

The information on drug use and drug problems is based on five indicator domains: prevalence of substance use, law enforcement data, morbidity data, mortality estimates, and rates of HIV infection or AIDS. To the extent possible, data are reported for the 1996 calendar year.

Although some information is only available at the provincial or regional level, data are aggregated primarily at the local level by each participating city. Some data are taken from national sources to facilitate and standardize data collection across sites. This includes social indicators obtained from Statistics Canada (population, income, ethnicity, and crime statistics), morbidity data obtained from the Canadian Institute for Health Information, and prevalence data from Canada's Alcohol and Other Drug Survey in 1994 (MacNeil and Webster 1996).

Indicators of drug use and drug problems were chosen on the basis of access and availability of data, usefulness to persons working in the addictions field, and the need to keep data collection and interpretation manageable. Each type of data has its advantages and disadvantages relative to alternative information sources. Survey data are the best source of information on drug use in the general population, but there are serious problems of underreporting of drug use by respondents and the under-representation of lower socioeconomic groups.

Treatment data may represent the availability of treatment facilities rather than true prevalence of a problem. Enforcement data are similarly influenced by factors other than the incidence of drug-related problems.

DRUG ABUSE PATTERNS AND TRENDS

1. Alcohol

Alcohol represents a major social and health problem in Canada. The total economic costs attributed to alcohol in 1992 were estimated at $7.5 billion (Single et al. 1996). This includes $4.1 billion for law enforcement costs, $1.3 billion for direct health care costs, and $0.7 billion for other costs.

It is estimated that there were more than 86,000 hospitalizations and 6,701 deaths caused by alcohol in 1992 (Single et al. 1999). The greatest number of hospitalizations were for accidental falls (16,901), alcohol dependence (14,316), and motor vehicle accidents (11,154). The largest number of alcohol-attributed deaths resulted from impaired driving accidents (1,477). Liver cirrhosis accounted for 960 deaths and there were 918 alcohol-attributed suicides. Many of these deaths occurred among relatively young victims. The total years of potential life lost because of alcohol use (calculated by comparing the age of death to the life expectancy for a person of that age and gender) was more than 186,000, representing a loss of 27.8 years per alcohol-related death.

Thus, whether measured in terms of deaths, hospitalizations, or economic costs, alcohol remains one of Canada's most significant drug problems (exhibit 1). It should also be noted, however, that overall alcohol consumption has been declining for several years, and there are encouraging signs of decreases in some problem indicators. Yet, not all problems are decreasing, and alcohol use by Canadian youth appears to be increasing.

2. Cannabis

The most recent national survey on substance use (1994) shows that cannabis is the most widely used illicit drug in Canada. Based on Canada's Alcohol and Other Drugs Survey, 7.4 percent of Canada's 15 to 19 year-olds used cannabis at least once in the 12 months prior to the survey. Cannabis use among 15 to 19 year-olds is more than twice as frequent as in the general population (exhibit 2). Cannabis use varies markedly across Canada, with the highest prevalence reported in British Columbia (11.6 percent) and the lowest in Ontario (4.7 percent; see exhibit 2).

Cannabis is rarely determined to be the cause of death. In 1995, no case of death investigated by medical examiners or coroners was attributed to cannabis, although cannabis was detected through toxicological testing in some cases.

In the past several years, law enforcement priorities concerning cannabis have shifted to addressing importation, trafficking, and production rather than drug possession. Cannabis-related charges per 100,000 population in 1996 were highest in Regina and Halifax (both 119.0; see exhibit 2).

3. Cocaine

The prevalence of cocaine/crack use is low in the general population. Based on the Canada's Alcohol and Other Drugs Survey in 1994, less than 2 percent of Canadians used powder cocaine or crack cocaine in the previous year. The prevalence of use among adolescent students ranges from about 2 to 6 percent. Outside of British Columbia, there is very little morbidity associated with cocaine use (exhibit 3).

However, the use of powder cocaine and crack is more common among particular segments of the population who are not easy

to reach by conventional methods such as telephone and school surveys. Street youth in particular are at risk of cocaine/crack use. In Vancouver, 85 percent of street youth reported having used cocaine, more than half reported frequent use, and 48 percent of male and 32 percent of female street youth reported injection drug use. Among street youth in Toronto, about 31 percent used powder cocaine and 31 percent used crack over the course of a year. In Montreal, about 32 percent and 18 percent of street youth, respectively, used powder cocaine and crack in the month prior to the survey. In Halifax, 20 percent and 33 percent of street youth surveyed in 1991 reported having used crack and powder cocaine, respectively.

In all CCENDU cities, a considerable proportion of services is devoted to the treatment of cocaine dependence or less severe forms of cocaine abuse (exhibit 3). In Regina, 69 percent of persons in treatment who reported having used cocaine also reported cocaine was their major drug problem. In contrast, in Halifax, 27 percent of the people in treatment for substance abuse reported having used cocaine at some time.

4. Heroin/Opiates

Although the overall national rate of heroin use appears to be relatively low, the use of heroin represents a major health and social problem in several study sites, and it is reaching crisis proportions in Vancouver. In Montreal, heroin can be purchased for as little as $10 for a "quarter of a point," the smallest quantity available on the street.

In Vancouver, heroin and cocaine use, particularly injection use of these drugs, is a major concern. Using a capture/recapture method, it is estimated that there were 11,600 injection drug users in the Greater Vancouver area in 1998. High numbers of injection users are also reported in Toronto and Montreal, while heroin is a lesser concern at this time in the other study sites.

The proportion of treatment clients whose primary drug problem concerns heroin use varies considerably among study sites, ranging from 2 percent or less in most sites to approximately 10 percent in Vancouver, Toronto, and Montreal. Vancouver has the highest number of hospital discharges with an opiate-related diagnosis; however, the highest per capita rate of opiate-related discharges is in Regina. These figures do not include diagnoses related to fetal and neonatal drug exposure—an increasing problem in Vancouver where there were 82 admissions for fetal and neonatal exposure in 1996–1997.

By far, the highest number of heroin/opiate-related deaths reported by coroner or medical examiner offices occurs in Vancouver (exhibit 4). There were 151 deaths related to heroin or cocaine overdose in Vancouver in 1996. Even though this figure includes some cocaine overdose cases, it is likely a conservative estimate. The British Columbia Coroner's Office indicated that there were 256 deaths in 1996 in which toxicological tests showed significant concentrations of heroin in the deceased as well as 13 deaths involving significant concentrations of methadone. On the other hand, the number of heroin deaths in Toronto has declined from 60 in 1992 to 38 in 1996. In Montreal, the mortality rate of street youth as a result of heavy drug use is 12 times that of other youth; the deaths are associated with heroin.

British Columbia has started to track ambulance service calls that involve possible drug overdose and naloxone usage (a counteracting drug that is used when narcotics are suspected to be the reason for unconsciousness,

or the agent is unknown). In Fiscal Year 1996–1997, the ambulance services responded to 2,175 possible drug overdose incidents, and administered naloxone 934 times (province-wide, although most took place in Vancouver and the immediate area).

In summary, heroin use is a serious problem in Toronto and Montreal and it represents a major public health crisis in Vancouver. While it is a less severe problem in other sites at this time, there is a general consensus that heroin use should be closely monitored. In addition to other serious social and health consequences, heroin users are particularly vulnerable to HIV and hepatitis infection.

5. Sedative-Hypnotics and Tranquilizers

The most recent information on the prevalence of sedative-hypnotic and tranquilizer use is from Canada's Alcohol and Other Drugs Survey in 1994. Quebec residents (6.8 percent) were more likely than residents of other provinces (3–5.5 percent) to report using tranquilizers during the 12 months prior to the survey. The proportion of respondents who used sleeping pills (hypnotics) ranged from 3.5 percent in Ontario to 5.8 percent in Quebec. A small percentage of adolescent students reported using tranquilizers that were either not prescribed or not prescribed for them in the course of the year (ranging from less than 1 percent in Toronto to 5 percent in Halifax and Fredericton). Tranquilizer use is more common among street youth. For example, in Halifax, 32 percent of the street youth reported using tranquilizers; among these, 27 percent used tranquilizers at least once a week.

Overdose deaths attributable to the use of sedative-hypnotics and tranquilizers range from 0 to 6 per 100,000 population in the various CCENDU sites. Although not a priority for law enforcement, these drugs are associated with considerable morbidity and mortality because they are often used in combination with other drugs, or are used for the purpose of suicide.

6. Hallucinogens Other than Cannabis

There is sparse information on the extent of hallucinogen use nationally. The 1994 Canada's Alcohol and Other Drugs Survey did not include unique questions on these drugs. However, only 1 percent of respondents reported the use of "LSD, speed, or heroin" (MacNeil and Webster 1996).

While the use of hallucinogens appears to be relatively infrequent in the general population, there is much greater use of these drugs by adolescents, with lysergic acid diethylamide (LSD) being the second most frequently used illicit drug. About one in six students in British Columbia (17 percent), New Brunswick (15 percent), and Halifax (15 percent) reported using LSD in the past year, and 18 percent of British Columbia adolescents reported using psilocybin. About one in eight students reported using a hallucinogen other than cannabis in Regina (13 percent) and in Montreal (12 percent). Toronto appears to have relatively lower rates of hallucinogen use, with only 3 percent of the adolescents reporting LSD use.

Compared with other drugs, hallucinogen use does not account for a major share of substance abuse treatment in any of the study sites. For example, in Toronto, hallucinogens are the major presenting cause for less than 1 percent of all treatment cases, but for 2.5 percent of the patients under age 26 (Research Group on Drug Use 1998). In Calgary, these drugs are the major problem for less than 1 percent of adult clients and between 3 and 4 percent of adolescent cli-

ents (el-Guebaly and Armstrong 1996; Armstrong and el-Guebaly 1998). There are few hospital discharges for hallucinogen-related disorders and no deaths caused by hallucinogen use were reported. However, it is noteworthy that nine deaths were reported from phencyclidine (PCP) produced by secret laboratories in Quebec City and sold throughout the province by known motorcycle gangs. This figure represents 13 percent of all drug-related deaths in that province (Chevalier and Charland 1998).

7. Amphetamines and Stimulants Other than Cocaine

The use of stimulants other than cocaine, such as amphetamines, is relatively rare in Canada. Less than 1 percent of Canadians age 15 or older reported the use of prescription diet pills in the 1994 Canada's Alcohol and Other Drugs Survey. No use of diet pills was reported in Manitoba, and even in the provinces with the highest rates (Alberta and New Brunswick) only 1.4 percent of respondents reported using diet pills in the prior year.

However, considerable numbers of youth have experimented with stimulants other than cocaine, such as amphetamines. Fourteen percent of Montreal adolescent students reported stimulant use in the year prior to survey, and considerable numbers of students in New Brunswick (9 percent), Halifax (8 percent), and Alberta (7 percent) used stimulants other than cocaine. In Winnipeg, about one in four stimulant users (24.5 percent) use weekly or more often. Rates of stimulant use among street youth are particularly high, ranging from 9 percent of street youth in Toronto to 31 percent in Montreal.

HIV/AIDS

The link between injection drug use and HIV and AIDS, as well as tuberculosis and hepatitis B and C, is of increasing concern in Canada. It is no longer possible to relegate this issue to the back streets of Canada's urban centres. Injection drug users (IDUs) are mobile, moving from city to rural settings, prison to city, city to reserve, province to province. They have social and sexual interactions with non-users.

At a national level, the complexion of HIV and AIDS is changing in Canada. Overall, there is a decline in the number of AIDS cases being reported (down 54.1 percent from 1996 to 1997). However, the proportion of AIDS cases among women has increased (14.1 percent in 1997), as has the proportion of cases attributed to injection drug use (19.9 percent in 1997).

While overall reported cases of AIDS and resulting mortality have dropped, primarily because of the new drug therapies, HIV continues to spread, affecting new populations. It is estimated that 41,681 persons have tested HIV positive through December 1997. Provincial studies show a marked increase in HIV-positive test reports among IDUs. For example, in British Columbia, IDUs accounted for 8.2 percent of new positive tests prior to 1995, 38 percent in 1995, and 43 percent in 1996–1997. In 1996, approximately half of the estimated new 3,000–5,000 HIV infections in Canada were believed to be among injection drug users.

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EXHIBIT 1

CANADA
INDICATORS OF ALCOHOL ABUSE BY PROVINCE

Provincial/Regional Indicators of Alcohol Consumption, 1996

Indicators	British Columbia	Alberta	Saskat-chewan	Manitoba	Ontario	Quebec	New Brunswick	Nova Scotia	Total Canada
Percent Current Drinkers[1]	75.6	76.4	73.0	73.6	69.4	73.9	67.8	72.1	72.3
Alcohol Sold per Person 15+ in 1993[2] in Litres	9.05	8.43	6.77	7.43	7.56	6.85	6.01	7.32	7.58
Percent Infrequent, Heavy Drinkers[3]	3.1	3.6	4.2[4]	5.6	2.7	2.5	7.0[5]	6.5	3.3
Percent Frequent, Heavy Drinkers[6]	5.1	6.5	6.2[7]	6.3	4.4	5.8	8.4[8]	7.6	5.4

Deaths Caused by Alcohol[9]

Indicators	Vancouver	Calgary	Regina	Winnipeg	Toronto	Montreal	Fredericton	Halifax
Year of Estimate	1996	1996	1996/97	1996	N/A	1995	1996/97	1996
Deaths Involving only Alcohol	N/A	16	15	250	N/A	7	0	0
Deaths Involving Alcohol and Other Drugs	N/A	10	7	156	N/A	19	N/A	9
Total Deaths Involving Alcohol	331	26	22	406	N/A	26	N/A	9
Rate per 100,000 Population	61	3	12	62	N/A	1.4	N/A	2.7

N/A = Not Applicable

[1] MacNeil Webster, 1996
[2] Statistics Canada (Cat. No. 63-202)
[3] Drinks less often than once a week, usually 5 or more drinks per occasion
[4] Based on total for Prairie provinces
[5] Based on total for Atlantic provinces
[6] Drinks once a week or more often, usually 5 or more drinks per occasion
[7] Based on total for Prairie provinces
[8] Based on total for Atlantic provinces
[9] Based on coroner or chief medical examiner data

SOURCE: CCENDU

EXHIBIT 2

CANADA
INDICATORS OF CANNABIS ABUSE BY PROVINCE

Past-year Cannabis Use Among Canadians Age 15 Years and Older, 1994								
Indicator	British Columbia	Alberta	Saskat-chewan	Manitoba	Ontario	Quebec	New Brunswick	Nova Scotia
Percent Reporting Use in Past Year	11.6	8.4	6.6	8.8	4.7	8.3	6.2	7.2
Past-year Cannabis Use Among Adolescent Students by Survey Year, 1994								
Indicator	British Columbia	Alberta	Regina	Winnipeg	Toronto	Montreal	Fredericton	Halifax
Year	1995	1995	1998	1997	1997	1994	1996	1996
Percent Reporting Past-Year Use	48	16	34	37	19	24	29	34
Number and Rates of Cannabis-related Charges, 1996								
Indicators	Vancouver	Calgary	Regina[1]	Winnipeg	Toronto	Montreal	Fredericton	Halifax
Number of Charges	415	933	228	532	N/A	843	67	814
Charges per 100,000 Pop.	77	114	119	80	N/A	46	85	119

[1] Violations rather than charges

SOURCE: CCENDU

EXHIBIT 3

CANADA
INDICATORS OF COCAINE ABUSE BY PROVINCE
1996

Percent of Drug Treatment Clients Whose Primary Drug of Abuse is Cocaine								
Indicator	British Columbia	Calgary	Regina	Winnipeg	Toronto	Montreal	Fredericton	Halifax
Percent with Primary Cocaine Problem	N/A	10	69[1]	11[2]	24	N/A	N/A	27
Deaths Attributed to Cocaine								
Indicators	British Columbia	Calgary	Regina	Winnipeg	Toronto	Montreal	Fredericton	Halifax
Number of Deaths	151	8	0	N/A	22	25	0	2
Cocaine Deaths as a Percentage of All Alcohol/ Drug Deaths		17	0	N/A	23	68	0	11
Cocaine Deaths per 100,000 Population	28	1	0	N/A	1	1	0	≤1

N/A = Not Applicable

[1] Of those who reported using cocaine, percentage reporting cocaine as their major drug problem
[2] Percentage in drug treatment who ever used cocaine

SOURCE: CCENDU

EXHIBIT 4

CANADA
DEATHS INVOLVING OPIATE USE BY PROVINCE

Variable	Vancouver	Calgary	Regina	Winnipeg	Toronto	Montreal	Fredericton	Halifax
Year	1996	1996	1997	N/A	1996	1995	1996/97	1996
Number of Deaths Related to Heroin or Other Opiates	151[1]	21	0	N/A	38	14	0	2
Opiate Deaths as Percent of All Alcohol/ Drug- Related Deaths	N/A	N/A[2]	0	N/A	40%[3]	38%	0	11
Opiate Deaths per 100,000 Population	27.7	2.6	0	N/A	1.2	0.8	0	≤1

N/A = Not Applicable

[1] Includes all deaths due to drug overdose, including an unknown proportion involving cocaine. The Coroner's Office indicated that there were 256 deaths in 1996 in which toxicological tests showed significant concentration of heroin in the deceased as well as 13 deaths involving significant concentrations of methadone

[2] Opiates involved in 42 percent of unclassified deaths investigated by the Medical Examiner's Office

[3] Percentage of deaths attributed to illicit drugs (i.e., not including alcohol-related deaths)

SOURCE: Coroners or Chief Medical Examiners

DRUG TRENDS IN THE EUROPEAN UNION

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The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) was established to provide information on drug abuse patterns and trends in 15 member countries. The work program has focused on estimating the prevalence of drug use (e.g., through household and school surveys) and the health consequences of drug abuse as well as improving the comparability of data across Member States. A number of initiatives are planned for the future. Drug use patterns and trends vary across and within the 15 member countries. Currently, the level of opiate dependence (estimated at 2.7 persons per 1,000 population) is relatively stable but there are indications it may be increasing. Cocaine use is somewhat higher than opiate use and indicators suggest it also is increasing. Cannabis use varies across countries; however, tentative data suggest approximately 16 percent of persons age 15 to 64 have ever used cannabis and at least 12 million used cannabis during the 12 months prior to the survey. Use of amphetamines continues to increase. Ecstasy (methylenedioxymethamphetamine or MDMA) use has been popular among young people in recreational settings but use appears to be stabilizing or declining. Multiple drug use is common.

INTRODUCTION

1. The EMCDDA and the European Union

The EMCDDA is an agency of the European Union (EU) and has been operational since 1995. Its objective is to give an overview of drugs, drug addiction, and the consequences of drug abuse at European level that is objective, reliable, and comparable. The EMCDDA does not make or recommend policies, but rather collects, analyzes, and disseminates information to help decision making at both the European level and within the Member States. To achieve this objective, its primary tasks are as follows:

- To collect and analyze existing information
- To improve data comparability
- To disseminate information
- To cooperate with other European and international organizations

In carrying out these tasks, the EMCDDA works closely with the Reitox network of National Focal Points (NFPs) that have been established in each Member State.

The total population of the 15 Member States that make up the EU is about 375 million and covers a wide diversity of cultures, history, and traditions. Eleven national languages are officially recognized, but at least

another 20 different European languages and many non-European minority languages are used at local or regional levels across the continent. Over the next few years, the number of countries will increase as former countries of central and eastern Europe and other States accede to the EU. In many States, alongside the process of enlargement and economic integration, there is a parallel process of decentralization and devolution of responsibilities to regional and local levels or to nongovernmental or private structures.

The task of collecting reliable and comparable information on this complex situation, and of analyzing it to give an overview that does not reduce that complexity to meaningless generalities, is a major challenge. Although some broad patterns and trends can be discerned across the EU, there also is great variation in patterns of drug use and their consequences, in policies and interventions, and in the structures and organizations involved at European, national, regional, and local levels.

This paper summarizes the main developments in the EU regarding the following:

- Drug policy and responses
- Drug use and its consequences
- Epidemiological monitoring

2. Drug Policy and Responses

The historical and cultural differences within Europe are reflected in the diversity of social policy approaches and responses to a wide range of health and social issues, including drugs. Some examples, by country, are summarized in exhibit 1. On drug policy, there have been sharp disagreements between supporters of repressive versus more tolerant approaches. The broad trend in recent years has been a shift from an emphasis on repression towards a more balanced approach that gives greater weight to prevention, treatment, and harm reduction.

The prevailing philosophy behind drug policy in the EU can be characterized as a third way between a strictly repressive approach and a tolerant policy. In many cases, this leads to a pragmatic approach, based on the premise that illicit drugs are available on the market. The approach covers a spectrum of actions from information, education, and prevention through to treatment and harm reduction measures designed to limit use and minimize individual and social consequences. At the same time, robust action is seen as necessary to protect public order, prevent crime and, if possible, reduce supply.

A growing number of Member States recognize the need for intersectorial cooperation and have established horizontal interdepartmental drug coordinating bodies to develop and carry forward national policies and strategies. Strategic planning and intersectorial cooperation is expanding at local levels also. This has encouraged recognition of the importance of information and scientific evidence as a basis for developing effective strategies and interventions.

Some specific policy trends observed across the EU include the following:

- An expansion of substitution treatment (mainly methadone)
- An expansion and growing acceptance (in many though not all countries) of harm reduction measures at both the individual and community level (low threshold services, needle-exchange, substitution treatment, outreach)

- A decrease in residential treatment and the development of a range of both outpatient and community services, including primary care

- The development of alternatives to prosecution or imprisonment for drug users—for example treatment, counseling, withdrawal of charges of administrative sanctions—although this trend is not reflected in police arrests for use-related offenses which continue to rise in most countries

- Increasing attention to a broader perspective that covers legal as well as illegal substances, especially in prevention and treatment but, in some countries, also at a high political level

- Increased concern about organized crime, drug trafficking, and mitigation

- Increased concern over drug production in Europe, most notably synthetic drugs

- Increased attention to drug users in the criminal justice system and to wider issues of social exclusion related to drug problems

Some issues remain controversial, such as:

- Decriminalization of drug use or possession for personal use

- The limits of harm reduction (for example, extending substitution treatment to heroin prescription or providing legal, supervised "fixing rooms")

- The status of cannabis, as both a recreational drug and a medicine

3. Data Sources

Information on drug use trends and consequences is collected from the 15 Member States through National Focal Points (NFPs). They prepare national reports following a standard format and guidelines for reporting epidemiological data. This information is supplemented by the results of published research and of scientific projects carried out by the EMCDDA.

DRUG USE TRENDS AND CONSEQUENCES

1. Cannabis

Cannabis is the most commonly used illicit drug across the EU. A tentative and probably conservative extrapolation from recent surveys suggests that over 40 million people in the EU have used cannabis (about 16 percent of the population age 15 to 64) and that at least 12 million used it in the past year (about 5 percent of people age 15 to 64).

The proportions are higher among young people. On average, about 20 percent of adolescents age 15 to16 report lifetime use of cannabis; by the time they reach their mid-twenties, the proportion is probably at least 30 percent.

There are considerable differences between countries in the extent of cannabis use. Thus, lifetime prevalence in young adults age 15 to 34 ranges from 16 to 43 percent, whereas past 12 months prevalence ranges from 2 to 21 percent. However, in recent years, there are indications of a convergence in prevalence. Stable levels or decreases are seen in higher prevalence countries, following increases over the 1990s, whereas (continuing) increases are reported for lower prevalence countries. Some of the decrease

in cannabis use in higher prevalence countries appears to be balanced by an increase in youthful alcohol consumption.

Some rise in treatment demand for cannabis is noted in several countries. Cannabis now accounts, on average, for about 10 percent of treatment demands, although demand is higher in new, younger clients. The reasons for this are not clear. It may, in part, reflect the increased prevalence of cannabis use over recent years, but other factors appear to be involved, such as changes in the coverage of treatment reporting systems or in recording practices, and increased use by prosecutors and courts of alternatives to prosecution or imprisonment for offenses involving cannabis. It also seems that cannabis may be a convenient label for a wider range of problems, since other drugs such as alcohol and/or amphetamine-type stimulants are often involved together with cannabis.

In most countries, cannabis is the main drug involved in arrests for drug offenses; most relate to cannabis use rather than trafficking. The quantities of cannabis seized per year are stable, although the number of seizures is steadily increasing. Availability remains high across most of the EU and the cannabis market appears entrenched with mostly stable prices.

In much of the EU, cannabis use is not associated with any specific social or recreational context or with particular groups in the population. In many parts of the EU, it appears that cannabis use is increasingly perceived as normal or mundane rather than deviant.

2. Amphetamines, Ecstasy, Lysergic Acid Diethylamide (LSD)

Public concern about the "synthetic drugs" rose over the 1990s in response to the adoption of ecstasy and related drugs within a mass recreational and music culture known as "rave", "techno," or "dance." This culture mostly involved mainstream youth. Although most attention was focused on ecstasy, other synthetic drugs such as the amphetamines and LSD were involved also. The more recent pattern of development is one of diversification regarding the drugs that are used and the contexts and manner in which they are used.

The dominant trend is a long-term and continuing rise in the availability and use of amphetamines, although prevalence in the general population remains low. Lifetime prevalence among 15 to16 year-olds ranges from 1 to 13 percent but is typically 2 to 4 percent. It is somewhat higher among young adults. The substance consumed is mostly amphetamine sulphate; methamphetamine use is uncommon in the EU. Within the broader recreational youth culture, amphetamines are mostly taken by sniffing (powder) or orally (in pills or sometimes added to drinks). Use by injection is more often found among marginalized groups of users. Smoking is rare.

Ecstasy continues to be available and is used not only within recreational dance and party settings but also in more private situations. There are considerable differences between countries (1 to 9 percent lifetime prevalence among 15 to16 year-olds, and somewhat higher in young adults). Recent evidence from several countries suggests a stabilization or decline in the level of use. Seizures also show an overall decrease and there is some disenchantment with pills sold as ecstasy. Analyses of ecstasy pills show wide variations and, periodically, high levels of amphetamine content.

The patterns of diversification in use are hard to define precisely. Various reports

point to increased interest in stimulant-type drugs such as amphetamines and/or in some situations, cocaine, hallucinogens such as LSD, or mushrooms. The use of drugs with sedative effects, such as heroin or benzodiazepines, is also reported, especially in heavy consumers of ecstasy or amphetamines. Alcohol is a recurrent theme across many drug use settings.

Other patterns reported in this context and reflected on the Internet, in particular, include the use of or experimentation with different substances. These include "synthetic drugs" for enhancing sexuality, for developing physical or mental capacities, or for self-medication of psychological states.

In more northern countries, amphetamines have been and continue to be used by chronic, problematic drug users in more socially marginalized situations that are not usually linked to the mainstream youthful drug scene. Amphetamines are often injected by these drug users.

Apart from this more traditional, problematic pattern of amphetamine use, the increases in amphetamines and ecstasy are barely reflected in indicators such as treatment demand.

3. Heroin

Although the prevalence of heroin use in the EU population is low, it is clearly the main illicit drug associated with serious health and social problems such as mortality, morbidity, and drug-related crime across most of the EU. The exception is some Scandinavian countries where amphetamines are important. The level of heavy opiate use or dependence (mainly heroin) appears relatively stable across the EU. The average age of known users (30 years, range = 24 to 33) continues to slowly increase; this may reflect partly the expansion of substitution treatment. The total number of "problematic opiate users" is estimated to be as high as 1.5 million people (4 per 1,000 population) in the EU; of these, about 1 million (2.7 per 1,000 population) probably meet the criteria for dependence. The number of people in the EU receiving substitution treatment, mainly methadone, is now estimated to be around 300,000; this suggests that up to 30 percent of the opiate-dependent population is currently reached by methadone treatment.

Although there are differences in prevalence between countries, differences within countries are greater and appear to be associated with a range of factors, including social exclusion. Geographical spread outside major cities is reported also. There continue to be reports from several countries of increased heroin use, especially smoking, among new young groups. Recent studies suggest that younger users take longer than average to enter treatment, so most indicators would not pick up this trend.

4. Cocaine

Surveys suggest that the prevalence of cocaine use (mostly sniffed on an occasional or intermittent basis) is lower than the use of amphetamines or ecstasy but higher than heroin use. In young adults age 15 to 34, for example, lifetime prevalence ranges from 1 to 6 percent and past-year prevalence is typically 1 to 2 percent. Increases in seizures and other supply indicators, as well as falling prices over the 1990s, suggest a continuing steady growth in the cocaine market across the EU. While this trend is not reflected in survey data on use, indicators of problem cocaine use, such as treatment demand, show increases in several countries. Nevertheless, the proportions of treatment demand involving cocaine as a primary drug

are generally under 10 percent. Cocaine is more commonly recorded as a secondary drug in heroin addicts.

The situation regarding crack cocaine is not clear. It is available and used in parts of the EU. An expansion beyond the previously limited number of localities that reported crack use is reported from some countries.

5. Alcohol and Multiple Drug Use

An important development, both in the broader recreational drug scene and among the smaller population of problematic drug users, is the increasing importance of alcohol and various psychoactive medicines and different combinations of legal and illegal drugs. This may partly reflect changing perceptions, since neither alcohol abuse nor multiple drug use are new. However, there appear to be real changes in drug consumption patterns as well. The reasons for this are not clear, but probably include moves by the alcohol industry to gain a larger share of the youth consumer market through, for example, marketing "alcopops" ("soft" drinks with 5 percent or more alcohol) or by using drug-related imagery in alcohol advertisement aimed at young people.

These developments raise questions concerning the need to:

- Examine how far the expansion of recreational multiple drug use over the 1990s may broaden the range of problem drug use and pose major challenges for future treatment and harm reduction services

- Disseminate accurate information on health risks of different drugs and combinations (including medicines and alcohol) to users and services

- Achieve better information on the substances actually on the market and on the different patterns, contexts, and consequences of their use

6. Health Consequences

In recent years, 6–7,000 acute, drug-related deaths (mainly overdoses) have been officially recorded each year across the EU. This suggests a stable overall trend, although a few countries note increases or decreases. If underreporting were taken into account, and indirect drug-related deaths were included, then the figure could well be three times higher, possibly more. Opiates, often in combination with other drugs such as benzodiazepines or alcohol, are the main drugs involved.

The incidence of the acquired immunodeficiency syndrome (AIDS) in injecting drug users (IDUs) is decreasing in almost every country, partly reflecting improved treatment. There are large differences between countries in the prevalence of human immunodeficiency virus (HIV) infection in IDUs (<1–30 percent). In general, rates are stable or decreasing, although increases are reported in a few local studies. The continued reporting of new cases in younger age groups indicates that transmission continues. The prevalence of hepatitis B (20 to 70 percent), and especially hepatitis C (40 to 90 percent), is high. In most countries, it appears that the incidence of new infections continues to be a problem.

There are many reports of increasing comorbidity (other psychiatric or organic diseases in combination with drug dependence) among injecting and other problematic drug users.

7. Law Enforcement Indicators

For several years, police arrests for offenses against the drug laws have been increasing across most of the EU. The arrests are mostly for use-related offenses such as simple possession; the proportion of arrests for trafficking is not increasing in general. Cannabis is the drug most commonly involved, although, in a few countries, heroin is mostly involved and, in one country, amphetamines account for many of the arrests.

Fairly high proportions of the prison population are reported to be drug users (20 to over 50 percent), although the inmates have not necessarily been imprisoned for drug offenses. Drug use in prisons is being increasingly recognized as an issue, and questions of services for drug users in prison and of alternatives to prison are becoming a higher priority.

DEVELOPMENTS IN EPIDEMIOLOGICAL MONITORING

1. Progressive Harmonization of Epidemiological Indicators

Improving comparability is a central task of the EMCDDA. Staff have been working with scientific experts and partners from the national focal points (NFPs) to develop five key epidemiological indicators on the prevalence and health consequences of drug use. In October 1998, the management board of the EMCDDA adopted an important paper on the role and financing of NFPs, committing them to progressively implement these indicators in the 15 Member States. The five indicators concern the following:

- Drug use, behavior, and attitudes in the general population (surveys)
- Prevalence estimates of problematic drug use
- Demand for treatment by drug users
- Drug-related deaths, mortality, and causes of death in drug users
- Drug-related infectious diseases (HIV, AIDS, hepatitis B and C).

A standardized questionnaire and methodology for school surveys has already been developed by the Pompidou Group of the Council of Europe and applied in 25 European countries in 1995 and again in 1999.

Although the nature of the standards to be implemented vary according to the indicator, each will include a core data set, definitions, and methodological guidelines for data collection, analysis, and reporting.

Since structures for collecting data on each indicator differ between Member States, and the NFPs vary considerably in terms of expertise and potential to implement standards, the first task for each NFP is to identify targets and work plans to progressively achieve the targets. The NFPs are expected to establish national reference groups made up of key partners and experts to conduct work on each indicator. They also need the commitment of relevant national authorities in the form of political, institutional and, where necessary, financial support.

Although there is optimism about progress, comparability of data across the EU will be not achieved quickly or without difficulties. Improved comparability of statistics will need to be accompanied by measures to ensure quality (including training) and mechanisms for interpreting and understanding the data in national and local contexts as well as from a European perspective.

2. Identifying, Tracking and Understanding Emerging Trends

Traditional indicators of drug trends, such as those described earlier, suffer from the disadvantage that they are "lagged" indicators and do not pick up recent changes or new trends. To address this issue, a range of alternative sources and more qualitative methods that might be used as "leading edge" indicators. Possibilities that are being pursued include: key person panels (e.g., local ethnographers, services, outreach workers); and on-site drug testing projects to analyze pills on the market.

The goal is to develop a "drug trends bulletin," probably in electronic format.

3. Analysis and Interpretation of Epidemiological Data

The EMCDDA is giving increasing attention to data analysis in order to tackle questions of "why" and "how" and the impact of policies and interventions. Ongoing projects are concerned with both quantitative and qualitative approaches, especially statistical and dynamic modeling and the analysis of qualitative research. Some examples include the following:

- Modeling of temporal spread (incidence and time trends)
- Monitoring and content analysis of youth media (e.g., music)
- Monitoring Internet sites and discussion groups
- Key forensic laboratories and local police
- Local multidisciplinary drug action teams
- City networks
- Telephone helplines
- Hospital emergency departments and regional poison units
- "Outbreak investigation" techniques
- Geographical diffusion (GIS) and time trends
- Qualitative approaches to diffusion of innovation and new drug trends
- Local drug markets and responses (quantitative and qualitative)
- Law enforcement indicators, drugs, and crime
- Social costs and cost-effectiveness (starting with hepatitis in IDUs)
- Social exclusion and drugs (starting with a focus on minorities)
- Secondary analysis of indicator data (e.g., surveys, treatment, deaths)

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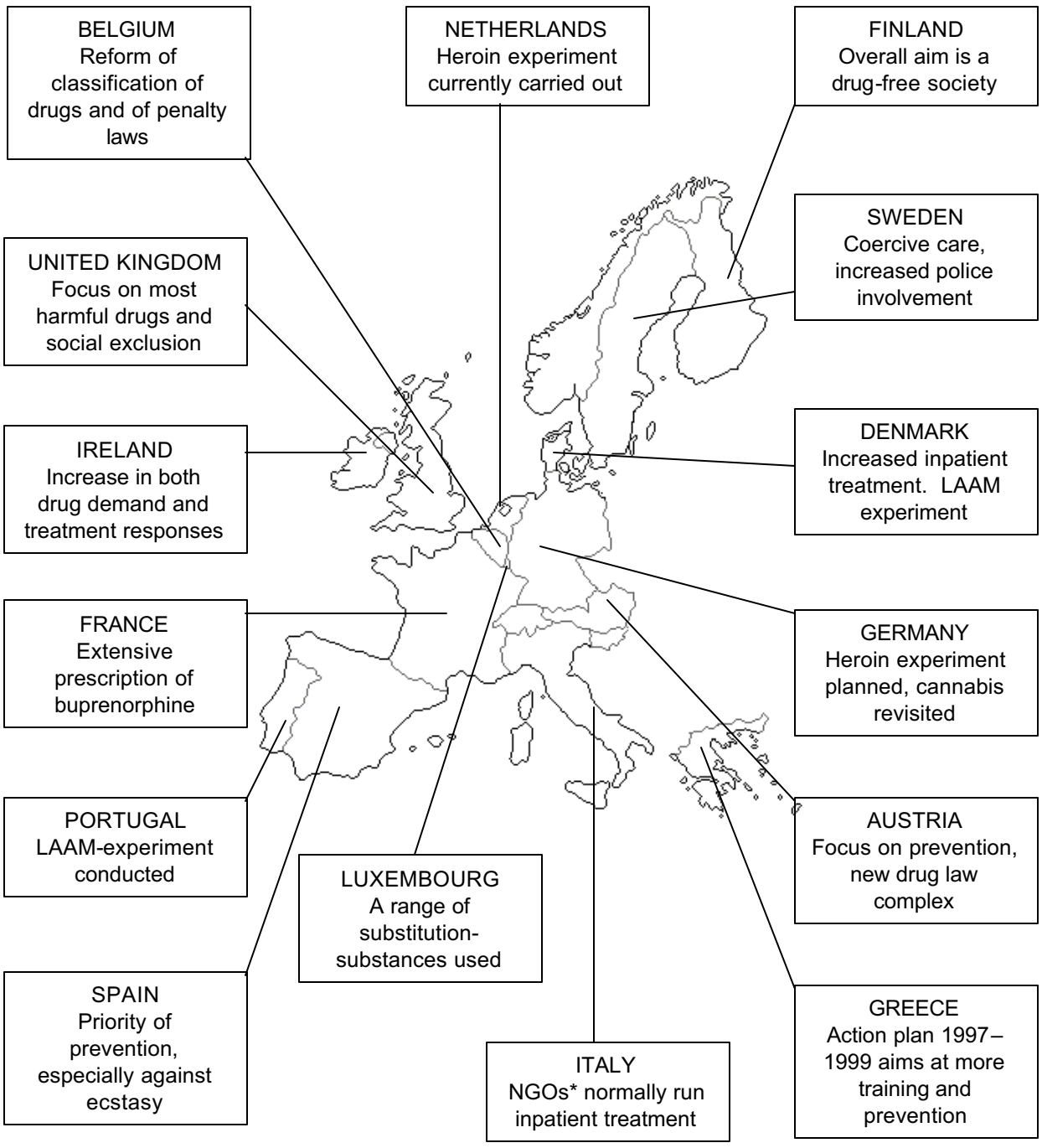
For further information on EMCDDA activities, publications, and reports see EMCDDA Activities Report 1998, or EMCDDA bimonthly newsletter, DrugLink, or see our web site: http:\\www.emcdda.org

EXHIBIT 1

EUROPE
AN OVERVIEW OF DRUG POLICY TRENDS
IN THE EUROPEAN UNION



* Nongovernmental organizations (NGOs)

SOURCE: European Monitoring Centre for Drugs and Drug Addiction

UPDATE OF THE EPIDEMIOLOGIC SURVEILLANCE SYSTEM OF ADDICTIONS (SISVEA) MEXICO, 1998

Roberto Tapia-Conyer
Patricia Cravioto
Pablo Kuri
Arturo Revuelta
Mario Cortes

The Mexican Epidemiologic Surveillance System of Addictions (SISVEA) operates in 20 geographically dispersed Mexican cities and involves a broad network of addiction research institutions. In 1998, cocaine was reported as the primary drug of abuse by 41 percent of patients in government treatment centers (GTCs) and 18 percent of patients in nongovernment treatment centers (NGCs). Many of the primary cocaine abusers treated in GTCs (57 percent) and NGCs (50 percent) were using at least one other substance upon entry into treatment. NGCs were much more likely to treat patients who reported using heroin as the primary drug of abuse (43.8 percent) than were GTCs (2.8 percent). As a primary drug, marijuana ranked second among GTC patients (14.3 percent) and fourth among NGC patients (8.8 percent). Inhalants were the third most frequently reported primary illicit drug among GTC patients (13.2 percent). Drugs reported by youngsters in the juvenile detention centers included marijuana (35.1 percent), inhalants (22.9 percent), cocaine (16.9 percent), and heroin (0.8 percent).

INTRODUCTION

1. Overview

The Mexican Epidemiologic Surveillance System of Addictions (SISVEA) was implemented during the fall of 1990. Since then, and through different strategies and sources established by the system, it has been possible to identify changes in drug use patterns, high-risk groups, emerging drugs, and risk factors associated with the use and abuse of alcohol, tobacco, and other drugs (medical and illicit). Through complementary strategies and sources, direct and indirect indicators of drug abuse have been collected.

The first set of data indicators provides information on a continuous basis. This set consists of data from treatment centers (government and nongovernment institutions), medical examiners, juvenile detention centers, and law enforcement agencies. Based on the information from the treatment centers, it has been possible to establish a profile of patients who demand treatment. For example, by now we know that most of these clients are polydrug users, and that they share certain characteristics that can be identified through reconstructing the natural history of their drug use. The process begins by identifying the first drug of choice and, then, the second, third, and fourth (etc.) preference. To a great extent, accounting for clients' first preference makes it possible to detect which substance they will continue to use.

The second set of indicators is comprised of information on morbidity and accidents associated with drug use. These data are provided by hospital emergency rooms.

The third source of SISVEA information is from probabilistic and non-probabilistic surveys that estimate the prevalence and incidence of drug use, as well as drug-related knowledge, attitudes, and practices among the general population in selected places, such as schools, malls, workplaces, and other areas considered important.

SISVEA is now operating in 20 geographically dispersed Mexican cities and involves a broad network of institutions that specialize in addiction research. Almost 50 percent of SISVEA cities are located on Mexico's northern border; others are in metropolitan and recreational areas and in the Yucatan Peninsula. An up-date of SISVEA activities during 1998 is presented in this paper.

2. Data Sources

Data for each of the following indicators come from a variety of sources:

- **Treatment Data.** This indicator covers characteristics and consumption patterns related to the first drug of choice and the primary drug of abuse. The data are collected from government (Centers for Juvenile Integration) and nongovernment treatment centers in the participating SISVEA cities.

- **Emergency Room (ER) Mentions.** This indicator includes information from hospitals, based on the type of accident or pathology associated with the effects of drugs, even among those patients who were not intoxicated at the time of hospital admission.

- **Drug Consumption Data.** These indicators are gathered for the general population and specific target groups.

- **Law Enforcement Agencies.** These data include monthly information on routes of illegal drug traffic, seizures of illicit drugs, eradication of illicit crops, and the price and purity of drugs.

- **Medical Examiners (MEs).** This indicator covers drug-related deaths, including accidental or violent deaths (homicides or suicides), where drug abuse may be the direct cause of death or a contributing factor.

DRUG ABUSE TRENDS

1. Cocaine

Government Treatment Centers (GTCs). The GTCs reported that cocaine users in 1998 were mostly male (89.2 percent); more than one-third (38.9 percent) were age 15 to 19, 49.6 percent were middle school graduates, 66.4 percent were single, and 21.4 percent were married (exhibit 1). More than half (57 percent) were of middle-low socioeconomic status, 47.7 percent initiated cocaine use between age 15 and 19, and more than one-third used cocaine once a week (38.9 percent) or daily (37.8 percent). Among patients at GTCs, cocaine ranked fourth as the first drug used (13 percent) and first as the primary drug of abuse (41 percent; see exhibit 2).

Data on the natural history of cocaine use in the 1998 GTC client group show that 57 percent were using only cocaine (monodrug

users) upon entry into treatment (see exhibit 3). The rest were using a second drug, usually marijuana (40.6 percent), alcohol (31 percent), or inhalants (7.2 percent). Of those who used a second drug, 49 percent were using a third drug, usually alcohol (22.7 percent), marijuana (21.1 percent), or inhalants (13.4 percent; see exhibit 3).

Nongovernment Treatment Centers (NGCs). Among cocaine users who attended NGCs in 1998, 91.1 percent were male, 27.5 percent were age 20 to 24, 46.9 percent had only a middle school education, and 53 percent were single (exhibit 4). A sizeable minority (41.1 percent) started using cocaine between age 15 and 19; 66.1 percent used cocaine daily, and 22.2 percent reported using cocaine weekly.

Cocaine was the drug of onset in 6.1 percent of the NGC cases and a current drug of abuse in 18.4 percent of the cases (exhibit 5).

Data on the natural history of cocaine abuse reported by nongovernment treatment centers during 1998 show that one-half of these clients were monousers of cocaine (see exhibit 3). Among the half who used a second drug, most used marijuana (25.7 percent), alcohol (17.7 percent), heroin (17.1 percent), and methamphetamine (10.9 percent). Of those who used a second drug, 48.5 percent used a third drug, usually heroin (22.4 percent), alcohol (20 percent), or marijuana (18.8 percent).

Juvenile Detention Centers. These centers reported cocaine use among 16.9 percent of the juveniles detained in 1998 (exhibit 6). Most were male (93.4 percent), about two-thirds had a middle school education (66.6 percent), and over a third were employed (38.3 percent). Close to half of the cocaine-using juveniles (44.8 percent) had tattoos but only 18.1 percent were gang members. More than a third of the juvenile infractors (34 percent) committed the offense while intoxicated; robbery was the most common offense (52.5 percent).

2. Heroin

Government Treatment Centers. According to the Centers for Juvenile Integration, the 20 heroin users treated in 1998 were mostly male (85 percent); 36.8 percent were age 20 to 24, half had only a middle school education, 70 percent were single, and a third were of middle-low socioeconomic status (exhibit 1). The age of onset for 47.4 percent of the heroin users occurred between 20 and 24 years of age; 78.6 percent reported daily use of heroin. Of the 10,985 GTC patients attending treatment during 1998, only 0.2 percent reported that heroin was their drug of onset; however, as the primary drug of abuse, heroin ranked fifth (2.8 percent; see exhibit 2).

Nongovernment Treatment Centers. According to data gathered from NGCs in 1998, heroin was used mostly by males (92.3 percent). Of the 314 heroin abusers, 39.2 percent were age 35 and older (exhibit 4). Almost half of these clients had only a middle school education (46.1 percent) and 40 percent were single. The age of onset for heroin use among more than a third of the NGC clients was between 15 and 19 (37.2 percent); 97.8 percent reported daily heroin use.

Since 1994, reports of heroin as a drug of onset have been increasing; however, for 1998 there was a slight decline. As the primary drug of abuse, heroin ranked first in treatment demand (43.8 percent) at NGCs.

Juvenile Detention Centers. Information from these centers shows that 52 (0.8

percent) of the 6,228 juveniles arrested during 1998 used heroin (exhibit 6). Most of these 52 juveniles were male (88.2 percent), 77.8 percent had an elementary school education, 42 percent were under-employed, 62.2 percent had tattoos, and 21.2 percent were members of a gang. Over half (59.6 percent) of this group's offenses were committed while intoxicated; 65.4 percent of the offenses were robberies.

Medical Examiners (MEs). The ME data indicated that all the opioid decedent group (n = 9) were male and a third were age 40 or above (exhibit 7). The main cause of death in one-half of these cases was overdose; the deaths occurred primarily on the street (37.5 per-cent) or at the decedent's place of residence (25 percent).

3. Marijuana

Government Treatment Centers. According to the Centers for Juvenile Integration, marijuana clients in 1998 were mostly male (92.9 percent), 31 percent were age 15 to 19, 48.5 percent had only a middle school education, 65.1 percent were single, and 50.8 percent came from a middle-low socioeconomic level (exhibit 1). The age of onset for 91 percent of the marijuana users occurred between 10 and 19 years of age. A majority (60.9 percent) of these marijuana users reported daily use.

Over the last 7-year period, marijuana has continued to be the most frequently reported drug of onset at GTCs (29 percent; see exhibit 2). As a primary drug, marijuana ranked second (14.3 percent) among GTC clients in 1998.

Based on natural history data gathered from GTCs during 1998, 14.6 percent of the marijuana-using clients had only used marijuana before entering treatment. Most had used a second drug, usually cocaine (32.8 percent) and inhalants (21.5 percent; see exhibit 8). Of those who used a second drug, 55.6 percent advanced to a third drug, usually cocaine (30.4 percent), inhalants (14.8 percent), alcohol (11.3 percent), or Rohypnol (flunitrazepam, 8.2 percent).

Nongovernment Treatment Centers. According to data gathered from NGCs, marijuana was used mostly by males (95.7 percent). Close to one-fourth (23.4 percent) of the marijuana users were age 20 to 24 (exhibit 4). Almost half of these clients had only a middle school education (46.6 percent) and more than half (55.1 percent) were single. The age of onset for marijuana use among nearly half (48 percent) of these patients was between 10 and 14. Most (82.1 percent) reported daily use of marijuana.

Marijuana was the first drug used by 38 percent of NGC treatment admissions in 1998; as a current primary illicit drug, it ranked fourth (8.8 percent; see exhibit 5).

Data on the natural history of marijuana consumption reported by NGCs for 1998 show that 12 percent of the marijuana users used only marijuana at the time of entry into treatment. The remaining 88 percent had used a second drug, primarily heroin (19.4 percent) and cocaine (17.3 percent; see exhibit 8). Of this latter group, 68.7 percent had used a third drug, usually heroin (33 percent), cocaine (20.7 percent), or inhalants (8.5 percent).

Juvenile Detention Centers. Information from these centers shows that 35.1 percent of the 6,228 juveniles arrested during 1998 used marijuana (exhibit 6). Most of this population were males (95.5 percent); 63.6 percent had an elementary school education, and over a third (36.5 percent) were under-employed. Close to half of the marijuana-using arrestees had tattoos (48.1 percent), 22.2 percent were gang members, and 36

percent were intoxicated when they committed the offenses. Around half (50.3 percent) of the offenses were robberies.

Medical Examiners. Fifty-four marijuana users were identified in 1998 by medical examiners. The data indicated that these decedents were primarily male (90.7 percent); 26.9 percent were age 40 or above, and 23.1 percent were age 20 to 24 (exhibit 7). The main cause of death in the cases with marijuana involvement was wounding by a firearm (32.1 percent). The place of death was most likely at home (38.8 percent) or on the street (30.6 percent).

4. Inhalants

Government Treatment Centers. Inhalant users attending GTCs in 1998 were largely male (87.1 percent) and age 15 to 19 (41.2 percent). More than half had only a middle school education (54.5 percent), 78.1 percent were single, and 59.2 percent were of middle-low socioeconomic status (exhibit 1). Many (57.2 percent) began using inhalants between the ages of 10 and 14; 40 percent used inhalants daily, whereas 34.7 percent used inhalants weekly.

At the GTCs in 1998, inhalants were the third most frequently reported drug of onset (17.3 percent) and also the third most frequently reported primary drug of abuse (13.2 percent; see exhibit 2).

GTC data on the natural history of inhalant use show that 30.9 percent of this group had only used inhalants before they entered treatment and that 69.1 percent were using a second drug, primarily marijuana (57.4 percent), alcohol (17.5 percent), or cocaine (9.8 percent). Of those who used a third drug, most used cocaine (33.8 percent), marijuana (20 percent), alcohol (16 percent), or Rohypnol (7.1 percent; see exhibit 9).

Nongovernment Treatment Centers. NGCs reported that, of the 573 clients who used inhalants, most were male (94.7 percent), and 32.3 percent were age 15 to 19. Nearly half (49.6 percent) had only an elementary school education, and 70.7 percent were single (exhibit 4). Most began using inhalants at age 10 to 14 (62.0 percent) and 72.8 percent reported daily inhalant use.

Inhalants ranked third (10 percent) as drug of onset and fifth (6.9 percent) as a primary drug of abuse among clients in nongovernment centers (exhibit 5).

As for the natural history of inhalant use, 86.5 percent of the inhalant-abusing NGC clients used a second drug before entry into treatment, usually marijuana (61.3 percent), alcohol (14.7 percent), and heroin (4.8 percent). Of those who used a third drug, most used cocaine (17.1 percent), marijuana (14.5 percent), alcohol (14 percent), or tranquilizers (13.7 percent; see exhibit 9).

Juvenile Detention Centers. According to these centers, 22.9 percent of the arrested youth used inhalants (exhibit 6). Most were male (93.3 percent), had an elementary school education (70.8 percent), and were under-employed (37.5 percent). Nearly half (48.5 percent) had tattoos and 26.8 percent belonged to a gang. Almost half of these juveniles (47.2 percent) committed the offense while they were intoxicated and robbery was the most common offense (51.8 percent).

5. Alcohol

Government Treatment Centers. Based on the 1998 GTC data, over one-fifth (n = 2,851) of the 10,985 clients in treatment were alcohol abusers. Of these, 90.9 percent were male and 28.4 percent were age 20 to 24.

Nearly half (45.6 percent) had a middle school education, 59.6 percent were single, and half (52.5 percent) were of middle-low socioeconomic status (exhibit 1). Over half (52.2 percent) began using alcohol between the ages of 15 and 19; 49.7 percent reported weekly use and 29.2 percent reported using alcohol 1 to 3 times per month. Close to a fifth (17.8 percent) reported daily alcohol use.

Alcohol was the second most commonly reported drug of first use (26 percent), but it ranked fourth (8.2 percent) as a primary drug of abuse at GTCs (exhibit 2).

Among GTC clients for whom alcohol was the drug of first use, 95.1 percent used a second drug, usually marijuana (39.1 percent), cocaine (26.4 percent), and tobacco (18.6 percent). Nearly one-third (31.3 percent) reported using a third drug, usually cocaine (36.7 percent), marijuana (28.6 percent), and inhalants (12.2 percent; see exhibit 10).

Nongovernment Treatment Centers. The NGCs report that most of the 1,511 clients in 1998 who abused alcohol were male (90.3 percent; see exhibit 4). More than one-third (34.2 percent) were age 35 or older; 35.8 percent had only a middle school education; 48.5 percent were single; and 43.8 percent started using alcohol between the ages of 15 and 19. Almost half (48.6 percent) used alcohol daily and 36.3 percent reported weekly use.

Among NGC clients, alcohol ranked second as the drug of first use (26.4 percent) and third as a current drug of abuse (11.5 percent; see exhibit 5).

The data on the natural history of alcohol abuse provided by NGCs for 1998 show that 21.4 percent used only alcohol, while the remaining 78.6 percent had progressed to a second drug, typically marijuana (44.2 percent), cocaine (20.3 percent), and tobacco (13 percent). The 29.6 percent who used a third drug typically used cocaine (29 percent), marijuana (21.6 percent), or inhalants (12.4 percent; see exhibit 10).

Juvenile Detention Centers. Among juvenile infractors, 3.8 percent (n = 242) reported abuse of alcohol (exhibit 6). Most were male (93 percent); 48.8 percent had an elementary school education, 39.9 percent were under-employed, 31.5 percent had tattoos, and 11.9 percent belonged to a gang. More than a third of the juveniles (38 percent) committed the offense while intoxicated and robbery was the most common offense (51.2 percent).

Medical Examiners. According to ME information, most (88.8 percent) drug-related deaths involved alcohol. Most decedents were male (91.8 percent) and 45.6 percent were age 40 or older (exhibit 7). The most common causes of death were traffic-related (27.8 percent) and firearms (14.9 percent); the most common places where the deaths occurred were on the street (34.3 percent) or at home (33.1 percent).

CONCLUSIONS

SISVEA has increased its coverage three times during the last 8 years; one-half of the reporting cities are located near the northern border of Mexico.

The types of drug mentions have varied according to the different information sources. For example:

- The abuse of alcohol is greater among emergency room mentions and among decedents in coroners' offices.

- Use of marijuana, cocaine, and methamphetamine has increased among arrestees in juvenile detention centers.

- Data from the government treatment facilities show that cocaine, as the drug of onset, has increased 4.6 times and that 41 percent of the clients in treatment in 1998 reported cocaine was their primary drug of abuse. A two-fold decrease in inhalants as the drug of onset was reported also.

- Nongovernment treatment center data show that heroin has increased 6-fold as the drug of onset and 35 times as the primary drug, and that almost 44 percent of the NGC clients seeking treatment in 1998 did so for heroin abuse.

- In 1998, 60 percent of SISVEA cities had clients at treatment centers who were reporting the use of Rohypnol.

- Methamphetamine mentions emerged in Mexico in 1994, mainly in the northwest region. In 1998, half of the cities in SISVEA were reporting use of methamphetamine.

EXHIBIT 1

MEXICO
DEMOGRAPHIC CHARACTERISTICS OF PATIENTS AT GOVERNMENT TREATMENT CENTERS BY FIRST DRUG USED AND PERCENTAGE
1998

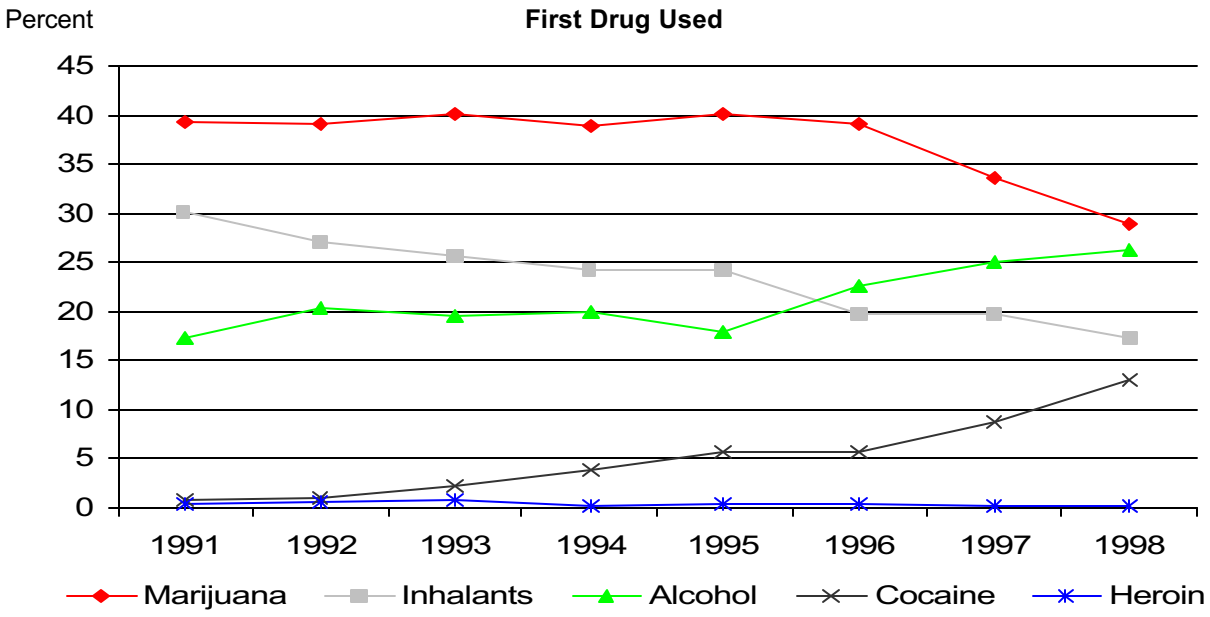
Characteristics	Total N=10,985[1]	Marijuana n=3,148	Inhalants n=1,874	Alcohol n=2,851	Cocaine n=1,413	Heroin n=20
Gender						
Male	89.2	92.9	87.1	90.9	89.2	85.0
Female	10.8	7.1	12.9	9.1	10.8	15.0
Age						
≤ 14	7.9	4.6	20.8	3.4	4.8	5.3
15–19	32.3	31.0	41.2	24.8	38.9	5.3
20–24	24.1	23.8	17.4	28.4	26.8	36.8
25–29	17.0	19.1	11.0	20.6	15.8	26.3
30–34	9.8	11.5	6.3	11.7	7.8	15.8
35+	8.8	10.1	3.4	11.2	6.0	10.5
Education						
Elementary school	20.8	21.9	30.8	16.9	12.1	16.7
Middle school	49.0	48.5	54.5	45.6	49.6	50.0
High school	21.1	21.6	9.5	24.9	28.5	22.2
College studies	4.3	3.6	1.6	6.1	5.5	5.6
No formal education	0.4	0.4	0.5	0.4	0.1	0.0
Other	0.1	4.0	3.2	6.1	4.2	5.6
Marital Status						
Single	66.6	65.1	78.1	59.6	66.4	70.0
Married	19.8	20.2	11.1	24.9	21.4	15.0
Divorced	1.3	1.1	0.3	2.1	1.4	5.0
Widowed	0.2	0.3	0.1	0.1	0.1	0.0
Living together	8.5	9.5	7.3	8.7	7.7	10.0
Other	3.7	3.8	3.0	4.7	3.0	0.0
Socioeconomic Level						
High	4.4	5.5	2.7	4.7	3.4	0.0
Middle-high	22.2	25.5	12.3	25.0	21.3	33.3
Middle	7.4	5.8	4.2	7.2	5.1	33.3
Middle-low	52.9	50.8	59.2	52.5	57.0	33.3
Low	13.1	12.3	21.6	10.7	13.2	0.0
Age of Onset						
≤ 9	2.8	1.6	5.1	2.7	0.6	5.3
10–14	40.5	38.0	57.2	39.0	16.5	10.5
15–19	46.1	51.4	35.7	52.2	47.7	15.8
20–24	6.8	6.4	1.4	5.0	20.3	47.4
25–29	2.1	1.9	0.4	0.6	8.3	5.3
30–34	0.9	0.5	0.2	0.3	4.4	5.3
35+	0.7	0.2	0.0	0.3	2.3	10.5
Frequency of Use						
Daily	44.4	60.9	40.0	17.8	37.8	78.6
Once a week	32..9	22.2	34.7	49.7	38.9	14.2
1–3 times per month	19.5	14.4	19.8	29.2	20.1	7.1
1–11 times per year	3.2	2.5	5.6	3.2	3.3	0.0

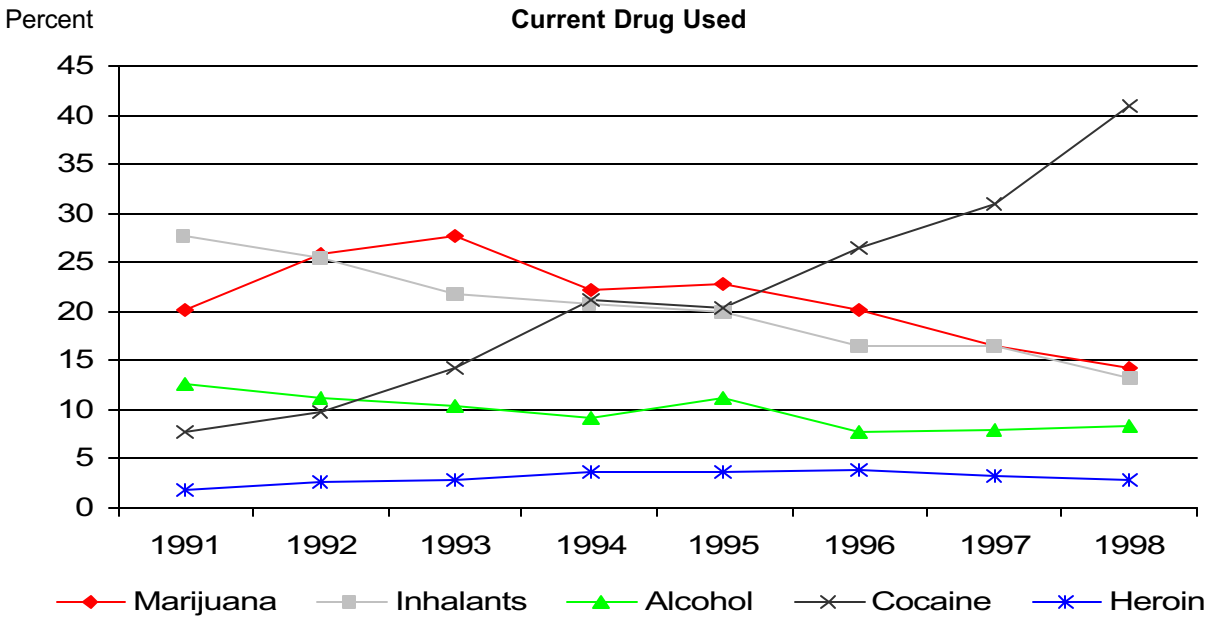
[1] Not shown is an "Other" category (n=1,699)

SOURCE: SISVEA—Government treatment centers (Centers for Juvenile Integration)

EXHIBIT 2

MEXICO
COMPARISON BETWEEN FIRST DRUG USED AND CURRENT DRUG USED AMONG CLIENTS AT GOVERNMENT TREATMENT CENTERS
1998

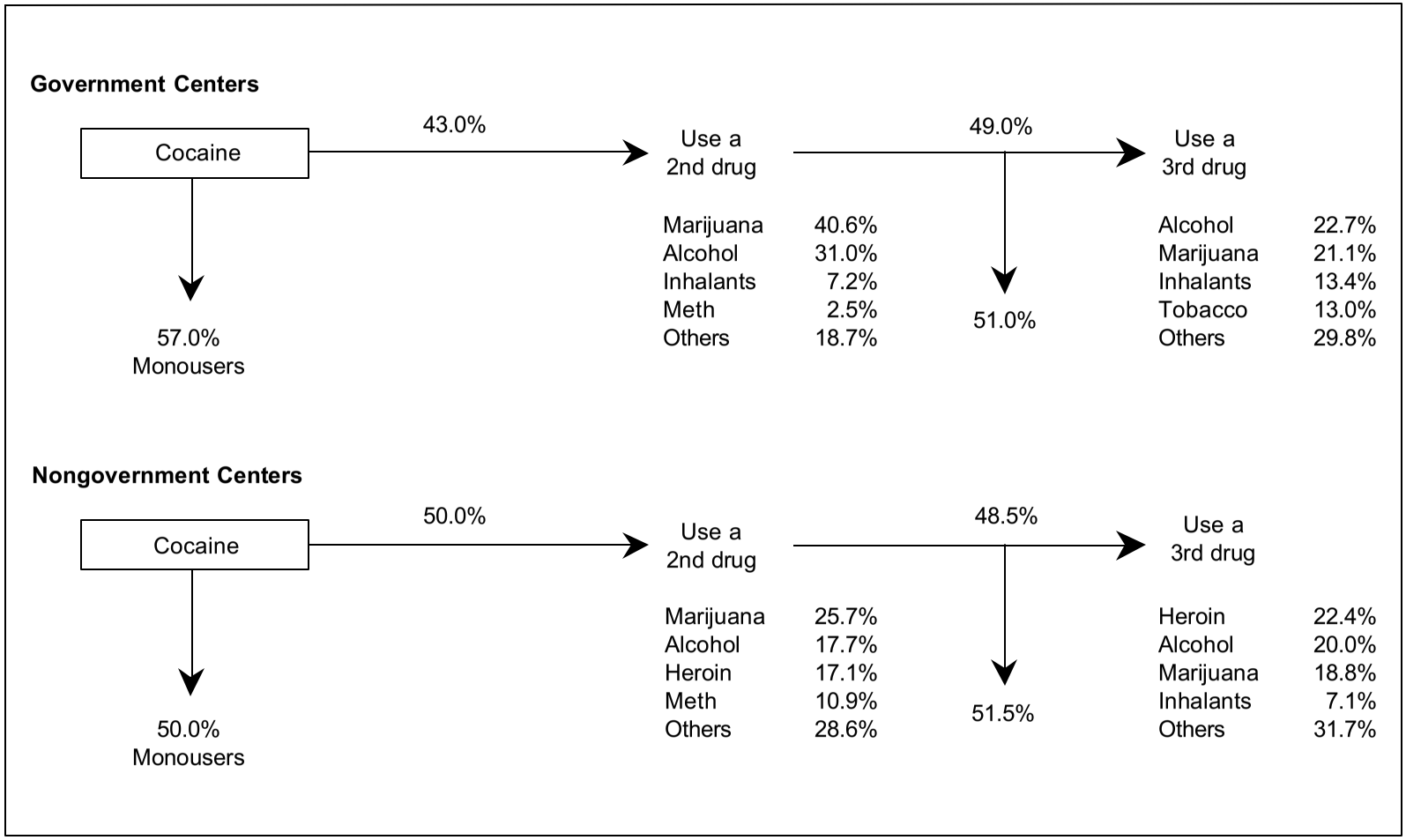




SOURCE: SISVEA—Government treatment centers (Centers for Juvenile Integration)

EXHIBIT 3

MEXICO
NATURAL HISTORY OF COCAINE USE
1998



SOURCE: Government and nongovernment treatment centers

EXHIBIT 4

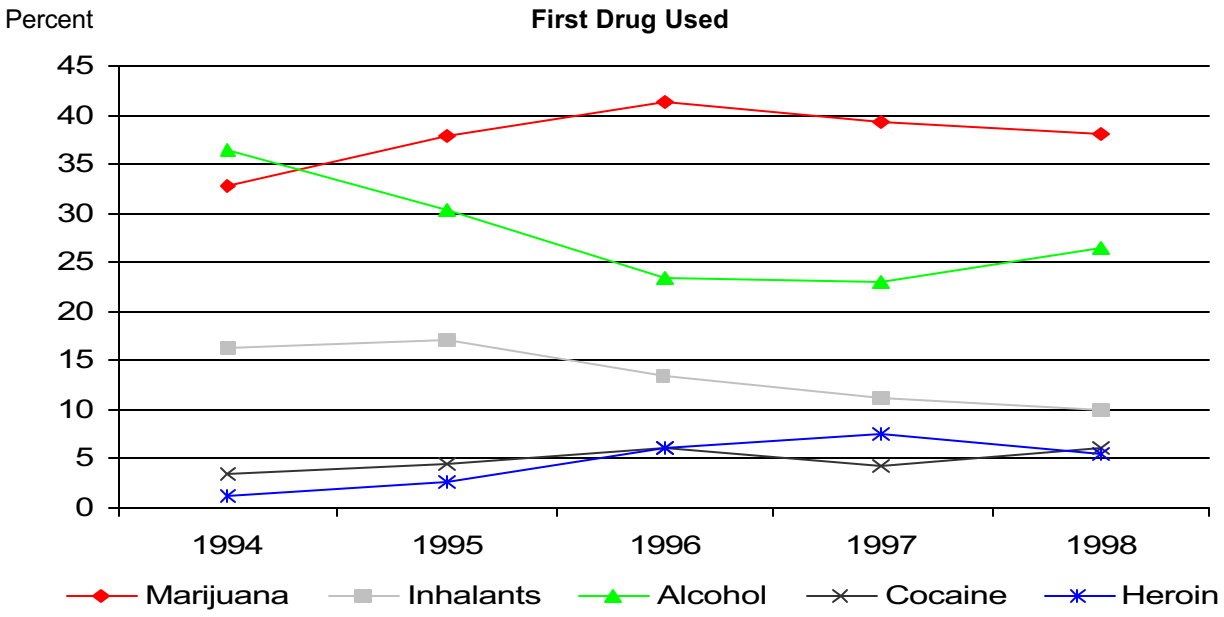
MEXICO
DEMOGRAPHIC CHARACTERISTICS OF PATIENTS AT NONGOVERNMENT TREATMENT CENTERS
BY FIRST DRUG USED AND PERCENTAGE
1998

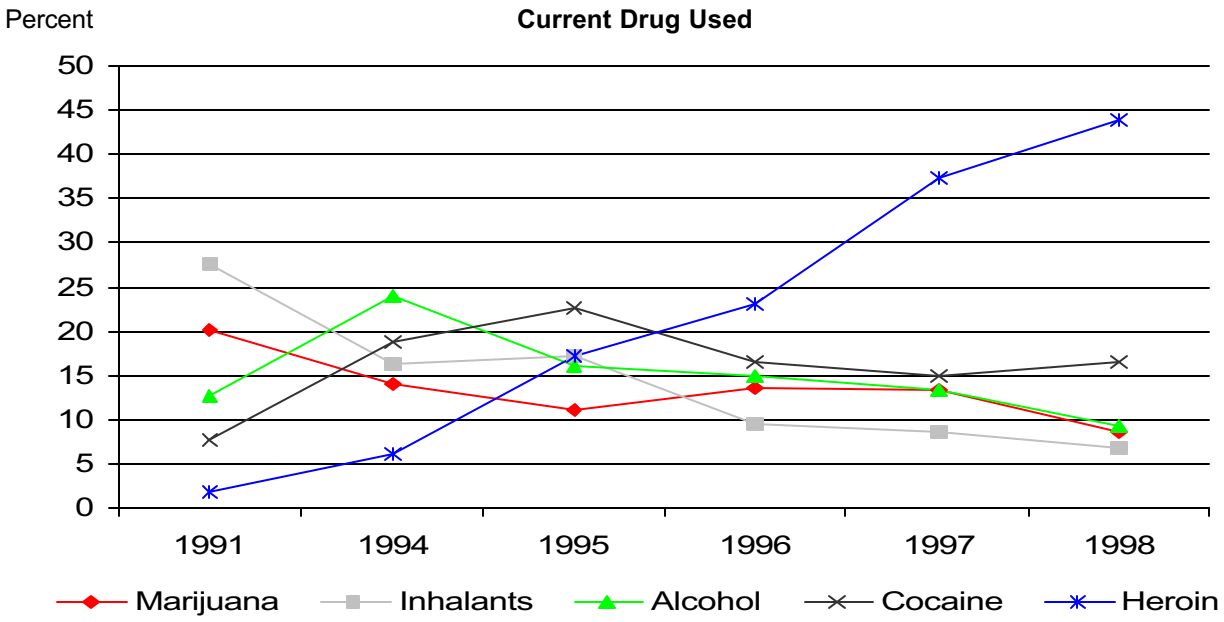
Characteristics	Total n=5,765	Marijuana n=2,173	Inhalants n=573	Alcohol n=1,511	Cocaine n=350	Heroin n=314
Gender						
Male	92.5	95.7	94.7	90.3	91.1	92.3
Female	7.5	4.3	5.3	9.7	8.9	7.7
Age						
≤ 14	3.0	2.0	10.2	1.9	3.4	0.0
15–19	18.6	18.8	32.3	13.3	21.2	3.8
20–24	21.6	23.4	24.4	18.9	27.5	17.5
25–29	17.2	18.9	13.2	15.3	22.6	19.4
30–34	15.4	16.1	10.0	16.4	13.5	20.1
35+	24.2	20.8	9.8	34.2	11.7	39.2
Education						
Elementary school	33.4	34.6	49.6	25.1	26.0	34.7
Middle school	42.4	46.6	42.6	35.8	46.9	46.1
High school	15.2	14.5	4.2	20.5	19.8	14.4
College studies	6.4	2.7	1.1	15.8	6.2	2.6
Other	2.4	1.6	2.5	2.9	1.2	2.2
Marital Status						
Single	53.7	55.1	70.7	48.5	53.0	40.0
Married	25.4	21.7	11.3	33.2	28.1	34.5
Divorced	3.7	3.4	1.1	4.8	2.7	6.1
Widowed	0.7	0.6	0.2	0.9	0.3	1.0
Living together	10.6	12.4	11.5	6.9	11.8	11.6
Other	5.8	6.8	5.1	5.6	4.1	6.8
Age of Onset						
≤ 9	4.8	3.6	12.4	4.7	0.9	0.0
10–14	43.1	48.0	62.0	38.8	17.5	11.7
15–19	38.7	41.0	23.3	43.8	41.1	37.2
20–24	7.9	5.3	1.8	8.5	20.7	22.5
25–29	2.7	1.2	0.4	2.6	9.9	12.8
30–34	1.6	0.6	0.0	0.7	5.8	10.7
35+	1.2	0.3	0.2	0.9	4.1	5.0
Frequency of Use						
Daily	72.5	82.1	72.8	48.6	66.1	97.8
Once a week	19.1	13.2	16.5	36.3	22.2	1.3
1–3 times per month	7.0	3.5	8.5	13.6	9.9	1.0
1–11 times per year	1.2	1.2	2.1	1.5	1.8	0.0

SOURCE: Nongovernment treatment centers

EXHIBIT 5

MEXICO
COMPARISON BETWEEN FIRST DRUG USED AND CURRENT DRUG USED AMONG CLIENTS AT NONGOVERNMENT TREATMENT CENTERS
1998





SOURCE: SISVEA—Government treatment centers (Centers for Juvenile Integration)

EXHIBIT 6

MEXICO

SOCIAL CHARACTERISTICS AND TYPE OF OFFENSE COMMITTED BY JUVENILE INFRACTOR DRUG USERS BY PERCENTAGE
1998

Total n=6,228	**Marijuana n=2,189**	**Inhalants n=1,423**	**Alcohol n=242**	**Cocaine n=1,054**	**Heroin n=52**
Male 91.7	Male 95.5	Male 93.3	Male 93	Male 93.4	Male 88.2
Elementary school 55.5	Elementary school 63.6	Elementary school 70.8	Elementary school 48.8	Middle school 66.6	Elementary school 77.8
Under-employed 31.4	Under-employed 36.5	Under-employed 37.5	Under-employed 39.9	Employed 38.3	Under-employed 42.0
Tattoo 30.4	Tattoo 48.1	Tattoo 48.5	Tattoo 31.5	Tattoo 44.8	Tattoo 62.2
Belong to a gang 13.0	Belong to a gang 22.2	Belong to a gang 26.8	Belong to a gang 11.9	Belong to a gang 18.1	Belong to a gang 21.2
Offense under intoxication 22.3	Offense under intoxication 36.0	Offense under intoxication 47.2	Offense under intoxication 38.0	Offense under intoxication 34.0	Offense under intoxication 59.6
Frequent Offenses	**Frequent Offenses**	**Frequent Offenses**	**Frequent Offenses**	**Frequent Offenses**	**Frequent Offenses**
Robbery 53.2	Robbery 50.3	Robbery 51.8	Robbery 51.2	Robbery 52.5	Robbery 65.4
Against health 11.7	Against health 21.9	Against health 15.2	Arm bearing 5.8	Against health 19.6	Arm bearing 9.6
Arm bearing 5.2	Arm bearing 5.8	Drug use 6.9	Against health 8.3	Arm bearing 5.4	Homicide 7.7
Injury 4.8	Injury 3.8	Arm bearing 5.2	Damage 8.7	Injury 3.9	Drug/use 9.6

SOURCE: SISVEA— Juvenile Detention Centers

EXHIBIT 7

MEXICO
DRUG-RELATED DEATHS: CHARACTERISTICS OF DECEDENTS, CAUSES OF DEATH, AND PLACE OF DEATH BY PERCENTAGE
1998

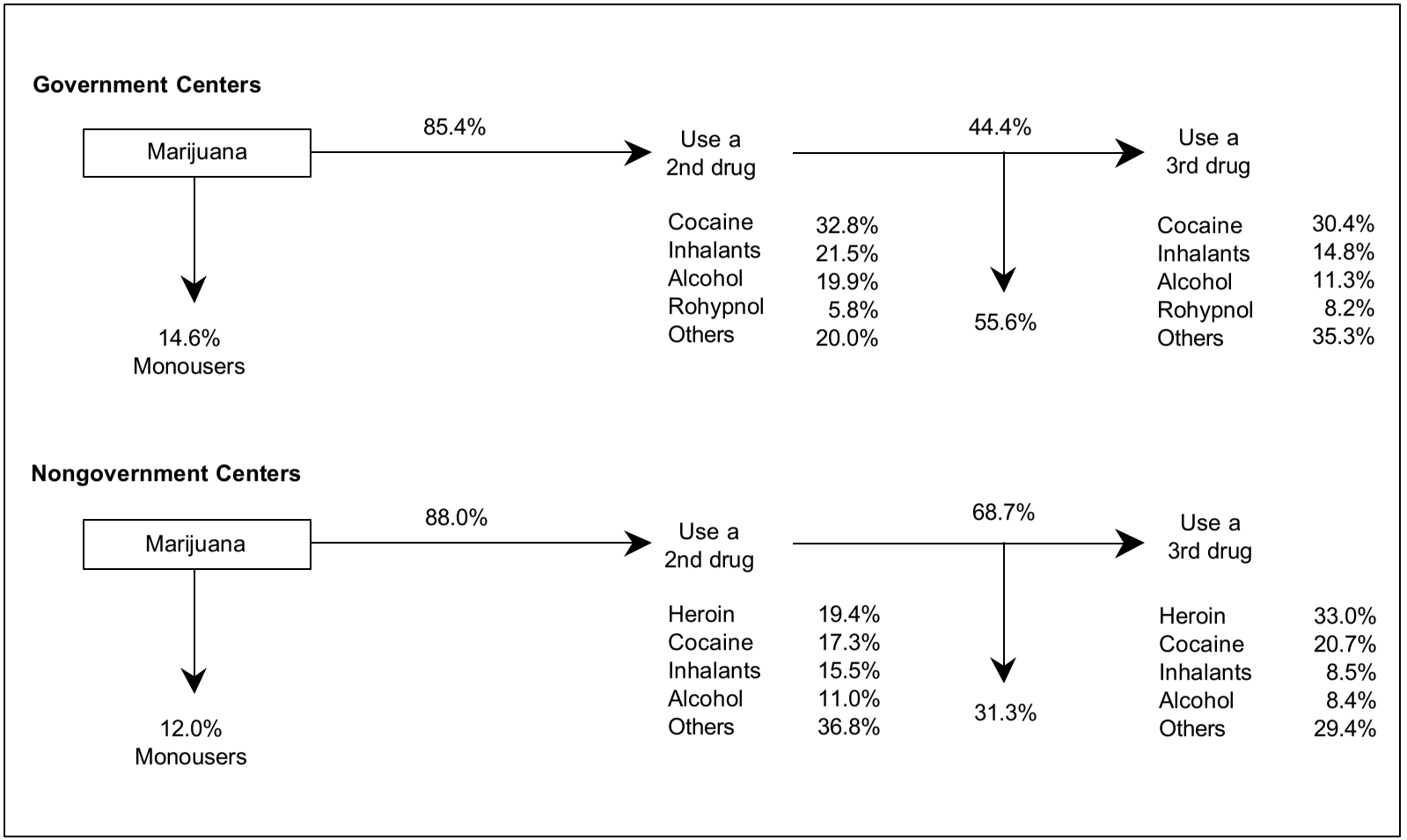
Characteristic	Total n=1,211	Alcohol n=1,076	Marijuana n=54	Opioids* n=9
Gender				
Male	91.5	91.8	90.7	100.0
Female	8.5	8.2	9.3	0.0
Age				
≤ 14	0.8	0.6	1.9	0.0
15–19	5.3	4.9	13.5	11.1
20–24	14.1	14.1	23.1	22.2
25–29	14.4	13.6	21.2	0.0
30–34	11.0	11.6	1.9	11.1
35–39	9.7	9.6	11.5	22.2
40+	44.7	45.6	26.9	33.4
Cause of Death				
Run over	13.4	14.2	7.5	0.0
Traffic accident	12.2	13.6	3.8	0.0
Fall	4.4	4.8	0.0	12.5
Electrocuted	0.4	0.4	0.0	0.0
Burned	0.5	0.5	0.0	0.0
Beaten	3.2	3.2	5.7	0.0
Asphyxia	7.4	7.3	1.9	0.0
Crushed	0.0	0.0	0.0	0.0
Firearm	15.1	14.9	32.1	25.0
Steel knife	4.4	4.1	17.0	0.0
Intoxicated/overdose	10.1	9.7	3.8	50.0
Other	28.8	27.3	28.2	12.5
Place of Death				
Traffic	15.3	16.4	6.1	0.0
Home	33.6	33.1	38.8	25.0
Street	32.9	34.3	30.6	37.5
Public baths	0.2	0.1	0.0	12.5
Recreational areas	2.9	2.6	0.0	0.0
At work	1.8	1.3	2.0	12.5
Service areas	2.8	2.8	2.0	0.0
Others	10.5	9.4	20.5	12.5

*Opium, morphine, and heroin

SOURCE: Medical examiners

EXHIBIT 8

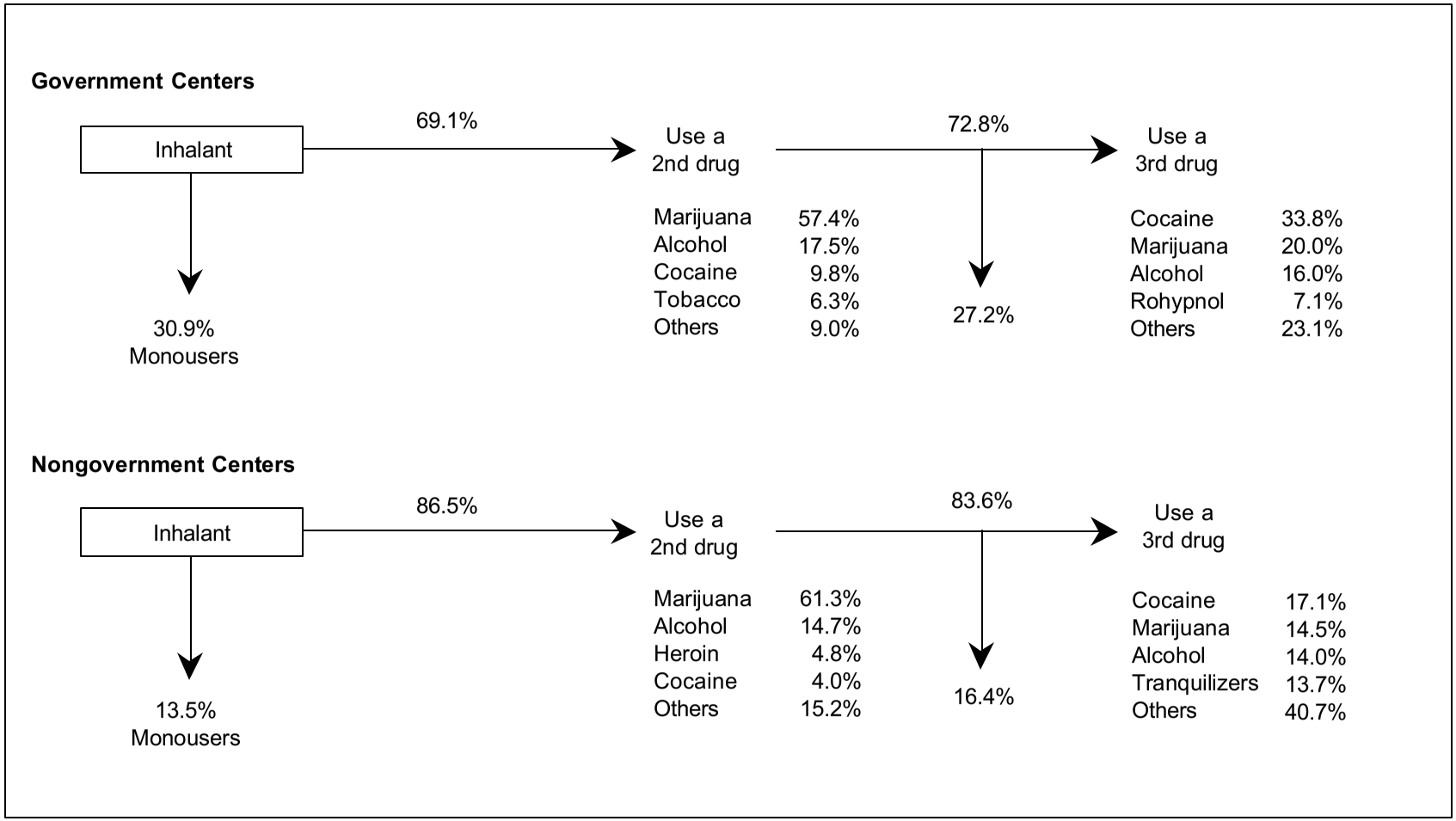
MEXICO
NATURAL HISTORY OF MARIJUANA USE
1998



SOURCE: SISVEA—Government and nongovernment treatment centers

EXHIBIT 9

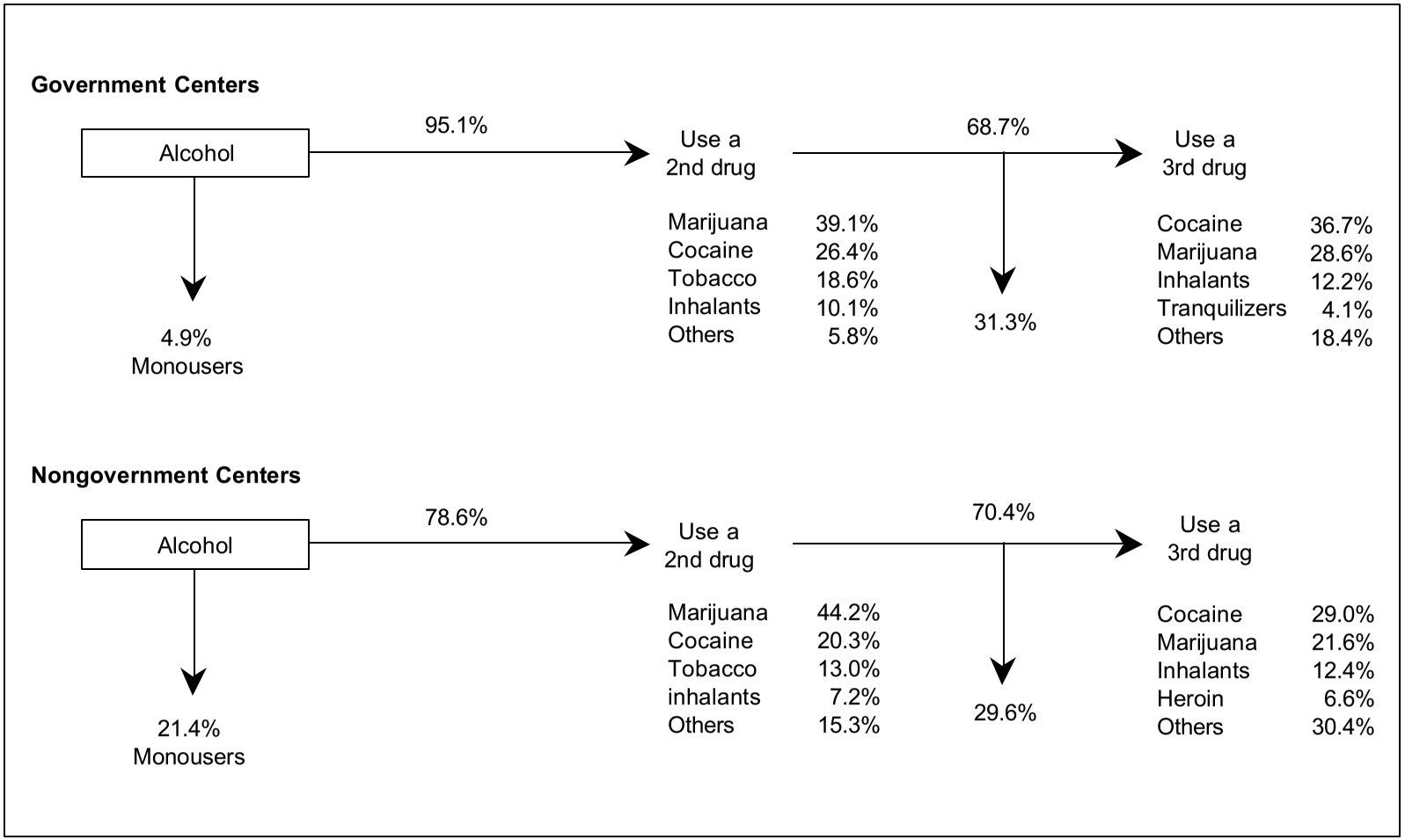
MEXICO
NATURAL HISTORY OF INHALANT USE
1998



SOURCE: SISVEA—Government and nongovernment treatment centers

EXHIBIT 10

MEXICO
NATURAL HISTORY OF ALCOHOL USE
1998



SOURCE: SISVEA—Government and nongovernment treatment centers

THE SOUTH AFRICAN COMMUNITY EPIDEMIOLOGY NETWORK ON DRUG USE (SACENDU), PHASE 5 (JULY– DECEMBER 1998): FINDINGS, IMPLICATIONS, AND FUTURE DIRECTIONS

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During Phase 5 (July–December 1998) of the South African Community Epidemiology Network on Drug Use (SACENDU) Project, multi-source data were collected in Cape Town, Durban, Port Elizabeth (PE), and Gauteng Province (Johannesburg and Pretoria). As in Phases 1-4, alcohol was the main substance of abuse within all sites. Trauma unit and mortality indicators from Cape Town highlighted the heavy burden associated with the misuse of alcohol. However, with the exception of PE, the demand for treatment for alcohol problems relative to other substances appears to have stabilized or declined. Cannabis and methaqualone (Mandrax) alone or in combination continued to be the main illicit drugs used, generally comprising the largest proportions of arrests for dealing in drugs and for drug-related diagnoses among psychiatric inpatients. Cocaine/crack indicators trended upward in all sites, and South Africa is now firmly established as an important market for cocaine. Abuse of over-the-counter and prescription medicines, as well as solvents, continues. Other drugs used to a lesser extent are lysergic acid diethylamide (LSD), as well as speed (methamphetamine), and heroin. Heroin indicators in Gauteng Province especially showed an increase during the second half of 1998. Ecstasy (3,4-methylenedioxymethamphetamine or MDMA) continues to be used by young persons in the club scene, alone or in combination with other amphetamines, LSD, and speed. Other substances have entered the market, including DOB (a variant of MDMA). The project's findings have implications for demand and supply reduction activities underway in South Africa. Expansion of the SACENDU Project during 1999–2000 (geographically and in terms of data sources) is likely to strengthen epidemiological surveillance in the sub-region.

INTRODUCTION

1. Background

The South African Community Epidemiology Network on Drug Use is an alcohol and other drug (AOD) sentinel surveillance system comprised of a network of researchers, practitioners, and policymakers from four sites in South Africa. The project was established in 1996 by the South African Medical Research Council (MRC) and the University

of Durban-Westville, with technical support from the National Institute on Drug Abuse (NIDA), United States. The United Nations Development Programme (UNDP) initially provided financial support for this project via the Programme on Substance Abuse of the World Health Organization (WHO/PSA). Current funding is provided by the Gauteng provincial Department of Welfare, the national Department of Health, and the MRC. The initiative arose from a concern that South Africa lacked any mechanisms for monitoring drug trends over time, especially in view of the recent political changes in the country and the consequent opening up of the country's borders.

The SACENDU participants provide community-level public health surveillance of AOD use trends and associated consequences through presentation and discussion of quantitative and qualitative research data at biannual meetings. SACENDU provides descriptive information on the nature and patterns of AOD use, emerging trends, risk factors associated with AOD use, characteristics of vulnerable populations, and consequences of AOD use in South Africa.

2. Area Description

Cape Town is a port city on the southwestern coast of South Africa with a population of about 2.7 million persons. It is the legislative capital of the country and the capital city of the Western Cape Province which has the second highest per capita income, the highest rate of students passing the national high school matriculation examination, and an unemployment rate of approximately 17 percent. Cape Town has the second busiest harbor in the country. Its international airport has seen a dramatic increase in the number of international flights over the past few years. Approximately 51 percent of the population of Cape Town is Coloured, with the remainder being African (26 percent), White (22 percent), and Asian (1 percent) (Statistics South Africa 1998).

Durban is a port city located on the east coast in the province of KwaZulu-Natal. Durban has a population of over 1.8 million persons, the majority of whom are African (55 percent). It also has a large Asian population (24 percent). Seventeen percent of the population of Durban are estimated to be White and 4 percent Coloured (Statistics South Africa 1998). Durban hosts the busiest harbor in Southern Africa and also has an increasingly busy international airport. Unemployment rates are roughly twice those of Cape Town and rates of poverty are much higher.

Port Elizabeth (PE) has a population of three-quarters of a million persons (769,156). The majority are Africans (57 percent), followed by Coloureds (24 percent), Whites (18 percent), and Asians (1 percent) (Statistics South Africa 1998). The Port Elizabeth metropolitan area, together with nearby Uitenhage, accounts for 61 percent of the Eastern Cape Province's economic activity. Over 40 percent of the population earn less than R800 per month ($130.72 in U.S. dollars) (Seager, personal communication, 1999).

Gauteng Province comprises 7.3 million persons; 97 percent live in urban areas. The majority of the residents of Gauteng are Africans (70 percent), followed by Whites (23 percent), Coloureds (4 percent), and Asians (2 percent). Gauteng is the most economically developed of South Africa's nine provinces. The two main cities within Gauteng are Pretoria (the administrative capital of South Africa) and Johannesburg, a cosmopolitan city which is close to Soweto (a large so-called "township"). Eight percent of the population of Gauteng Province age 20 years or older have higher than a Grade 12

education. Just over a quarter of the population are classified as being unemployed, substantially more than in Cape Town. Of employed persons, 16 percent earn less than R500 per month ($81.70) (Statistics South Africa 1998).

3. Data Indicators and Sources

AOD indicators were identified for two areas: the nature and extent of AOD use and AOD-related consequences/abuse. Data indicators and sources include:

- **Primary/secondary substances of abuse** reported by clients at admission to specialist AOD treatment facilities
- **Admission/discharge diagnoses** of psychiatric inpatients
- **AOD-related deaths** reported by mortuaries
- **AOD-related trauma unit mentions** collected via self-report measures and biological markers (breath alcohol measures and urine testing)
- **Arrest, seizure, and price data** obtained from local branches of the South African Narcotics Bureau (SANAB) and the Organised Crime Unit
- **Chemical analysis of seized drugs** as undertaken by police forensic science laboratories
- **AOD-use behavior and associated consequences** reported through surveys of high school students and patients attending community primary health care services

The above quantitative data are complemented through qualitative research (individual and/or focus group interviews) with sex workers, persons attending rave parties, and street children.

DRUG ABUSE PATTERNS AND TRENDS

1. Alcohol

Alcohol continues to be the most common primary substance of abuse among patients seen at specialist treatment centres across all four sites, accounting for between 64 to 68 percent of admissions (exhibit 1). The proportion of alcohol-related admissions appears to be decreasing over time in most sites relative to other substances. These patients tend to be older and are more likely to be male.

Alcohol-related diagnoses are common among psychiatric inpatients seen in Cape Town and PE (ranging from 5 to 23 percent of admissions/discharges). The proportion of alcohol-related psychiatric diagnoses appears to be stable or decreasing in PE and Cape Town.

A strong association between alcohol and non-natural death was reported in Cape Town's Salt River Mortuary during 1998. Overall, 55 percent of cases had blood alcohol levels $\geq$ 0.08gms/ 100 ml, with 31 percent having BACs $\geq$ 0.20gms/100ml. With regard to specific causes of death, 11 percent of drivers and 35 percent of pedestrians had BACs $\geq$ 0.20gms/100ml (i.e., were heavily under the influence of alcohol). With regard to injury, a study of trauma patients at Groote Schuur Hospital in Cape Town in early 1999 found that 16

percent had breath alcohol ≥ 0.08 gms/100-ml (down from 33 percent in 1997).

2. Cannabis and Mandrax

These substances are the second and third most common primary substances of abuse among patients seen at specialist treatment facilities in Cape Town, PE, and Durban (exhibit 1). In 1998, excluding alcohol, these substances together accounted for between 50 percent (in Gauteng) and 84 percent (in Durban) of the primary substances of abuse seen by treatment centres. Based on treatment centre statistics, most cannabis users tend to be male and younger than users of other substances (excluding ecstasy). Across sites, patients in treatment whose primary substance of abuse is Mandrax are also more likely to be male. They are also younger than patients whose primary substance of abuse is cocaine/crack or alcohol.

Together, cannabis and Mandrax were the most common drugs for which persons were arrested by SANAB for drug dealing in three of the four sites, accounting for between 56.6 percent (in Cape Town) and 78 percent (in PE) of arrests in the second half of 1998 (exhibit 2). Nevertheless, arrest indicators for cannabis were down in three of the SACENDU sites. Seizure indicators were down in all sites (exhibit 3), and price was stable or up across the four sites. The proportion of arrests for dealing in Mandrax, relative to other drugs, showed an increase across most sites while prices were generally stable. Seizure indicators were mixed.

In 1998 in Cape Town, PE and Durban, between 49 and 74 percent of the value of SANAB seizures can be attributed to cannabis. However, for Gauteng the corresponding figure was only 7 percent. Mandrax comprised between 9 percent (in Cape Town) and 28 percent (in PE) of the value of drugs seized by SANAB. The price of cannabis is as low as $0.16 per gram in U.S. dollars and was generally stable or slightly up across the four sites. (Prices were originally in ZAR; 1 USD = 6.12 ZAR, May, 1999.) The price of Mandrax ranges from $4.90 to $7.35 per tablet and was also stable across sites.

In early 1999, a study of trauma patients at the Groote Schuur Hospital in Cape Town found that 30 percent of patients had cannabis (tetrahydrocannabinol) in their urine. This was only slightly more than was noted in a previous study conducted in 1997. A quarter of the patients had Mandrax in their urine—up from 13 percent previously.

3. Powder Cocaine/Crack Cocaine

In 1998, the proportion of patients in specialist treatment centres whose primary substance of abuse (other than alcohol) was cocaine/ crack ranged from 2 percent in PE to 21 percent in Cape Town, and 27 percent in Gauteng (exhibit 1). Cocaine powder is primarily snorted, whereas crack is smoked.

The proportion of SANAB arrests for dealing in cocaine in the second half of 1998 ranged from 13.7 percent of all arrests in Gauteng to 81.3 percent of arrests in Durban (exhibit 2). The proportion was up in three of the four sites. Seizure and price indicators were mixed across sites. The largest amount of cocaine seized in the second half of 1998 took place in Gauteng (433 kilograms; see exhibit 3). This province includes Johannesburg International Airport where the bulk of seizures of cocaine occur in that province.

An early 1999 study of trauma patients at the Groote Schuur Hospital found that 5 percent of the patients had cocaine in their urine, up from 2 percent in 1997. Extensive use and marketing of crack by sex workers was reported in Durban. In the sex worker population, crack cocaine appears to be used often in combination with Mandrax (to come down from a "crack high"). Across sites, prices of cocaine range from $29.41 to $49.02 per gram. Price indicators were mixed across sites.

In 1998, the proportion of the value of drugs seized by SANAB which could be attributed to cocaine ranged from 3 percent in PE and Durban, to 31 percent in Cape Town, and 79 percent in Gauteng. Dealing in cocaine and cocaine-related problems appear to have become firmly established in PE during 1998.

4. Over-the-Counter (OTC) and Prescription Medicines

Reports of abuse of OTC and prescription drugs (e.g. tranquilizers, analgesics, barbiturates, benzodiazepines) continued to be received in 1998. Excluding alcohol, between 3 percent (in Durban) and 20 percent (in PE) of patients attending specialist treatment centres in the four sites had OTC and prescription drugs listed as their primary drug of abuse (exhibit 1). While treatment demand decreased slightly in three of the sites, a substantial increase in treatment demand for problems related to the abuse of OTCs and prescription medicines was noted in PE. SANAB (PE) also reported that flunitrazipam (Rohypnol) had been stolen from a pharmaceutical company in the area in the second half of 1998. A few emergency room visits associated with the use of gamma-hydroxybutyrate (GHB, aka "Liquid Ecstasy") were also reported in Cape Town in the second half of 1998.

5. Solvents

Abuse of solvents (petrol, thinners, glue, and household cleaners) by young persons continues. While this is widespread among street children, these substances are also abused by children living in better circumstances.

6. Ecstasy, LSD, and Speed

The proportion of persons using specialist treatment services whose primary drug of abuse was ecstasy, LSD, or speed is still low across all sites (exhibit 1). However, some patients report these substances as secondary drugs of abuse. The proportion of SANAB arrests for dealing in ecstasy ranged from 2.1 percent in Durban, to 10.7 percent in Cape Town, and 18.2 percent in Gauteng (exhibit 2). Arrest and seizure indicators are mixed across sites. In 1998, ecstasy comprised between 1 and 2 percent of the estimated value of drugs seized by SANAB in Durban, PE and Gauteng, compared with 10 percent in Cape Town. The price of ecstasy appears to be stable or decreasing, and ranges from $6.54 in rave clubs to $19.61 per tablet on the streets. Ecstasy continues to be used in the club scene, especially by young persons. The DOB variant (4-bromo-2,5-dimethoxy-amphetamine) was reportedly being used in Durban and Gauteng. Use of ecstasy in combination with other amphetamines also was reported. Serotonin inhibitors (5-Hydroxytrypyophan) are being purchased from health food stores by some users to enhance the effect of ecstasy and to reduce the effect of coming down from the drug ("preloading").

Use of LSD and speed was also reported, particularly within the club scene. The highest proportion of arrests for LSD/-speed was in Gauteng (3.9 percent, down

from 10.7 percent in the first half of 1998; see exhibit 2). The proportion of arrests for dealing in LSD/speed showed a decrease across sites. Seizures for LSD by SANAB showed an increase only in Gauteng, whereas seizures of speed increased only in Cape Town (exhibit 3).The price of speed ($3.27– $6.54 per unit) appears to be decreasing in most sites whereas for LSD ($6.54–$24.51 per unit) the opposite may be occurring. Across sites in 1998, these two drugs comprised less than 1 percent of the estimated value of drugs seized by SANAB.

7. Heroin

Heroin treatment demand showed an increase in Gauteng in 1998, and the average age of heroin users in treatment appears to be declining in Gauteng and in Cape Town. In these sites, 5 to 6 percent of the persons attending specialist treatment centres for abuse of substances other than alcohol reported heroin as their primary substance of abuse. The proportion of females using heroin is greater than for many other drugs. In Cape Town and Gauteng, for example, the proportion of females in treatment whose primary substance of abuse was heroin was 32 percent and 21 percent, respectively. The average age of persons in treatment was 23–24. Heroin is mostly smoked. Some intravenous drug use was reported among heroin users (e.g., 11 out of 31 patients in specialist treatment centres in Cape Town in the second half of 1998).

Arrest and seizure indicators for heroin are mixed across sites. There were no arrests for dealing heroin and no heroin seizures reported by SANAB in PE or Durban during Phase 5 (exhibit 2). In Gauteng, SANAB seized 1,229 grams of heroin in the second half of 1998 (exhibit 3). Heroin purity is reportedly high and the drug is apparently being cut in South Africa before being exported to other countries. Across sites in 1998, less than 1 percent of the total value of drug seizures could be attributed to heroin. The price of heroin is low in South Africa in comparison to other countries ($19.61– $58.19 per gram).

Intersite comparisons are indicated in exhibit 4. For further details, readers are referred to Parry, Bhana, Bayley, Potgieter, and Plüddemann (1999).

POLICY/PLANNING IMPLICATIONS

During the Phase 4 (January– June 1998) and 5 (July– December 1998) regional report-back meetings of the SACENDU Project, a number of recommendations were made with regard to specific interventions needed to address substance abuse as well as substance abuse policy in general:

- Alcohol must not be ignored in national, provincial, or local efforts to address substance abuse.
- Greater thought needs to be given to the place of harm reduction strategies within the broader strategy for addressing substance abuse.
- Particular attention should be given to controlling the supply of drugs such as cocaine and heroin and to reducing the demand for such drugs.
- A new initiative is needed to address the abuse of OTC and prescription medicines (including medicine theft).

- Attention needs to be given to speeding up the length of time before scheduling certain chemical compounds or banning their trade (e.g., GHB).

- Improved inter- and intra-sectoral collaboration is required.

- Special attention needs to be given to improving the treatment of substance dependent persons:

  – Improve referrals and early identification.

  – Encourage drug users to seek treatment early.

  – Ensure adequate treatment by psychiatric institutions and primary health care (PHC) services.

  – Develop protocols for the treatment of heroin addicts.

  – Implement continuing medical education programs for medical practitioners.

  – Increase access to anti-craving drugs.

  – Develop effective, short-duration treatment approaches.

  – Establish mechanisms for funding the treatment of unemployed persons.

- Standardize policies around the diversion of offenders from the criminal justice system into treatment (e.g., who, when).

- Improve interventions to decrease drug use among sex workers and to minimize associated harm.

- Improve supply reduction in high-risk areas (e.g., in and around selected residential hotels).

- Address alcohol abuse as an important component of crime prevention strategies.

- Improve access to information on amphetamine-type stimulants (ATS), requested by the South African Police Service's Forensic Science Laboratory's drug units.

- Improve police capacity to quantify drugs seized (i.e., the actual quantity of illicit substances).

ISSUES TO MONITOR

Phases 4 and 5 of the SACENDU Project highlighted several conditions/factors that need to be carefully monitored over time:

- Changing patterns in the use of crack cocaine (relative to Mandrax), ecstasy, and heroin, as well as the use of multi-drug combinations.

- Demographic changes in treatment demand.

- AOD use among adolescents and by African sex workers.

- The length of time between first regular use of a drug and the demand for treatment.

- The production and use of synthetic drugs and associated problems.

- Changes in the quality of drugs (e.g. Mandrax, ecstasy, heroin, and speed) and especially increases in the doses used (e.g., ecstasy).
- Changes in mode of drug use (especially IV drug use among heroin users).

RESEARCH QUESTIONS

At the SACENDU meetings in October 1998 and March 1999, these topics for research were identified:

- The need to assess what drugs are taken in combination and the effects of taking particular drug combinations
- The abuse of OTC and prescription medicines by high school youth (and others)
- The extent to which substance abuse problems are treated by general practitioners and others, often under the guise of depression
- Unmet treatment needs among women and African populations, and ways to improve access to treatment by these groups
- Emergency room visits associated with drug use
- The link between substance use and HIV infection (especially among sex workers)
- Psychological reasons for drug use
- The availability of drugs in a broad spectrum of venues frequented by young persons
- The impact which the increased availability of generic drugs has on the abuse of prescription medicines
- The association between AOD use and crime, premature death, and injury
- The impact of interventions targeted to first-time smokers on later drug use
- The costs/benefits of treatment versus incarceration for certain groups of offenders

FUTURE INITIATIVES

The SACENDU Project is likely to be strengthened by several new initiatives during 1999–2000, including:

- A study of drug use (and HIV status) among arrestees in Cape Town, Johannesburg/Pretoria, Durban, and PE
- The establishment of an injury surveillance system in 18 mortuaries
- A study of drug use among trauma patients in Cape Town, Durban, and PE
- School surveys in PE and Gauteng and the (further) analysis of school survey data collected in Durban and Cape Town in 1997 and 1998

- Studies of persons attending rave parties in each of the four sites
- Possible expansion of SACENDU to selected South African Development Community countries

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EXHIBIT 1

SOUTH AFRICA
PRIMARY SUBSTANCE OF ABUSE AMONG TREATMENT CENTRE PATIENTS IN CAPE TOWN, DURBAN, PORT ELIZABETH (PE), AND GAUTENG (JOHANNESBURG/PRETORIA) BY PERCENTAGE
JULY 1996–DECEMBER 1998

Site	Time Period[1]	Drugs Other than Alcohol							Alcohol as Percent of All Sub-stances
		Cannabis	Cannabis/ Mandrax	Cocaine/ Crack	Heroin	Ecstasy	OTC/ Prescr.	Other	
Cape Town	96-b	24	46	13	5	0	9	3	81
	97-a	25	40	20	4	1	8	2	82
	97-b	27	40	17	6	3	6	1	78
	98-a	21	39	22	8	2	7	1	74
	98-b	25	39	21	6	2	6	2	64
Durban	96-b	37	37	4	2	2	4	15	73
	97-a	29	23	3	3	3	4	35	69
	97-b	56	16	8	4	3	8	5	62
	98-a	38	25	22	3	7	5	0	61
	98-b*	65	19	3	0	0	3	10	69
PE	97-a	64		0	0	3	14	19	62
	97-b	71		0	0	0	11	18	70
	98-a	68		0	0	1	10	21	71
	98-b	62		2	0	0	20	16	65
Gauteng	98-a	35	16	26	2	2	13	6	69
	98-b	37	13	27	5	1	12	6	68

* Data for the Newlands Treatment Centre only
[1] a = first 6 months of each year; b = second 6 months

SOURCE: SACENDU

EXHIBIT 2

SOUTH AFRICA
SOUTH AFRICAN NARCOTICS BUREAU (SANAB) DRUG-RELATED ARRESTS*
JULY 1996–DECEMBER 1998

Area	Time Period[1]	Cannabis/ Hashish	Mandrax	Cocaine/ Crack	Ecstasy	Heroin	LSD/ Speed	Other	Total
		Percent[2]	Percent[2]	Percent[2]	Percent[2]	Percent[2]	Percent[2]	Percent[2]	*N*
Cape Town	96-b	39.5	39.5	18.5	2	0.5	0	0	200
	97-a	54	26.8	10.2	4.3	0.4	4.3	0	236
	97-b	49.4	29.9	7.4	6.5	3.5	3.0	0.4	231
	98-a	42.4	14.6	22.2	7.8	7.8	4.4	1.3	158
	98-b	28.6	28.0	25.0	10.7	5.4	2.3	0.0	168
Durban	96-b**	46.9	16.8	25.9	9.1	0.0	1.4	0.0	143
	97-a**	65.6	9.3	10.6	8.8	0.0	***5.3	0.4	227
	97-b**	52.4	13.9	21.9	3.2	1.6	5.3	1.6	187
	98-a**	51.2	13.8	2.4	21.1	0.0	7.3	4.1	123
	98-b**	15.7	27.0	48.5	4.4	0.0	4.1	0.3	29396
	dealing only	6.2	10.4	81.3	2.1	0.0	0.0	0.0	
PE	97-a	69.5	28.5	0.8	0.8	0.0	0.0	0.0	246
	97-b	36.9	55.0	1.9	1.9	0.0	1.9	2.5	160
	98-a †	48.3	25.0	10.6	4.4	0.0	1.1	0.6	180
	98-b †	53.8	24.2	14.3	4.4	0.0	0.0	2.2	91
Gauteng	97-a	59.0	17.7	17.4	3.1	0.3	3.0	0.0	293
	97-b	69.5	11.8	14.4	1.9	0.2	2.2	0.0	417
	98-a	40.0	20.1	15.1	10.4	2.8	10.7	0.0	423
	98-b	35.0	27.5	13.7	18.2	1.7	3.9	0.0	363

* Unless specified, arrests were for drug dealing
** Dealing and possession
*** Only for speed
† Represents SANAB and Organised Crime Unit (OCU) data

[1] a = first 6 months of each year; b = second 6 months
[2] Row percentages add to 100 percent

SOURCE: South African Narcotics Bureau

EXHIBIT 3

SOUTH AFRICA

DRUG SEIZURES—SOUTH AFRICAN NARCOTICS BUREAU (SANAB)

JULY 1996–DECEMBER 1998

Area	Time Period[1]	Cannabis (kgs)	Mandrax (tabs)	Cocaine (gms)*	Ecstasy (tabs)	Heroin (gms)	LSD (units)	Speed (tabs)
Cape Town	96-b	5,816	11,067	5,366	420	253	44	8
	97-a	2,882	154,373	146,598	779	6	171	110
	97-b	5,018	68,322	7,890	3,260	660	224	23
	98-a	3,325	12,646	19,543	3,393	334	2,045	50
	98-b	1,892	44,480	12 369	24,207	52	108	74
Durban	96-b	123	403	37	46	0	10	0
	97-a	36,088	1,597	267	216	0	180	90
	97-b	3,821	870	241	72	10	105	28
	98-a	10,592	4,295	833	712	0	4,026	1
	98-b	716	102,130	1,442	139	0	0	0
PE	97-a	12,638	386	11	28	0	0	0
	97-b	3,289	5,291	54	179	0	135	0
	98-a**	2,904	21,093	648	376	0	130	2
	98-b**	2,243	16,369	91	299	0	0	0
Gauteng	97-a	2,910	2,493	52,125	92	2	22	125
	97-b	5,682	15,365	84,165	15,437	5	392	157
	98-a	11,074	548,325	150,543	14,037	1,015	94	115
	98-b	1,311	52,301	433,976	19,903	1,229	1,115	0

* Excluding crystals/rocks

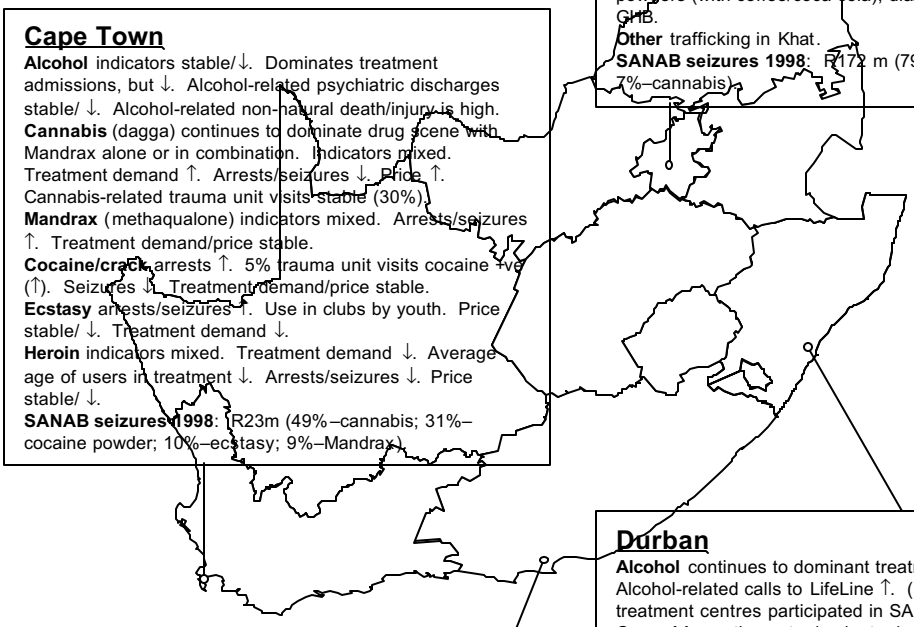
** SANAB and Organised Crime Unit (OCU) data

[1] a = first 6 months of each year; b = second 6 months

SOURCE: South African Narcotics Bureau

EXHIBIT 4

SOUTH AFRICA
KEY PATTERNS AND TRENDS OF SUBSTANCE USE ACROSS SACENDU SITES
JULY 1996–DECEMBER 1998



Gauteng (Johannesburg/Pretoria)

Alcohol continues to dominate treatment (stable).
Cannabis treatment demand stable/↑. Arrests/seizures ↓. Price stable.
Mandrax treatment demand stable↓. Arrests ↑. Price stable.
Cocaine/crack treatment demand stable/↑. Crack seizures ↑. Arrests/price stable/↓.
Ecstasy arrests/seizures ↑. Treatment demand/price stable ↓. DOB variant used in clubs.
Heroin treatment demand/seizures ↑. Average age of users in treatment ↓. Price ↑. Arrests low.
LSD seizures ↑. Treatment demand low. Arrests stable. Price stable/↑.
OCM/PRE treatment demand stable (Rohypnol, headache powders (with coffee/coca cola), diazepam, clonazepam). Use of GHB.
Other trafficking in Khat.
SANAB seizures 1998: R172 m (79%–cocaine; 12%–Mandrax; 7%–cannabis).

Cape Town

Alcohol indicators stable/↓. Dominates treatment admissions, but ↓. Alcohol-related psychiatric discharges stable/ ↓. Alcohol-related non-natural death/injury is high.
Cannabis (dagga) continues to dominate drug scene with Mandrax alone or in combination. Indicators mixed. Treatment demand ↑. Arrests/seizures ↓. Price ↑. Cannabis-related trauma unit visits stable (30%).
Mandrax (methaqualone) indicators mixed. Arrests/seizures ↑. Treatment demand/price stable.
Cocaine/crack arrests ↑. 5% trauma unit visits cocaine +ve (↑). Seizures ↓. Treatment demand/price stable.
Ecstasy arrests/seizures ↑. Use in clubs by youth. Price stable/ ↓. Treatment demand ↓.
Heroin indicators mixed. Treatment demand ↓. Average age of users in treatment ↓. Arrests/seizures ↓. Price stable/ ↓.
SANAB seizures 1998: (R23m (49%–cannabis; 31%–cocaine powder; 10%–ecstasy; 9%–Mandrax).

Durban

Alcohol continues to dominant treatment admissions, now ↑. Alcohol-related calls to LifeLine ↑. (Note: reduced # of treatment centres participated in SACENDU Phase 5.)
Cannabis continues to dominate drug scene with Mandrax. Indicators mixed. Treatment demand ↑. Arrests/seizures ↓. Price ↑.
Mandrax treatment demand ↓. Arrests/seizures/price ↑.
Cocaine/crack indicators mostly ↑ (arrests/seizures ↑, treatment demand ↓). Use by sex workers & clients. Price ↓.
Ecstasy treatment demand, arrests/seizures ↓. Use by young persons in clubs (incl. DOB variant). Use with other amphetamines. Price ↓.
Heroin treatment demand ↓. Price ↑.
LSD arrests/seizures/price ↓.
OCM/PRE treatment demand ↓ (Rohypnol, valium, codeine, cough mixture).
Other trafficking in Khat.
SANAB seizures 1998: R16 m (74%–cannabis; 22%–Mandrax).

Port Elizabeth

Alcohol continues to dominate treatment admissions, but ↓. Alcohol-related psychiatric discharges ↓.
Cannabis continues to dominate drug scene with Mandrax. Indicators mixed. Psychiatric patients/ arrests ↑. Treatment demand/seizures ↓. Price stable.
Mandrax treatment demand/seizures ↓. Arrests/price stable.
Crack treatment demand & arrests ↑. Seizures ↓. Price ↑.
Ecstasy arrests/price stable. Treatment demand ↓. Seizures stable/ ↓.
LSD seizures ↓.
OCM/PRE treatment demand ↑ (Etamine, Codeine, Rohypnol, Syndol). Large seizure of Rohypnol.
SANAB/OCU seizures 1998: R8m (68%–cannabis; 28%–Mandrax).

SOURCE: SACENDU

DRUG ABUSE PATTERNS IN THE UNITED STATES

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Information on drug abuse patterns in the United States is available from the 1997 National Household Survey on Drug Abuse (NHSDA) which was released in August 1998. The NHSDA estimated that 13.9 million people had used an illicit drug sometime in the month prior to the survey. This figure has not changed since 1996. However, for those age 12 to 17, the 1997 estimate was significantly higher than in 1996. NHSDA researchers estimate the mean ages of initiation for the use of marijuana, cocaine, inhalants, hallucinogens, heroin, and daily cigarette use has decreased greatly since the survey began, whereas for alcohol and cigarette use the mean age of first use has remained stable. Although 'mean age' is an important measure, the 1996–1997 age-specific rates for 12 to 17 year-olds were the highest since the survey began in 1975 for marijuana, cocaine, inhalants, heroin, alcohol, cigarettes, and daily use of cigarettes. Concern for drug use among young people is supported by the findings from the December 1998 Community Epidemiology Work Group (CEWG) meeting. However, there is some room for optimism. Comparative data on 8th, 10th, and 12th grade students surveyed in 1997 and 1998 in the Monitoring the Future (MTF) Study show a decrease in the proportions of young people using most illicit drugs; the exceptions were crack cocaine and tranquilizers. The optimism also is supported by evidence that communities are beginning to embrace research-based prevention programs, although there is a paucity of research on the degree to which these 'laboratory programs' are delivered with fidelity to achieve optimum effectiveness. Unless communities deliver proven quality programs that are powerful enough to deter children from using drugs, younger children who have not completed their physical and psychological development will be at risk.

INTRODUCTION

Currently, the population of the United States is estimated at 270 million persons. Of these, 73.5 percent are White, non-Hispanic; 12.1 percent are Black, non-Hispanic; 11 percent are Hispanic; 3.7 percent are Asian and Pacific Islanders; and 0.7 percent are American Indian, Eskimo, or Aleut. The mean ages vary by ethnic/racial groups. Whites are the oldest group (mean age = 37.7), followed by the Asian and Pacific Islander group (31.4), the Black non-Hispanic group (29.8), the American Indian, Eskimo or Aleut group (27.7), and the Hispanic group (26.8).

National estimates of the prevalence of drug abuse presented in this paper are derived primarily from the National Household Survey on Drug Abuse, with brief coverage of the Monitoring the Future Study. In addi-

tion, information from the December 1998 meeting of the Community Epidemiology Work Group is reviewed to highlight the survey findings.

The NHSDA and MTF are monitoring surveys. Generally, such surveys are population-based, which means they collect data on people who live in a defined geographic area or who share similar characteristics. Typically, such surveys take "snapshots" of drug abuse in the defined population on a regular basis over long periods of time. The same measures or questions are made each time the survey is conducted to maintain comparability so that trends can be detected.

The NHSDA is conducted by the Office of Applied Studies, Substance Abuse and Mental Health Services Administration. The MTF Study is conducted by the University of Michigan, with funding from the National Institute on Drug Abuse (NIDA). The NHSDA, originally established by NIDA, has been conducted since 1975. Until 1991, the NHSDA was conducted every 2 or 3 years. Since 1991, it has been conducted every year. The NHSDA surveys a representative sample of households in the United States and, within these households, selects individuals age 12 and older. In the last survey (1997), 25,505 persons were interviewed about their use of alcohol, tobacco, and drugs.

The MTF study has surveyed seniors from representative samples of public and private high schools since 1975. In 1991, the study was expanded to include 8th and 10th graders from representative samples of middle schools and high schools. In the last survey (1998), 16,208 8th graders, 14,423 10th graders, and 15,200 12th graders completed self-administered questionnaires.

Drug surveillance research also collects information over time, but uses existing data systems that reflect the consequences of drug abuse such as drug abuse treatment, arrest reports for adults and adolescents, hospital emergency department visits or mentions, hospital discharge information, mortality information, and infectious disease reports. These systems tend to report on new and existing drug abuse patterns within the drug-abusing community and among new users who may suffer some negative health effects. Surveillance epidemiologists look for reports of new types of drugs that are being abused, new ways drugs are administered, and changing characteristics of drug users. Any changes are an alert of new patterns of drug abuse that need to be studied further.

Because the data used in surveillance reflect consequences and are not population-based, it is difficult to use them to develop any incidence or prevalence rates. However, one can review these data over time and draw conclusions from the observations about where new drug abuse patterns exist and, then, follow ways the patterns spread across geographic areas.

In the United States, the major national surveillance system is the CEWG, which is comprised of researchers from 21 of the United States areas listed in exhibit 1. NIDA provides support for bringing this group together twice a year, in June and December, to report on drug abuse patterns in their areas. A brief summary of the proceedings of these meetings is made available to policymakers and the public on NIDA's web site (http://www.nida.nih.gov) or on www.cdmgroup.cewg within 2 weeks of each meeting. Subsequently, two volumes are published: Volume I reports are by drug type and Volume II reports are by city.

CEWG reports are based on drug abuse treatment admissions information, arrest reports, hospital emergency department mentions or visits, medical examiners' or coroners' reports, drug seizures, estimates of price and purity when available, local household or school survey data, and data from special research studies. Information on cases of the acquired immunodeficiency syndrome (AIDS) also is reported. Some CEWG members report data on hepatitis B and C.

DRUG ABUSE PATTERNS AND TRENDS

As noted earlier, data in this paper are derived primarily from the 1997 National Household Survey on Drug Abuse and the December 1998 meeting of the Community Epidemiology Work Group. Some information from the 1998 Monitoring the Future Study is presented also. More detailed data from the 1998 Monitoring the Future Study can be found on the NIDA web site (http://www.nida.nih.gov).

1. Prevalence of Drug Abuse

Based on the 1997 National Household Survey on Drug Abuse, it is estimated that 76.9 million Americans, age 12 and older, had used an illicit drug at least once in their lives. This represents 36.5 percent of the Nation's household population age 12 and over (exhibit 2). Thirty percent of these persons (24.2 million) reported they used an illicit drug at least once in the year prior to interview and 17 percent (13.9 million) reported using an illicit drug in the month prior to interview. As can be seen in exhibits 2 and 3, there has been a slight increase recently in the use of illicit drugs, primarily in past-month use of marijuana. The year in which the highest estimated number of people reported using an illicit drug in the prior month was in 1979 when the number totaled 25 million.

Of persons age 12 and older who had used an illicit drug during the month prior to the 1997 survey, 60 percent had used only marijuana, 20 percent had used marijuana and some other illicit drug, and 20 percent had used a drug other than marijuana (exhibit 4).

Ranking illicit drugs by the estimated percentage of people age 12 and older who used them in the year prior to the 1997 NHSDA shows that marijuana is the most prevalent illicit drug used, followed by powder cocaine, then analgesics, hallucinogens, inhalants, and stimulants (exhibit 5). It is estimated that 1.4 million people used crack cocaine at least once during that time period and that 600,000 used heroin. Exhibit 6 presents a comparison of the past-month prevalence of selected drug use for 1990 and 1997. Except for the use of cigarettes, the overall prevalence of past-month use of these substances did not differ for 1990 and 1997.

In the United States, drug abuse is clearly a problem among young people. Exhibit 7 shows that the highest prevalence of past-month illicit drug use is among those age 18 to 25, followed in recent years by those age 12 to 17. In 1997, 9.4 percent of young people age 12 to 17 used marijuana in the month prior to the NHSDA (exhibit 8), doubling since 1992.

NHSDA data on past-month use of illicit drugs among those age 18 to 25 show that this age group reported the highest use of marijuana, cocaine, cigarettes, and inhalants, and the most binge drinking. The 18 to 25

year-olds also reported high use of alcohol and hallucinogens (exhibit 8).

Estimates of illicit drug use, as reported in the NHSDA, vary by race/ethnicity. In recent years, past-month use of any illicit drug has increased more among Black non-Hispanics than among other groups (exhibit 9). Illicit drug use among those age 12 and older has consistently been much higher for males than for females (exhibit 10).

Past-Month Prevalence of Marijuana Use by Age, Race/Ethnicity, Sex, and Region: 1990 Compared with 1997. Based on the NHSDA, the past-month prevalence of marijuana use varies by age, with prevalence being the highest among persons age 18 to 25. A comparison of the 1990 and 1997 data also shows that there has been an increase in marijuana use among the youngest group, those 12 to 17 (exhibit 11).

Prevalence of marijuana use also varies by race/ethnicity. In both 1990 and 1997, Blacks reported the highest past-month use of marijuana, followed by Whites. However, by age, prevalence is highest among Whites age 12 to 17. The increases in marijuana use noted for the youngest group appear to be occurring among all racial/ethnic groups, but most particularly among Blacks (exhibit 12).

For both 1990 and 1997, males reported higher past-month use of marijuana than females. However, the male to female ratio is lowest for those who were 12 to 17 in 1997 (1.2:1; see exhibit 13). Although there appeared to be a convergence in lifetime rates of marijuana use for males and females age 12 to 17 in 1996 (exhibit 14), past-month data on marijuana use in 1997 show that the male versus female differences still prevailed.

Regional differences in past-month rates of marijuana use in the NHSDA show that, for both 1990 and 1997, use was highest among those living in the North Central and Western regions (exhibit 15). Past-month marijuana use among residents in the Northeast region was similar to that in other regions in 1990, but was the lowest of all regions in 1997. Past-month marijuana use was either similar or lower in 1997 compared with 1990 for the age groups 18 and older, but higher for those 12 to 17 in all regions in 1997. In 1997, past-month marijuana use among 12 to 17 year-olds was more than twice as high in the West and North Central regions, and over 60 percent higher in the Northeast and the South.

Past-Month Prevalence of Cocaine Use by Age, Race/Ethnicity, Sex, and Region: 1990 Compared with 1997. In the 1990 and 1997 NHSDA, those age 35 and older had the lowest cocaine use of any age group (exhibit 16). In 1997, past-month cocaine use among persons age 12 to 17 was comparable to use among those age 18 to 25 and 26 to 34. However, in 1990, respondents age 18 to 25 reported the highest past-month marijuana use, almost twice that reported in 1997. In 1990, those age 26 to 34 had the next highest rate, also nearly twice that for 1997. It is among the youngest group, those 12 to 17, and the 35 and older age group, that the largest increases occurred between 1990 and 1997.

The prevalence of past-month cocaine use varied by race/ethnicity (exhibit 17). In 1997, Blacks reported the highest use compared with Whites and Hispanics who had comparable rates. In 1990, however, Hispanics and Blacks differed little, percentage-wise, in past-month use of cocaine. While the prevalence among Whites and Blacks was similar for both 1990 and 1997, Hispanics show a marked

decrease in 1997 compared with 1990. Although the prevalence of past-month cocaine use among Whites age 12 to 17 and 35 and older was higher in 1997 than in 1990, it is difficult to assess the figures for these two age groups because the 1990 samples were too small for stable estimates. Lower rates of use are noted for those age 18 to 25 in all racial/ethnic groups in 1997.

As with most drugs in both 1990 and 1997, the prevalence of past-month cocaine use was higher among males than females (exhibit 18). However, when the 1997 prevalence is compared across age groups, the ratio of females to males age 12 to 17 (1.1 to 0.9) is quite similar.

Although the prevalence of past-month cocaine use did not differ greatly by region in either 1990 or 1997, prevalence in the South and West was comparable in 1990 and 1997 while the 1997 prevalence in the Northeast decreased by one-third (exhibit 19).

Cigarette and Alcohol Use. An estimated 64 million people, or 30 percent of the household population age 12 and above, reported smoking cigarettes within the month prior to the 1997 NHSDA. In 1990, 26.7 percent reported smoking cigarettes. Among those age 12 to 17 in 1997, 9.7 percent reported having smoked during the prior month, up significantly from 1.9 percent in 1990.

Alcohol was used in the month prior to the 1997 NHSDA by an estimated 111 million people. Of these, 32 million reported binge drinking, that is having 5 or more drinks on a single occasion in the prior month. Of these binge drinkers, 4.8 million were age 12 to 20.

Estimated Mean Age of Onset and Age-specific Rates of Initiation. As estimated by the staff of the National Household Survey on Drug Abuse, the mean age at which persons initiated use of marijuana, cocaine, inhalants, hallucinogens, heroin, and daily cigarette use has decreased over time since the survey began, whereas the mean age of first use of alcohol and cigarettes has remained stable (exhibit 20). Although "mean age" is an important measure, age-specific rates of first use (per 1,000 person-years of exposure) indicate that, for those age 12 to 17, the 1996–1997 data show the highest rates of use since the survey began in 1975 for marijuana, cocaine, inhalants, heroin, alcohol, cigarettes, and daily use of cigarettes.

2. Emergent Drug Abuse Problems

The most recent information available on emergent drug abuse problems from the Community Epidemiology Work Group is summarized in the *Advance Report* of the December 1998 meeting held in Miami, Florida.

Heroin. Increases in heroin indicators were noted for 12 of the 20 CEWG cities; overall, this represents a continued trend that was initially observed 3 to 5 years ago. These same indicators were fairly stable in seven other cities, including the three East Coast cities: Newark, Baltimore, and New York City. Interestingly, in San Francisco, heroin indicators varied; emergency department mentions declined while arrests remained stable and medical examiners reports increased.

The two sources of heroin that dominate the United States market are from Mexico and South America. Mexican heroin is available

in either brown powdered form or as black tar, while South American heroin is in white powdered form. Mexican heroin is less pure (average 39 percent) than that from South America (60–70 percent) and is more likely to be injected than snorted. Although the Mexican heroin is most available on the West Coast, it has been reported in Atlanta, Chicago, Minneapolis/St. Paul, and St. Louis. Black tar heroin has been noted in Hawaii, Denver, Seattle, and in Texas.

Cocaine. Cocaine is very much a part of the drug scene in the United States. While cocaine indicators have remained stable or even decreased in 17 CEWG cities, they have been increasing in Chicago, Detroit, Minneapolis/St. Paul, and Phoenix. Most of the increases were noted for overdose deaths and emergency room mentions. Crack cocaine is readily available in all cities. Female arrestees appear to have higher rates of cocaine/crack use than their male counterparts.

Marijuana. Continuing a trend noted in the early 1990s, marijuana indicators have increased. A 132 percent increase has occurred in emergency department mentions since 1992. In the reporting period January–June 1997, the highest rates of emergency department marijuana mentions were in New Orleans, Philadelphia, Detroit, Seattle, and Chicago. In 1998, drug abuse treatment admissions for marijuana continued to increase in New Orleans and Detroit. For New York City, it was reported that "cannabis arrests continue to mount and may surpass cocaine and heroin arrests by the end of 1998." Student surveys in the States of Washington and Texas show sharp increases in use of marijuana. Finally, data from the Centers for Disease Control and Prevention Youth Risk Behavior Surveillance System, which asks high school students about marijuana use and a variety of risk behaviors, showed that students in Washington, D.C. had the highest estimated lifetime (52 percent) and past-month (29 percent) prevalence for marijuana use of all the CEWG cities.

Methamphetamine. Changes in the production and trafficking of methamphetamine have impacted where and by whom this drug was used. Indicators for methamphetamine continued to increase for most of the CEWG areas located in the West and Southwest. San Francisco, Los Angeles, San Diego, Phoenix, Seattle, Denver, St. Louis, and Minneapolis/St. Paul all reported increases in one or more methamphetamine indicators. Concern about the spread of methamphetamine use to new areas of the country and among new populations prompted NIDA to sponsor ethnographic studies in five cities: Seattle, Sacramento, Atlanta, New York City, and Denver.

Other Drugs. Other drugs that were discussed at the December 1998 CEWG meeting were: MDMA (3,4-methylenedioxymethamphetamine), GHB (gamma-hydroxybutrate), benzodiazepines (alprazolam, clonzepam, diazepam, lorazepam), and codeine. MDMA, a stimulant with hallucinogenic properties, is also known as XTC, ecstasy, Clarity, and Essence. Its use is associated with young people at parties such as raves and at clubs. Indicators of MDMA use were reported for Atlanta, Boston, Chicago, Miami, New York City, and Washington, D.C. A 1996–1997 school survey in Massachusetts estimated that 14 percent of males and 7 percent of females in the 12th grade reported having tried MDMA at least once.

GHB indicators were reported in Boston, Denver, Detroit, Miami, Minneapolis/St. Paul, New Orleans, Phoenix, San Francisco, Seattle, and Texas. Used medically as a growth hormone to stimulate muscle growth,

GHB can produce euphoria and hallucinatory effects when abused. GHB use has been observed at raves. GHB appears to be abused by adolescents, often with serious health effects.

Benzodiazepines continue to be abused in many cities. This has been reported in Boston, Chicago, San Francisco, Seattle, and Texas where use of benzodiazepines is emerging as a major problem. These drugs are used by heroin addicts.

Codeine indicators were high in Boston, Detroit, San Diego, San Francisco, and in Texas.

CONCLUSIONS

Several conclusions about drug-abusing behaviors in the United States are evident. First, although the overall prevalence of illicit drug use has remained fairly stable over the last several years, there has been an increase in the number of young people age 12 to 17 who have initiated drug use. The Monitoring the Future Study data were not reported in this paper; however, a few observations from the 1998 survey are warranted. Illicit drug use among 8th, 10th, and 12th graders increased since the early 1990s after a period of decreased use. In 1998, a decline in use of drugs, first noted for 8th graders in 1997, was observed for all three grades. In both periods of increases and decreases in drug use in these student populations, use of marijuana has been the major explanatory drug. Despite the increases and decreases in marijuana use, it remains a widespread problem among 8th graders (22 percent reported they had tried marijuana) and among 10th and 12th graders (39.6 percent and 49 percent, respectively, had used the drug). In addition, although the 1998 survey indicated decreases in the use of other drugs such as heroin, powder cocaine, and inhalants, there have been increasing reports of the use of crack cocaine and tranquilizers. Furthermore, the use of stimulants which declined among 8th and 10th graders stabilized among 12th graders, as did the use of hallucinogens in all three grade levels. Finally, it should be mentioned that there is some indication that drug abuse prevention programming has been improving in the United States. During this past year, one of the major funders of school prevention programs, the U.S. Department of Education's Safe and Drug-Free Schools, has tied funding to the delivery of research-based drug prevention programs. Drug Strategies, a non-profit research institute that periodically reviews existing prevention programs, reported in *Making the Grade* (Drug Strategies 1999) that there has been a marked improvement in the content of prevention programs in the past 3 years. However, taking research-based interventions from the "laboratory" and delivering them with fidelity within the community requires an understanding of diffusion technology that has not yet been thoroughly studied. The future yet holds opportunities for addressing drug abuse among the young people in the United States with both effective prevention and treatment interventions that are responsive to changing community-based patterns of drug use. With better methods for defining these emergent problems and linking them to quality services, the interventions should eventually impact positively on the prevalence of drug abuse.

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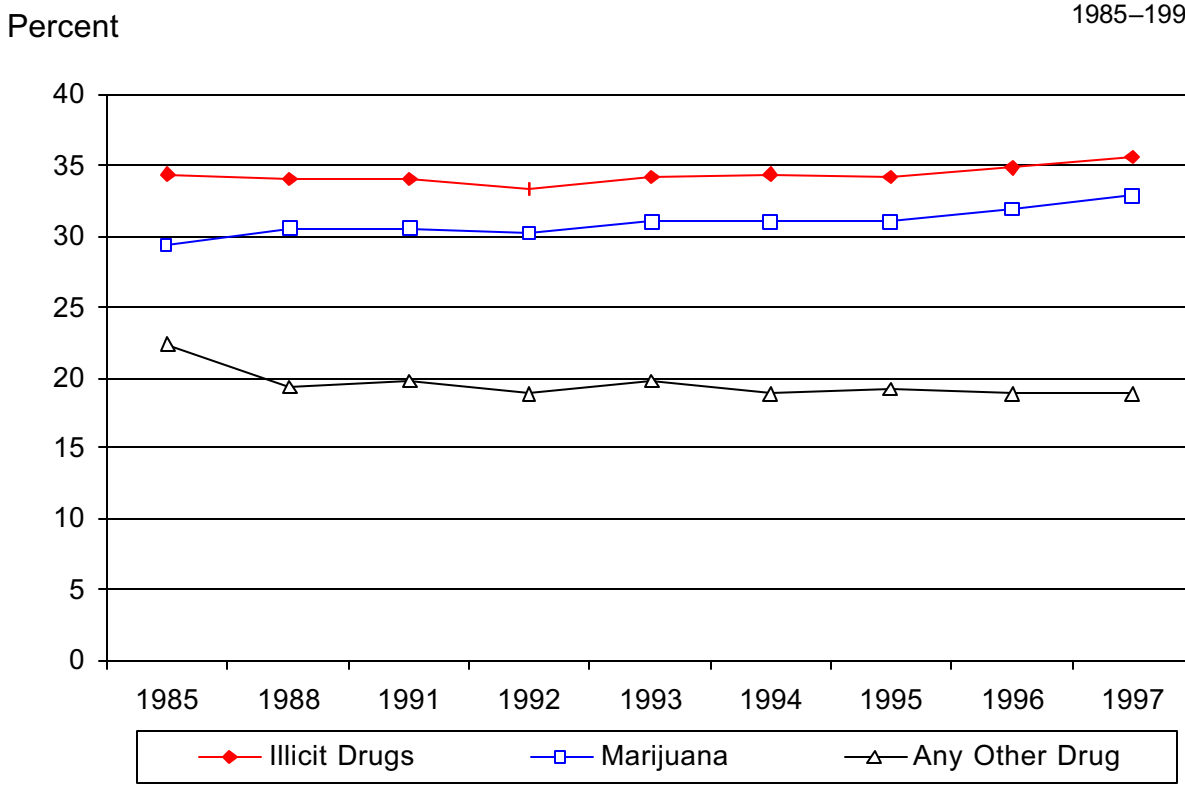
EXHIBIT 1

CITIES/AREAS INCLUDED IN THE DECEMBER 1998
COMMUNITY EPIDEMIOLOGY WORK GROUP MEETING

Atlanta	Los Angeles	Phoenix
Baltimore	Miami	San Diego
Boston	Minneapolis/St. Paul	San Francisco
Chicago	Newark	Seattle
Denver	New Orleans	St. Louis
Detroit	New York	Texas
Honolulu	Philadelphia	Washington, D.C.

EXHIBIT 2

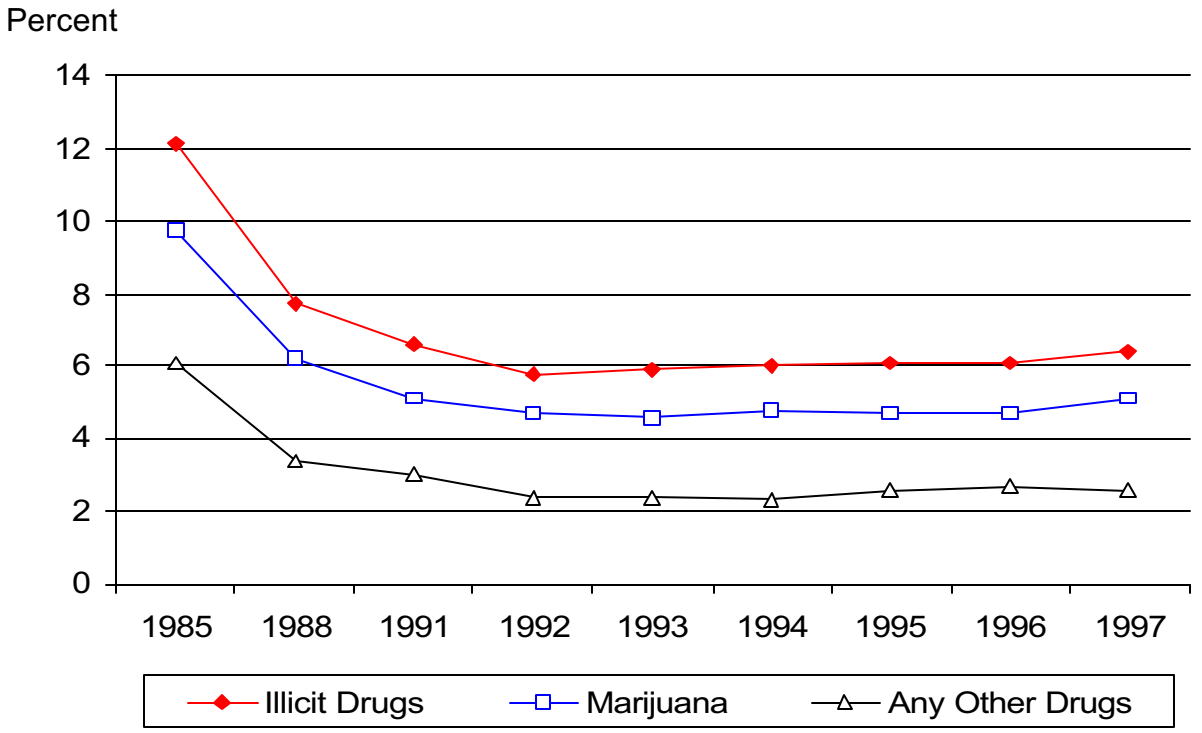
LIFETIME USE OF ILLICIT DRUGS, MARIJUANA, AND ANY OTHER DRUG:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE
1985–1997



SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1998

EXHIBIT 3

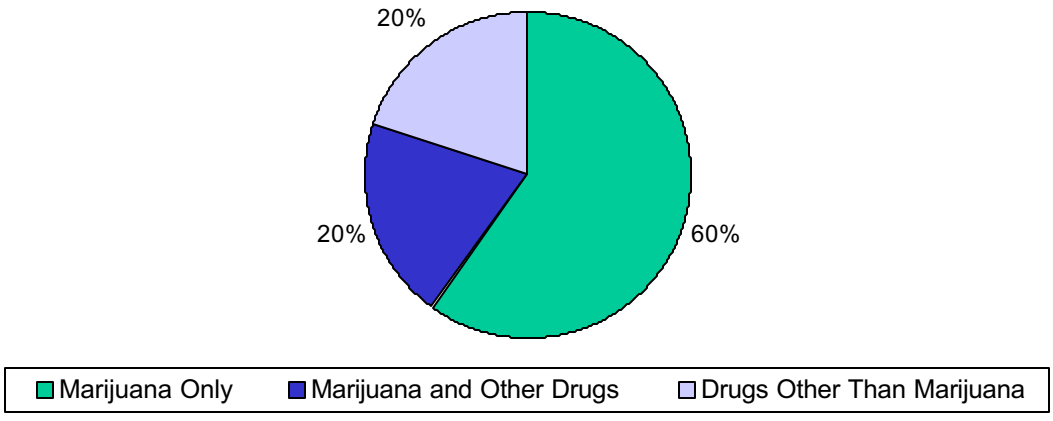
PAST-MONTH USE OF ILLICIT DRUGS, MARIJUANA, OR ANY OTHER DRUG:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE
1985–1997



SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1998

EXHIBIT 4

DRUGS USED IN THE MONTH PRIOR TO SURVEY AMONG PERSONS AGE 12 AND OLDER:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE
1997



SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1998

EXHIBIT 5

ESTIMATED PERCENTAGE AND NUMBER OF PEOPLE AGE 12 AND OLDER
WHO USED ILLICIT DRUGS IN THE PRIOR YEAR
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE
1997

Drug	Percent		1997 Estimated Number
Marijuana and/or Hashish	9.0 percent	or	19.4 million people
Cocaine (powder)	1.9 percent	or	4.2 million people
Analgesics*	1.9 percent	or	4.2 million people
Hallucinogens	1.9 percent	or	4.1 million people
Inhalants	1.1 percent	or	2.3 million people
Tranquilizers*	1.0 percent	or	2.1 million people
Lysergic acid diethylamide (LSD)	0.9 percent	or	1.9 million people
Stimulants*	0.8 percent	or	1.7 million people
Crack/cocaine	0.6 percent	or	1.4 million people
Heroin	0.3 percent	or	0.6 million people
Sedatives*	0.3 percent	or	0.6 million people
Phencyclidine (PCP)	0.2 percent	or	0.4 million people

* Includes non-medical use of any prescription-type stimulant, sedative, tranquilizer, or analgesic; does not include over-the-counter drugs

EXHIBIT 6

COMPARISON OF PAST-MONTH PREVALENCE OF
USE OF SELECTED DRUGS FOR 1990 AND 1997:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE

Substance	Percent 1990	Percent 1997
Marijuana	5.1	5.1
Cocaine	0.8	0.7
Cigarettes	26.7	29.6
Alcohol	51.2	51.4
Heavy Alcohol Use*	5.0	5.4

* Heavy Alcohol Use is defined as drinking 5 or more drinks on the same occasion on each of 5 or more days in the past 30 days

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1998

EXHIBIT 7

PAST-MONTH USE OF ILLICIT DRUGS
AMONG ALL RESPONDENTS AND THOSE 12–17 AND 18–25 BY PERCENTAGE:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE
1985–1997

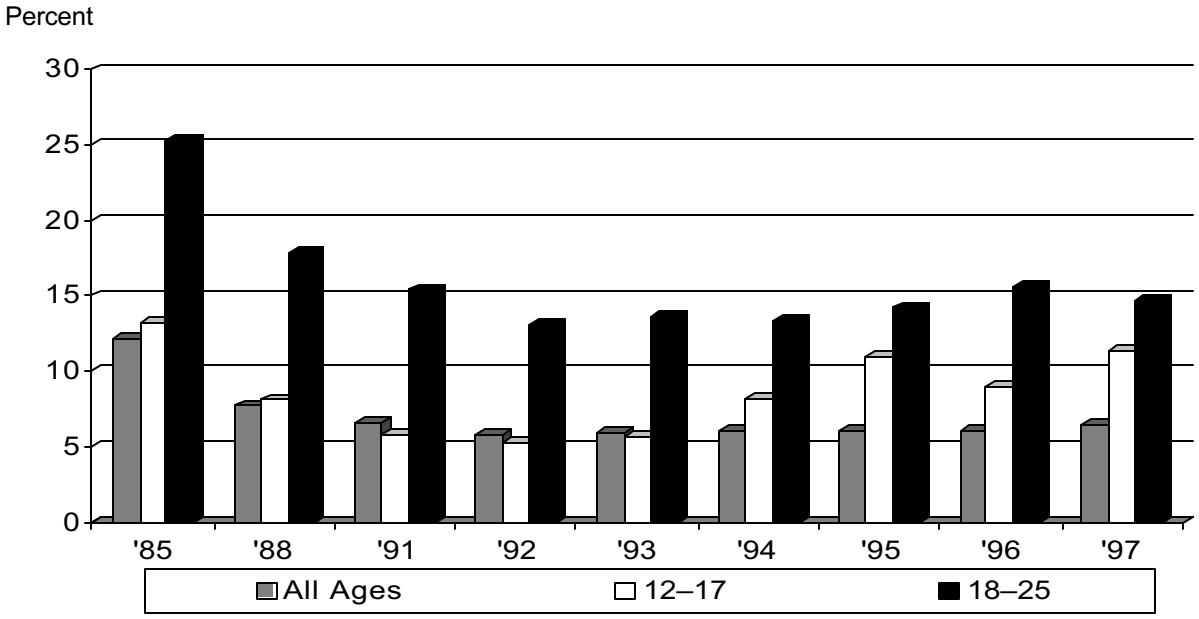


EXHIBIT 8

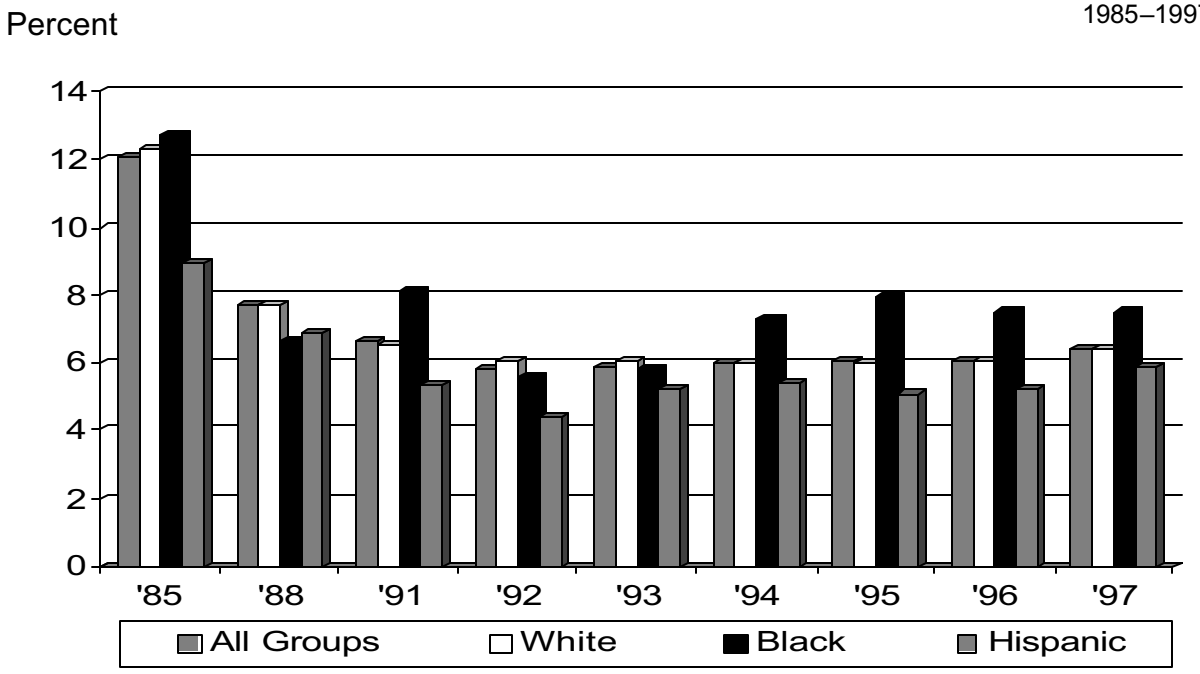
PAST-MONTH USE OF ILLICIT AND LICIT DRUGS AND BINGE
DRINKING BY SUBSTANCE, AGE GROUP, AND PERCENTAGE:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE
1997

Drug/Use	Age Group 12–17	Age Group 18–25	Age Group 26–34	Age Group 35 and Older
Marijuana	9.4	12.8	6.0	2.6
Inhalants	7.2	10.1	8.3	3.8
Hallucinogens	6.5	15.0	15.1	7.4
Cocaine	1.0	1.2	0.9	0.5
Heroin	0.5	1.0	1.0	1.0
Methamphetamine	1.2	2.3	2.7	2.6
Cigarettes	19.9	40.6	33.7	27.9
Alcohol	20.5	58.4	60.2	52.8
Binge Drinking	8.3	28.0	23.1	11.7

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1998

EXHIBIT 9

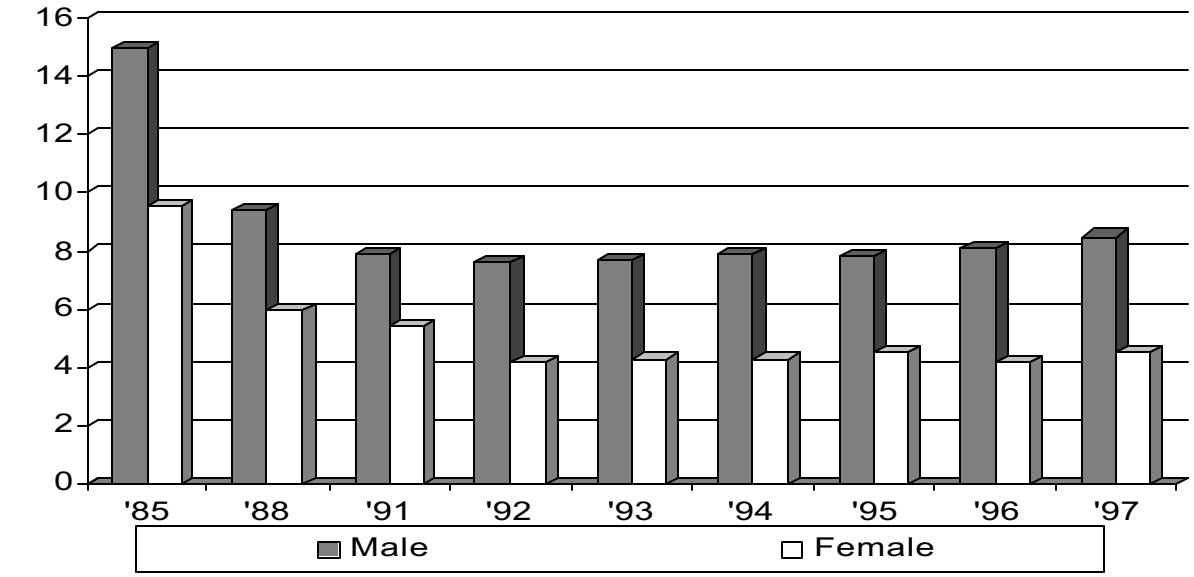
PAST-MONTH USE OF ANY ILLICIT DRUG BY RACE/ETHNICITY:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE
1985–1997



SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1998

EXHIBIT 10

PAST-MONTH USE OF ANY ILLICIT DRUG BY SEX:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE
1985–1997



SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1998

EXHIBIT 11

COMPARISON OF 1990 AND 1997 PAST-MONTH PREVALENCE
OF MARIJUANA USE BY AGE AND PERCENTAGE:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE
1990 AND 1997

Age	1990	1997
12–17	5.2	9.4
18–25	12.7	12.8
26–34	8.6	6.0
35 and older	1.9	2.6

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1998

EXHIBIT 12

COMPARISON OF 1990 AND 1997 PAST-MONTH PREVALENCE
OF MARIJUANA USE BY RACE/ETHNICITY, AGE AND PERCENTAGE:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE
1990 AND 1997

Race/Ethnicity	1990	1997
White	5.0	5.2
12–17	5.9	9.8
18–25	13.8	13.4
26–34	8.3	6.9
35 and older	1.8	2.6
Black	6.7	6.1
12–17	3.4	9.1
18–25	12.6	14.1
26–34	13.5	5.7
35 and older	2.7	3.1
Hispanic	4.7	4.0
12–17	4.3	8.4
18–25	8.2	7.8
26–34	7.2	2.4
35 and older	1.9	2.1

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1998

EXHIBIT 13

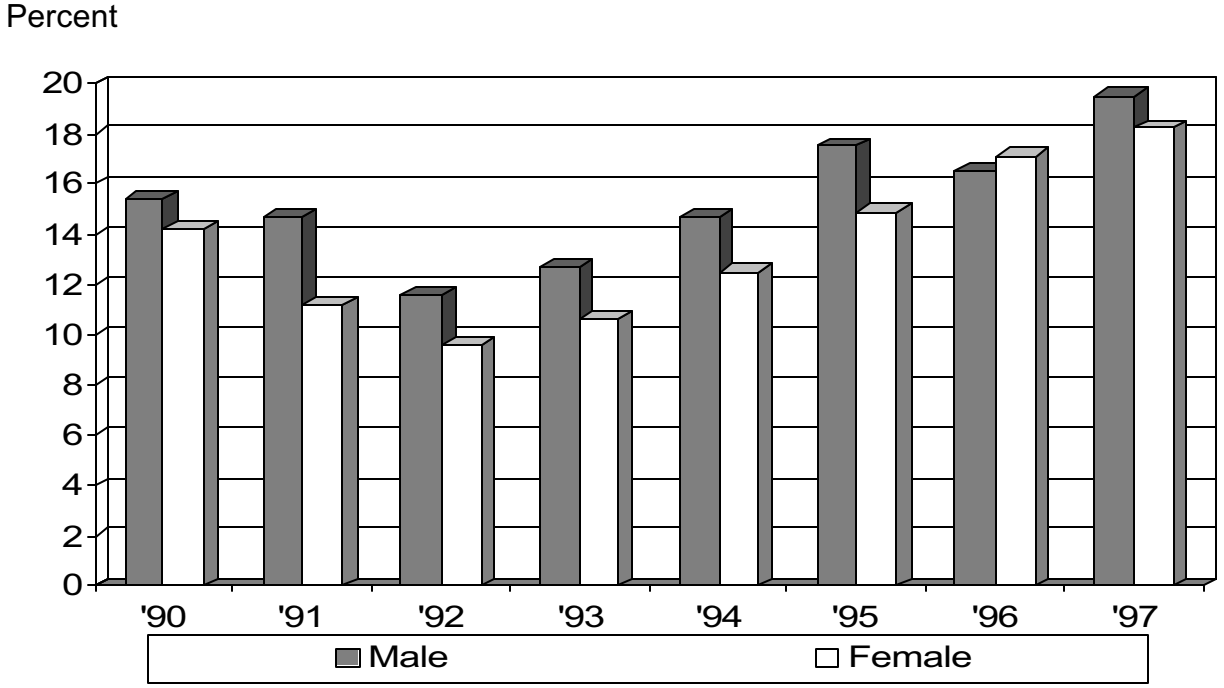
COMPARISON OF 1990 AND 1997 PAST-MONTH PREVALENCE
OF MARIJUANA USE BY SEX, AGE AND PERCENTAGE:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE
1990 AND 1997

Sex	1990	1997
Male	6.4	7.0
12–17	6.0	10.3
18–25	16.5	17.4
26–34	9.7	7.7
35 and older	2.5	3.7
Female	3.9	3.5
12–17	4.3	8.4
18–25	9.1	8.2
26–34	7.5	4.2
35 and older	1.4	1.5

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1998

EXHIBIT 14

LIFETIME PREVALENCE OF MARIJUANA USE AMONG 12–17 YEAR-OLDS:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE
1990 AND 1997



SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1998

EXHIBIT 15

COMPARISON OF 1990 AND 1997 PAST-MONTH PREVALENCE
OF MARIJUANA USE BY REGION, AGE AND PERCENTAGE:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE

Region	1990	1997
Northeast	5.5	3.8
12–17	5.9	9.6
18–25	15.4	11.9
26–34	10.2	3.2
35 and older	1.9	1.7
North Central	5.7	6.3
12–17	5.3	10.9
18–25	12.4	12.2
26–34	9.7	8.8
35 and older	2.2	3.6
South	4.0	4.5
12–17	5.1	8.4
18–25	10.2	12.2
26–34	8.0	4.8
35 and older	0.9	1.9
West	5.7	6.2
12–17	4.4	9.8
18–25	15.4	15.6
26–34	7.0	6.9
35 and older	3.2	3.4

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1998

EXHIBIT 16

COMPARISON OF 1990 AND 1997 PAST-MONTH PREVALENCE
OF COCAINE BY AGE AND PERCENTAGE:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE

Age	1990	1997
12–17	0.6	1.0
18–25	2.2	1.2
26–34	1.7	0.9
35 and older	0.2	0.5

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1998

EXHIBIT 17

COMPARISON OF 1990 AND 1997 PAST-MONTH PREVALENCE
OF COCAINE USE BY RACE/ETHNICITY, AGE, AND PERCENTAGE:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE

Race/Ethnicity	1990	1997
White	0.6	0.6
12–17	0.4	1.1
18–25	1.9	1.2
26–34	1.3	0.7
35 and older	—	0.4
Black	1.7	1.4
12–17	—	0.1
18–25	3.6	0.9
26–34	4.2	1.8
35 and older	—	1.7
Hispanic	1.9	0.8
12–17	—	1
18–25	3.2	1.5
26–34	2.5	0.9
35 and older	—	0.5

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1998

EXHIBIT 18

COMPARISON OF 1990 AND 1997 PAST-MONTH PREVALENCE
OF COCAINE USE BY SEX, AGE, AND PERCENTAGE:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE

Sex	1990	1997
Male	1.1	0.9
12–17	0.7	0.9
18–25	2.8	1.9
26–34	2.4	1
35 and older	—	0.6
Female	0.5	0.5
12–17	—	1.1
18–25	1.6	0.5
26–34	1.1	0.7
35 and older	—	0.4

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1998

EXHIBIT 19

COMPARISON OF 1990 AND 1997 PAST-MONTH PREVALENCE
OF COCAINE USE BY REGION, AGE AND PERCENTAGE:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE

Region	1990	1997
Northeast	0.9	0.6
12–17	—	0.5
18–25	—	0.6
26–34	2.8	0.5
35 and older	0.3	0.7
North Central	0.7	0.6
12–17	—	0.9
18–25	2.2	1.4
26–34	—	0.4
35 and older	—	0.5
South	0.7	0.7
12–17	0.6	0.9
18–25	2.1	0.8
26–34	1.4	1.2
35 and older	—	0.4
West	0.9	0.9
12–17	—	1.5
18–25	2.2	2.3
26–34	2.3	1.1
35 and older	—	0.4

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1998

EXHIBIT 20

MEAN AGE AND AGE-SPECIFIC RATES OF FIRST USE
OF SELECTED SUBSTANCES FOR THOSE AGE 12–17 AND 18–25:
UNITED STATES, NATIONAL HOUSEHOLD SURVEY ON DRUG ABUSE
1997

Substance	Mean Age	Age-Specific Rate[1] of First Use	
		12-17	18-25
Marijuana	1.64 *	83.2 **	53.6
Cocaine	18.7 *	11.3 **	14.8
Inhalants	16.3	21.0 **	12.4
Hallucinogens	17.2 *	25.8 ++	21.2 ++
Heroin	18.1 *	3.9 **	2.3 *+
Alcohol	16.2	165.4 **	243.3 *+
Cigarettes	15.6	139.1 **	85.8 * +
Daily Cigarette Use	17.3 *	77.8 **	68.4

[1] Per 1,000 person-years of exposure
* Lowest mean age since the survey began in 1975
** Highest rate since the survey began in 1975
++ Highest rates in 1995–1996 and 1996–1997 since the survey began in 1975
*+ Highest rates in the past 20 years

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, 1998

THAILAND REPORT

METHAMPHETAMINE AND OTHER DRUG ABUSE PATTERNS IN THAILAND

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Information Systems Development Division
Office of Narcotics Control Board (ONCB)

In 1997, 38,895 clients were enrolled in drug abuse treatment programs in Thailand. Heroin was reported as the most frequently used drug in the 30 days prior to admission by 63.7 percent of the treatment clients, followed by methamphetamine (25.3 percent) and opium (6.1 percent). During the past 5 years, there has been a sharp increase in methamphetamine abusers entering treatment and a dramatic decrease in heroin admissions. Methamphetamine-abusing clients tend to smoke the drug (54.6 percent) while most heroin abusers inject (97.7 percent). The number of methamphetamine offenders increased from 12,864 in 1994 to 114,307 in 1997. During the same period, the number of heroin offenders decreased from 34,065 to 12,403, and marijuana offenders decreased from 49,932 to 23,602. A survey (which included urine screening) of the student population in Thailand showed that 2.4 percent of vocational school students tested positive for methamphetamine. Until recently, methamphetamine trafficking was controlled by large syndicates. In 1997–1998, the pattern of methamphetamine trafficking changed, and there was an increase in new and small-scale dealers. In 1998, methamphetamine production was found in 18 provinces.

INTRODUCTION

1. Area Description

Located in Southeastern Asia, Thailand borders the Andaman Sea and the Gulf of Thailand and the nations of Burma, Cambodia, Laos, and Malaysia. Thailand encompasses 511,700 square miles and is divided, administratively, into 76 provinces. The capital city is Bangkok. The central part of Thailand is a plains area, the eastern part comprises the Khorat Plateau, with the rest being mountainous areas.

As of July 1998, the population of Thailand totaled 60,037,366. Twenty-four percent of the population are under 15 years of age while 6 percent are age 65 and above. Almost 94 percent of the population age 15 and older are literate. Most (94 percent) are Buddists. The unemployment rate is low (3.5 percent) and 54 percent of those in the labor force are involved in agriculture, an industry that accounts for only 10 percent of Thailand's gross domestic product (GDP). Thirty-one percent of the labor force are in services (including government), which accounts for more than 61 percent of the GDP. The per capita income in 1997 was $8,800 (in U.S. dollars).

2. Overview of the Drug Problem

Drugs have been a problem in Thailand for many years. The country is a minor producer of opium, heroin, marijuana and, more recently, methamphetamine. Thailand serves as a major illicit transit point for heroin en route to the international drug market from Laos and Burma. Thailand also is a drug money-laundering country. Some reductions have been achieved in the cultivation of opium poppy and marijuana but Thailand clearly plays a role as a methamphetamine transit point for regional consumption, and there is increasing methamphetamine abuse among the citizens of Thailand.

Much of this presentation will focus on the growing problem of methamphetamine production, trafficking, and abuse. In addition, trends in treatment for all types of illicit drug use will be presented, as will information on arrests for and seizures of such drugs as heroin, marijuana, and methamphetamine.

It should be noted that there are many different types of efforts to eradicate the drug problems in Thailand. The most significant measure is treatment because it is considered the most efficacious way to reduce the demand for drugs.

3. Data Sources

The sources of data for this paper include:

- **Treatment Data.** The numbers of clients in treatment for the years 1993 through 1997 were provided by the 59 private and 225 government-operated facilities in Thailand.

- **Arrest and Seizure Data.** Data on arrests and seizures related to heroin, methamphetamine, and marijuana were derived from the Office of the Narcotics Control Board (ONCB).

- **Student Use of Methamphetamine.** These data were derived from the 1996 urinalysis screening survey of a stratified random sample of 118,375 students from primary to undergraduate level in 69 of the country's 76 provinces. The survey was conducted by the Department of Medical Sciences, Ministry of Public Health, in collaboration with the Ministry of Education.

- **Methamphetamine Supply and Production.** These data were provided through a study conducted by the ONCB in 1995–1996.

OVERVIEW OF THE METHAMPHETAMINE PROBLEM

1. The Introduction of Amphetamines into Thailand

Amphetamine and methamphetamine were two amphetamine-type stimulants (ATS) introduced into Thailand during the period after World War II. Amphetamine was first brought into Thailand by foreign soldiers; its use spread among laborers and among sex workers in entertainment venues. The drug was imported and there was no production during the post-World War II period.

An analysis of amphetamine tablets seized in Thailand during 1961–1970 showed that all tablets contained sulfated-type substances. After 1971, importation became more difficult and the substance changed from amphetamine sulfate to methamphetamine hydrochloride.

2. The Spread and Production of Methamphetamine

Methamphetamine began to spread widely in 1987 when Hong Kong and Taiwanese chemists started producing the drug along Thai territory by using ephedrine as a precursor for synthesis to methamphetamine.

In a series of studies on the development and supply of methamphetamine in 1995–1996, the ONCB found that illicit methamphetamine tablets were purchased from selling points (gasoline stations, food and commodity shops) along the highway in the northeastern, central, and southern regions.

In 1996, when another series of methamphetamine tablets was manufactured, ONCB purchased 301 samples in communities in 50 provinces. About three-quarters of the tablets contained a combination of methamphetamine hydrochloride and caffeine. The average quantity of methamphetamine hydrochloride in a 90–100 milligram tablet was around 15–25 milligrams; another 40–60 milligrams of caffeine were in each tablet (with the other substances being a "placebo"). About 12 percent of the tablets contained ephedrine as well as methamphetamine hydrochloride and caffeine.

Illicit methamphetamine laboratories are now scattered from the central region of Thailand to many provinces in the North and Northeast. In 1998, methamphetamine was being produced in 18 provinces including Chaing Mai, Lamphun, Nan, Tak, Kamphaeng Phet, Loei, Udonthani, Chaiyaphum, Nakhon Ratchasima, Nakhon Phanon, Khanchanaburi, Ratchaburi, Chonburi, Samut Prakan, Cha Choengsao, Rayong, and Bangkok.

There are two types of the clandestine methamphetamine laboratories. One is the large-scale manufacturing site, which operates every process of the production: synthesizing, tableting, packaging, and distribution. There are two types of machines, rotary and single-punch machines, which can produce a large quantity of drugs in an hour. This type of laboratory is usually operated by the drug syndicate which has links with methamphetamine hydrochloride sources outside Thailand.

The second type of laboratory is usually operated by small-scale drug producer groups that are comprised of a few individuals or a distributor, all of whom want to gain more profit from the drug business. These types of laboratories usually obtain raw materials such as methamphetamine hydrochloride and other substances from dealers for tableting. They operate the tableting process by using a rotary or single-punch tableting machine that can produce 1,000 tablets a day.

In addition to domestic production, methamphetamine is smuggled from manufacturing sites into the deep forest areas along the northern and northeastern borders of Thailand. Smugglers supply more than 80 percent of the methamphetamine in Thailand's illicit drug market. It has been reported that most of the smuggled methamphetamine is brought into Thailand through the northern, northeastern, and eastern border areas:

- In the North, methamphetamine is smuggled through the areas of Mae Sai District, Mae Fa Luang District, Chiang Saen District of Chiang Rai Province, Fang District, Mae Aye District, and the Chiang Dao District of Chiang Mai Province.

- In the Northeast, methamphetamine is smuggled through the areas of Muang District of Nong Khai Province, Tha Lee District of Loei Province, Tha U-Thain

District of Nakhon Phanom Province, Muang District of Mukdahan Province, Sirinthorn District of Ubon Ratchathani Province, and Chanumarn District of Umnat Charoen Province.

- In the East, methamphetamine is smuggled through the areas of Klong Yai District of Trat and Pong Nam Ron District of Chanthaburi Province.

3. Trafficking of Methamphetamine

Prior to 1996–1997, methamphetamine trafficking was controlled by big syndicates because only the large and reliable wholesale trafficking groups could make direct contact with the manufacturing groups in the country and address manufacturers' safety concerns. These syndicates redistributed methamphetamine to other small-scale and medium-scale traffickers. The volume of each trafficking between the manufacturer and the syndicate was quite large—more than 100,000 methamphetamine tablets in each transaction.

In 1997 and 1998, the pattern of methamphetamine trafficking began to change. More small-scale and new methamphetamine dealers emerged and methamphetamine trafficking became more widespread.

It has been found that some traffickers attempt to export methamphetamine to the international drug markets. From 1995 to 1997, Thai authorities interdicted seven cases before trafficking from Thailand occurred. Also, 48,537 methamphetamine tablets were seized and 5 persons were arrested in other countries, with confiscation of 31,833 methamphetamine tablets. For the 80,370 methamphetamine tablets, the destinations were as follows:

Singapore	5 arrests	16,790 tablets
Switzerland	2 arrests	41,800 tablets
Indonesia	1 arrest	19,800 tablets
Denmark	1 arrest	1,000 tablets
Japan	1 arrest	565 tablets
Korea	1 arrest	415 tablets

The main route of trafficking is by air from the Bangkok International Airport. For trafficking to Singapore, there is also a land route from the southern part of Thailand through Malaysia.

4. Methamphetamine Abuser Groups

Methamphetamine is used by various groups in Thailand; however, most methamphetamine abusers are laborers and youth. Most laborers use methamphetamine for economic reasons; they believe it can increase their energy, help them to work longer hours and, thus, help increase their wages. Youth take methamphetamine mainly for fun in group gatherings.

Oral consumption of methamphetamine is the most frequent route of administration among labor groups, while smoking is the preferred route of administration among youth groups. Smoking seems to have become the preferred route of administration throughout the country. Users put the amphetamine tablet on aluminum foil, heat it, and smoke the fumes using a paper pipe.

While the epidemic of methamphetamine abuse is widespread in Thailand, the abuse of methamphetamine is most serious in the northern part of the country where most methamphetamine was originally smuggled into Thailand. Methamphetamine abuse is

also the major drug problem in the upper portion of southern Thailand and is spreading in the central and northeastern part of the country.

Based on a 1993 study by the Thailand Development Research Institute, methamphetamine abusers comprise about one-fifth of the estimated 1.27 million drug abusers in Thailand. A 1996 survey of a stratified random sample of students (n = 118,375) from primary through undergraduate levels found, through urinalysis, that 1.2 percent of the students in 69 (of the 76) provinces tested amphetamine-positive. Prevalence was highest among vocational school students (2.4 percent) and students in the central (2.1 percent) and northern (1.9 percent) regions.

DRUG ABUSE PATTERNS AND TRENDS

In this section, the focus is on the treatment of drug abuse, drug-related arrests, and drug seizures. As will become evident, heroin is a major problem in Thailand but one that shows some decline as methamphetamine becomes more widely used.

1. Trends in Treatment Data

Exhibit 1 depicts the numbers of clients in treatment in Thailand from 1993 through 1997. As shown, the caseload peaked in 1995 when there were 54,313 persons in treatment. The 1997 caseload *(n = 38,895)* was the smallest over the 5-year time period.

In all 5 years, a sizeable proportion of the clients were new admissions. New admissions were highest in 1993 (53 percent of the total) and lowest in 1996 (44.8 percent). In the other 3 years, slightly more than half (51.6–52.8 percent) of the clients were new admissions.

Most treatment clients were young. Across the 5-year time span (1993–1997), around one-half of the clients were age 15 to 19 and only about 10 percent were age 30 or older. The proportion under age 15 increased about 1.6 times from 1993 to 1997 (from approximately 7.8 to 13 percent). Over 95 percent of the clients in all years were male.

Among treatment clients, heroin was the primary drug of abuse (as determined by use reported during the 30 days prior to admission; see exhibit 2). From 1993 to 1996, 81 to 90 percent of clients reported use of heroin during the 30 days prior to admission and another 5 to 9 percent reported use of opium during the 30-day period. In 1997, the proportion reporting use of heroin 30 days prior to admission dropped to 63.7 percent while those reporting methamphetamine use increased dramatically to one-fourth of the caseload. Prior to 1996 when 9.7 percent of the clients reported use of methamphetamine during the month before entering treatment, reports of methamphetamine use comprised only between 0.7 to 2 percent of the clients. Throughout the 5-year period, very small percentages of clients reported use of marijuana, volatiles, and other drugs during the 30 days before treatment entry.

Among heroin addict clients, injection continued to be the most frequent route of administration, and reports of heroin injection increased sharply from 1994 (63.5 percent of the heroin-addicted clients) to 1997 (97.7 percent). Smoking has been the most common mode of methamphetamine use; however, the proportions of methamphetamine-abusing clients who reported smoking the

drug decreased from 1994 to 1997 (64.2, 86.8, 91.9, and 54.6 in each of the respective years).

2. Drug Arrests

Data on arrests related to heroin, marijuana, and methamphetamine are primarily for drug possession and cover the years 1994 through 1998 (see exhibit 3).

In 1994–1995, the numbers of arrests related to heroin were around 34,000–41,000, while those for marijuana increased from slightly more than 49,000 to almost 51,000, and those related to methamphetamine increased from close to 13,000 to more than 20,000. In 1995, this pattern changed dramatically. Heroin and marijuana-related arrests decreased approximately 38 and 14 percent, respectively, while methamphetamine arrests rose 156 percent. This trend continued through 1998 when marijuana arrests dropped to 12,408 and heroin arrests declined to 23,602 while methamphetamine arrests soared to 114,307—a 789 percent increase over 1994.

3. Drug Seizures

Seizure data (1994–1998) follow the trends shown for treatment and arrest data, with decreases in seizures (in kilograms) of heroin and marijuana and substantial increases in the quantity of methamphetamine seized (exhibit 4). The total kilograms of methamphetamine seized in 1997 (2,183) represented an increase of nearly 170 percent from 1996, and the amount seized in 1998 represented a 30 percent increase from 1997.

Between 1994 and 1998, authorities destroyed between 10 to 18 methamphetamine laboratories each year. Sixteen were destroyed in 1997 and 15 were destroyed in 1998. In the destruction of labs in 1998, authorities seized 97.4 kilograms of methamphetamine powder, 45 kilograms of ephedrine powder, and 240,202 methamphetamine tablets.

EXHIBIT 1

THAILAND
NUMBER OF NEW AND TOTAL TREATMENT CLIENTS
1993–1997

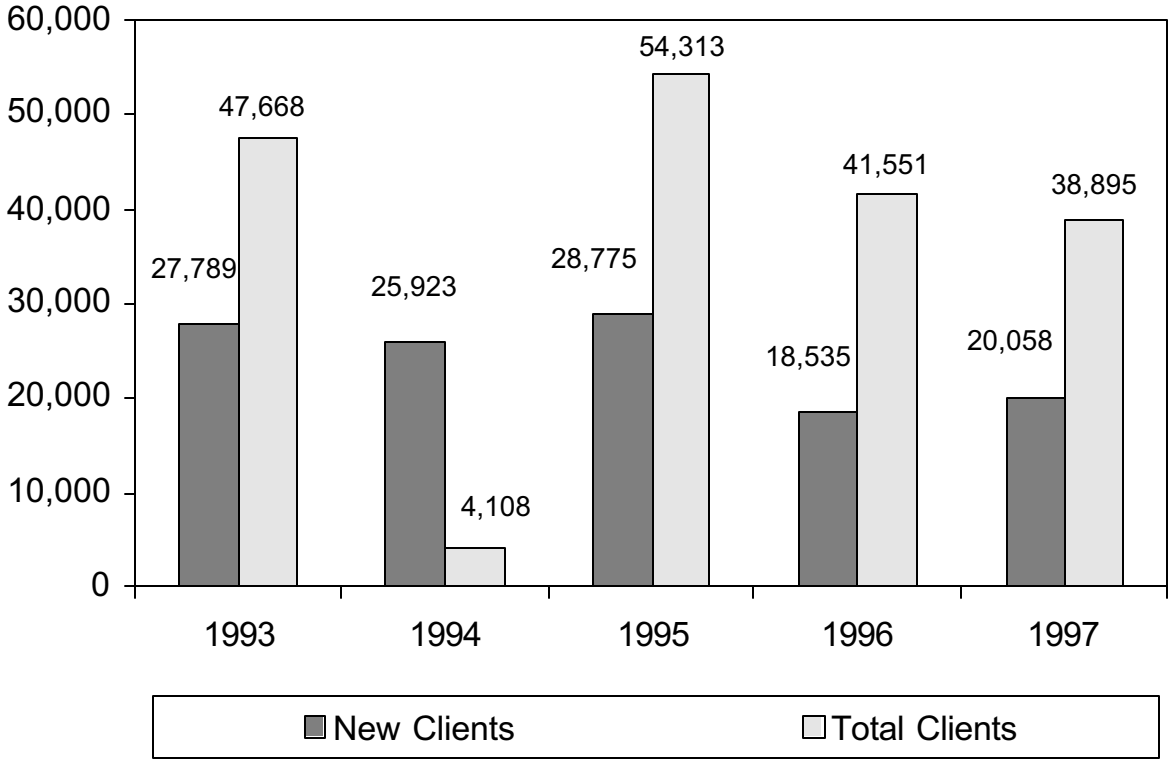

EXHIBIT 2

THAILAND
CLIENT DRUG USE 30 DAYS PRIOR TO TREATMENT
BY DRUG, YEAR AND PERCENTAGE
1993–1997

Drug	1993	1994	1995	1996	1997
Heroin	84.1	89.1	90.2	81.3	63.7
Opium	9.0	6.0	4.9	5.6	6.1
Methamphetamine	0.7	1.0	2.1	9.7	25.3
Volatiles[1]	2.5	1.8	1.6	1.9	2.7
Marijuana	1.8	1.8	0.9	1.2	1.3
Other Drugs	1.9	0.3	0.3	0.3	0.4

[1] Includes glue, thinner, and benzene

SOURCE: Treatment facilities

EXHIBIT 3

THAILAND
NUMBER OF ARRESTS RELATED TO HEROIN,
MARIJUANA, AND METHAMPHETAMINE BY YEAR
1994–1998

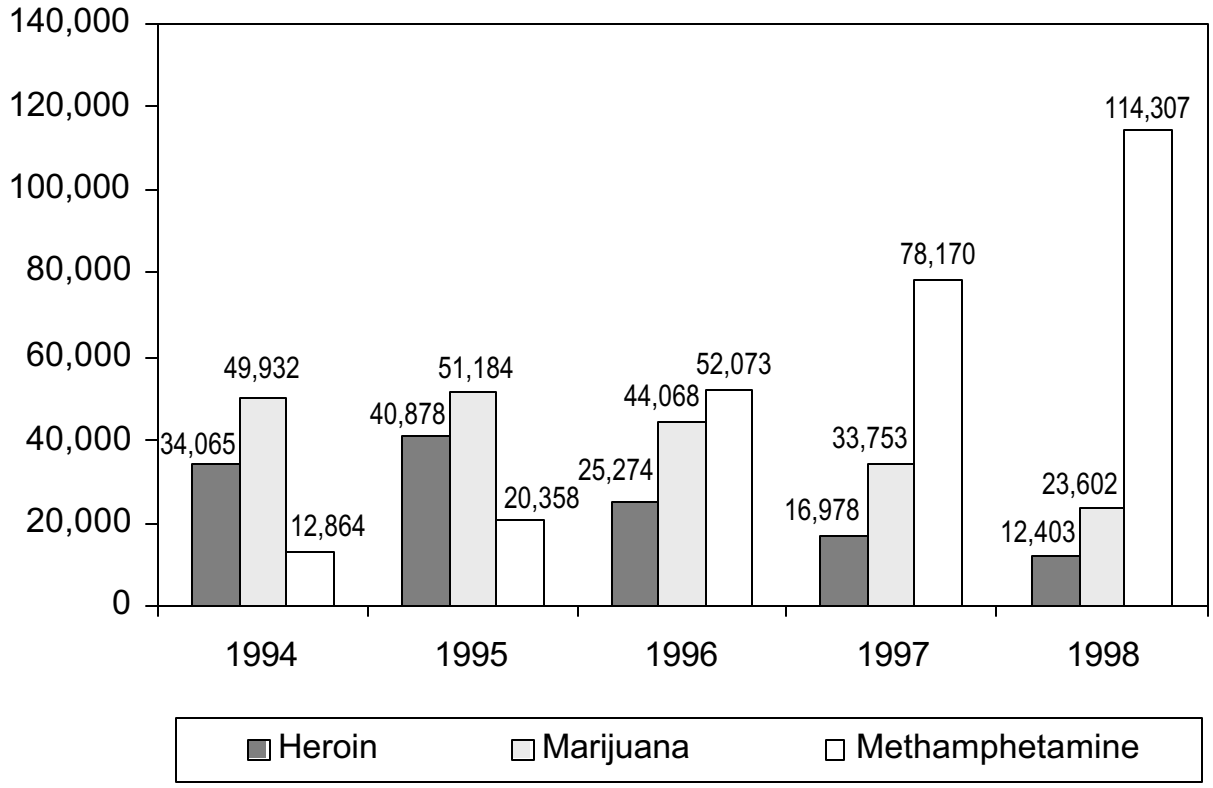

EXHIBIT 4

THAILAND
SEIZURES OF HEROIN, MARIJUANA, METHAMPHETAMINE,
AND VOLATILES IN KILOGRAMS BY YEAR
1994–1998

Drug in Kilograms	1994	1995	1996	1997	1998
Heroin	1,239	702	410	314	507
Marijuana	8,817	19,877	16,716	9,107	5,579
Methamphetamine	442	541	812	2,183	2,847
Volatiles[1]	939	1,158	996	829	561

[1] Includes glue, thinner, and benzene

SOURCE: Treatment facilities

INTER-AMERICAN SURVEILLANCE

INTER-AMERICAN DRUG USE DATA SYSTEM (SIDUC)

Anna McG. Chisman
Director of Programming Analysis and Demand Reduction
Inter-American Drug Abuse Control Commission (CICAD)
Organization of American States

The Inter-American Drug Control Commission (CICAD) of the Organization of American States developed the Inter-American Drug Use Data System (SIDUC) to serve as a unified, ongoing information system with decentralized data collection and analysis in Member States and a central database in Washington, D.C. Methods, instruments, and software for SIDUC efforts are being implemented in 25 countries and involve surveys in drug treatment centers, emergency rooms, medical examiners' offices, juvenile detention centers, and high schools. Training and technical assistance are provided to the researchers. Goals and objectives for the first round of the Multilateral Evaluation Mechanism (MEM), scheduled to begin in 2000, have been developed, along with indicators of progress in combatting the drug problem. The MEM will serve as a blueprint for future cooperation throughout the hemisphere.

INTRODUCTION

1. Overview

Is drug use rising in the Americas? Until recently, the response to this question has been that there are few data regionwide, because surveys have been done only once in some countries, and more evidence is needed before trends can be developed. However, reports from clinicians and community workers in certain cities and regions do indicate that powder cocaine and crack use is increasing. The Atlantic/Caribbean coast of Central America, including the Bay Islands of Honduras and Santa Marta in Colombia, is one such area, and there are also reports of increases in powder cocaine and crack use in port cities and tourist destinations throughout the hemisphere.

The history of drug abuse epidemiology in the Americas is one of sporadic efforts hampered by a lack of funding and a shortage of trained researchers. Many institutions and governments have taken up the challenge, only to let the research lapse. Too often, external donors, albeit with fine intentions, have sometimes made conflicting recommendations to countries on methodologies or instruments.

The member governments of the Organization of American States (OAS) recognize the need for statistics on drug use that are timely and reliable, comparable over time and across countries, and useful for planning drug abuse prevention and treatment programs. National Drug Control Commissions need data so they can track trends, develop risk-profiles of particular groups and, importantly, support their requests for research funds. In many countries where statistical systems are less developed, key informant and qualitative studies (ethnographic, community) may supply missing information.

THE INTER-AMERICAN DRUG USE DATA SYSTEM

1. Background

To help its Member States, CICAD developed the Inter-American Drug Use Data System (SIDUC). SIDUC is a unified, ongoing information system, with decentralized data collection and analysis in each country and a central database in Washington, D.C. SIDUC is based on the Central American multicity studies in emergency rooms, detention centers, and treatment centers that were organized and sponsored by CICAD in 1991–1996.

CICAD secured some financing for SIDUC and formed an international advisory committee to advise on the questionnaires and assure technical standards. The effort is being pilot tested in some 25 countries. The questionnaires, software, and methodology are available in both English and Spanish. Training has been provided for epidemiologists and researchers in each country and, through regular technical assistance and workshops, the participants have gained confidence in their capabilities as researchers. As governments review the findings, their staff are becoming more motivated to continue the investigations with government resources.

2. Research Focus

SIDUC calls for surveys to be conducted in drug treatment centers, emergency rooms, medical examiners' offices, juvenile detention centers, and high schools (using the amended version of the Drug Use Screening Inventory as adapted for Latin America (DUSI-R)). Vital statistics have been collected and, over time, household surveys will be conducted by those countries that have the financial capacity to do so.

Through a grant from the National Institute on Drug Abuse (NIDA), Professor James Anthony at The Johns Hopkins University and researchers from the countries of Central America, Panama, and the Dominican Republic will soon be conducting national high school surveys of 15 to 17 year-olds using a new version of DUSI, called PACARDO in Spanish.

Some problems have been encountered which, of course, is inevitable in a program that involves two dozen countries, different languages, and different socioeconomic levels. The first involves funding. Since in many of the countries, the interviewers, field supervisors, and data entry clerks must be paid, a lack of continuous financing means that either the research is delayed or a survey is simply not conducted. Second, many countries do not have established drug research institutes or human subjects review committees. The principal investigators who are coordinating SIDUC are very sensitive to the need for such committees and, when needed, have moved rapidly to establish them. Third, the research teams are fully aware that the survey instruments need to be modified. For example, the survey of medical examiners will probably be eliminated because of the difficulties experienced by many countries in collecting the information.

The researchers have discovered how important it is that their findings be interpreted for non-scientists and lay audiences, and that the implications be publicized to policymakers and the community.

FUTURE CICAD RESEARCH ACTIVITIES

CICAD's research program is being given renewed emphasis because of the Multilateral Evaluation Mechanism (MEM); this will involve all 34 Member States of the Organization of American States. The Heads of State and of Government agreed at their Summit in Santiago, Chile in 1998 to develop within CICAD a singular and objective process of multilateral government evaluation to monitor progress in the fight against drugs, with the intention of strengthening mutual confidence, dialogue, and cooperation. In the first pilot round of the MEM, scheduled to start in January 2000, some 60 indicators will be used. The indicators will cover drug use and demand reduction, law enforcement, money laundering and arms control, institution-building, national drug control strategies, and alternative development.

The MEM will begin, in the first round, with three statistical indicators on drug use:

- The annual incidence of new users of illicit drugs
- The prevalence in the general population (or existence of a system to allow for diagnosis of drug use in the general population)
- The average age of first use of any illicit drug

The Multilateral Evaluation Mechanism also will have indicators to monitor the existence of the key building blocks in any national demand reduction strategy:

- Existence of an approved national strategy in demand reduction
- Prevention programs for key populations (and percentage coverage)
- Drugs in the workplace programs
- Adoption of the United Nations Guiding Principles on Demand Reduction
- Programs covering the treatment continuum
- Training programs for health care professionals and others
- Minimum standards of care in drug treatment
- Prevention research and program evaluation
- Evaluation of treatment and rehabilitation programs and modalities

The MEM will have its own database. The first round of evaluations will be completed by December 2000. The evaluations will undoubtedly reveal areas of drug abuse prevention, treatment, and research where more effort is needed. On the basis of the needs assessment, each country will be able to develop a blueprint for action. Such a blueprint should serve also to coordinate the cooperation provided by the international donor community to the countries of the Americas.

At its most recent meeting, CICAD asked the Executive Secretariat to draw up a plan to create an Inter-American Observatory on Drugs, a program similar to the European Monitoring Centre on Drug Abuse in Lisbon. This would bring together, under one umbrella, the various strands of epidemiological research, data collection, MEM indicators, and information that CICAD and the Member States have been developing for the last 15 years. The plan will be considered at CICAD's next meeting in October 1999.

GLOBAL TRENDS IN DRUG ABUSE

GLOBAL TRENDS IN DRUG ABUSE

Mary Jansen
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The World Health Organization (WHO) has recently implemented several new initiatives. Initiatives undertaken by WHO's Substance Abuse Department focus on implementing scientific studies of global prevention and treatment of substance abuse and strengthening the capabilities of countries to utilize the knowledge and practices. Intervention research is focused on a comprehensive approach to alcohol abuse, the effects of urbanization and drug abuse on young people, and programs designed to respond to the human immunodeficiency virus (HIV) crisis that leads to the acquired immunodeficiency syndrome (AIDS). Research on 'global disease burden'(GBD) shows that alcohol dependence accounted for 1.3 percent of the GBD in 1998; drug dependence accounted for 0.5 percent of the GBD. In Europe and North America, it is estimated that 23 percent of the AIDS cases are associated with injection drug use. Effective interventions for preventing the spread of HIV include prevention education, community outreach to injection drug users, provision of sterile injection equipment, and increased access to drug treatment.

INTRODUCTION

1. New Initiatives of Who

Since July 1998, WHO's newly appointed Director General, Dr. Gro Harlen Brundtland, has implemented a number of new initiatives. One is a corporate strategy designed to collect, analyze, and disseminate data that will illustrate how investing in health is one avenue toward alleviating poverty and achieving global health in the next century.

WHO recently published an analysis of global health entitled *The World Health Report 1999: Making a Difference.* This report reviews past progress and details challenges for the 21st century and the priorities that need to be undertaken.

Dramatic changes in the health of the world's population are occurring. In the developing regions, noncommunicable diseases, such as depression and heart disease, are fast replacing infectious diseases and malnutrition as the leading causes of disability and premature death. Injuries, both intentional and nonintentional, also are growing in importance and, by the year 2020, could rival infectious diseases worldwide as a major source of disability and ill-health.

However, as we enter the 21st century, over a billion people will not have benefitted from the health revolution of the 20th century. For this population, life expectancy remains short and plagued by disease. Achieving better health for all people in the world is a challenging task and there is a critical need to implement effective and cost-efficient services.

The mission of WHO's Social Change and Mental Health Cluster initiative is to address the social dimension of health, taking into account both behavioral and demographic patterns and trends and their health consequences in relation to social change. The Substance Abuse Department is one of the key components of this Cluster at WHO.

To accelerate progress, WHO's Substance Abuse Department has begun to define how the department can contribute most effectively in the coming years. The work will center on two major areas:

- Implementing scientifically sound studies of global approaches to prevention and treatment of substance abuse

- Strengthening country and regional capacity to apply scientific knowledge and best practices to the problems related to substance abuse

Within this framework, there are several areas of special emphasis:

- Intervention research on the effects of urbanization and drug abuse on young people

- The establishment of a global database of model programs and best practices

- The Global Alcohol Initiative, a comprehensive approach to the growing problem of alcohol abuse

- Programs designed to respond to the HIV/AIDS crisis associated with substance abuse

2. Measuring Health Status

WHO is not a donor agency. Its prime resources are knowledge and people. A direct presence is established in responding to national needs, and WHO works with the entire community of countries to mobilize collective knowledge, gather accurate data, and produce culturally relevant programs and models based on those data.

New methods of measuring health status are being implemented to quantify not only the number of deaths but also the impact of premature death and disability on populations. "Disability-Adjusted Life Years" (DALYs) measure the burden of disease by specifying the years lost to premature death and years lived with disability, adjusted for the severity of the disability. Disease burden is, in effect, the gap between a population's actual health status and the reference status.

WHO conducted a large Global Burden of Disease (GBD) study and this has helped frame priorities for action. In 1998, an estimated 43 percent of all DALYs, globally, were attributable to noncommunicable diseases.

By 2020 noncommunicable diseases are expected to account for an increasing share of disease burden, rising from 43 percent in 1998 to 73 percent, assuming a continuation of the recent downward trends in overall mortality. The expected increase is likely to be particularly rapid in developing countries.

This epidemiological transition is largely driven by aging, but is augmented by the rapidly increasing numbers of people who are exposed to tobacco and other risk factors, such as obesity, physical inactivity, and use of psychoactive substances.

GLOBAL DRUG ABUSE PATTERNS AND TRENDS

The GBD study shows that substance abuse accounted for 6.7 percent of the DALYs worldwide in 1990 (exhibit 1). Tobacco accounted for 2.6 percent of the DALYs. Alcohol-related problems are estimated to affect between 5 and 10 percent of the world's population.

1. Alcohol

The GBD study clearly shows the impact of alcohol on global health. Alcohol abuse is by far more relevant than the impact of all other psychoactive substances combined. Alcohol accounted for 3.5 percent of the DALYs in 1990 (exhibit 1). This included at least 774,000 deaths and nearly 48 million DALYs, many of which are caused by events in young adulthood, including intended and non-intended injuries, suicide, and violence. Alcohol's share of the GBD is especially high (8 to 10 percent in developed countries, Latin America, and Eastern and Central Europe). This finding led WHO's Substance Abuse Department to develop its Global Alcohol Initiative. This initiative is designed to help focus the world's attention on the important problems associated with alcohol abuse and dependence.

As noted, alcohol use is a major cause of disease burden, particularly for adult men. Excessive alcohol use is the leading cause of disability for men in the developed regions and the fourth leading cause of disability in developing regions. Alcohol consumption is increasing in developing countries, while it has declined in developed nations.

In 1998, the GBD of alcohol dependence alone had decreased from 1990 but was estimated to account for 1.3 percent of the global burden—2.2 percent among males and 0.3 percent among females. The GBD of alcohol was four times greater among the high income population than among those of low-to-middle income status (exhibit 2). In 1998, alcohol dependence was among the leading causes of disease burden among the 15 to 44 year-old age group.

The reported health benefits of alcohol consumption need to be considered carefully. Research has demonstrated that low levels of alcohol consumption (equivalent to 1 to 2 drinks a day) by middle-age and elderly people with high risk of ischaemic heart disease can decrease their risk of death from cardiovascular heart disease. However, there are no substantial reductions in absolute risk of light drinking for groups where heart disease is not an important cause of death, such as men under age 35 and premenopausal women. The beneficial effect of alcohol consumption is far outweighed by the negative consequences, according to the GBD study.

Research has established that alcohol-related harm to the users as well as the family and others can be reduced significantly by steps designed to reduce both the overall availability of alcohol and drinking in hazardous circumstances (before driving or operating machinery or while pregnant) without seriously reducing the social benefits and pleasures of drinking.

Alcohol-related problems, particularly alcohol dependence, are frequently a considerable drain on health resources as a consequence of being misunderstood, misdiagnosed, or improperly treated. Introducing effective programs into primary health care can reduce overall health costs, since such programs do not demand costly technology but only proper training in the use of relatively inexpensive medications and psychosocial support skills on an outpatient basis. The WHO is disseminating

brief alcohol-related interventions to developing countries.

2. Illicit Drug Use

The prevalence of illicit drug use in general populations is generally low when it is compared with alcohol and tobacco use. Cannabis use is an exception. Typically, less that 2 percent of the adult population have ever used heroin, and less than 1 percent meet criteria for heroin dependence, even in countries with a widely recognized heroin problems, such as the United States, Australia, and some European countries.

Drug Injection. The rapid spread of injecting drug use has had major repercussions for global public health. By 1992, drug injection had been reported in over 80 countries worldwide; by 1998, there were reports of drug injection by 117 countries.

The number of drug injectors worldwide, predominantly opioid injectors, was estimated at 5.3 million in 1994. The annual all-cause mortality rate among injectors has been estimated to be 1 to 4 percent. A WHO multi-site collaborative study on mortality among injection drug users (IDUs) attending treatment facilities in nine cities showed that the largest number of deaths among IDU clients occurred in Rome, Italy (n = 639); Turin, Italy (n = 563); Barcelona, Spain (n = 460); and Naples, Italy (n = 200). Fifty-eight deaths occurred among IDUs in New Haven, Connecticut (exhibit 3).

The high rates of mortality are related mainly to overdose, but also include HIV/AIDS, suicide, and violent death. Overdose deaths are often associated with concomitant use of other drugs, including alcohol, benzodiazepines, methadone, and heroin.

HIV/AIDS

Detailed information about the nature and extent of injection practices continues to be difficult to obtain. It is estimated that there are nearly 195,000 cases of AIDS related to injection drug use (IDU). In Europe and North America, it is estimated that 23 percent of AIDS cases are related to IDU.

HIV/AIDS continues to contribute substantially to the proportion of deaths among persons age 15 to 59 in low and middle income countries. HIV infection is projected to increase over the coming decade. Better prevention programs are needed. In South East Asia, the first HIV case was reported in 1984; in 1997, over 92,000 cases had been reported, mostly from Thailand, India, and Myanmar. National authorities in the region are responding to the pandemic with great urgency. The initiatives include Thailand's 100 percent condom use program, peer education programs on health care and education among sex workers in Calcutta, and needle exchange programs and community-based treatment approaches for IDUs in Myanmar and Nepal. All of these programs have been effective in bringing about behavioral change and reducing HIV transmission rates.

Reasons for widespread injection drug use are many and complex. They involve individual factors and drug availability, as well as social and economic changes that are taking place in many parts of the world, such as the Newly Independent States and countries of central and eastern Europe. Although the dynamics of the diffusion of

injection drug use on a global basis are not fully understood, research is focusing more attention on HIV risk practices and risk environments and contexts. Nevertheless, more research is urgently needed in order to develop appropriate interventions that can reverse or curtail current trends.

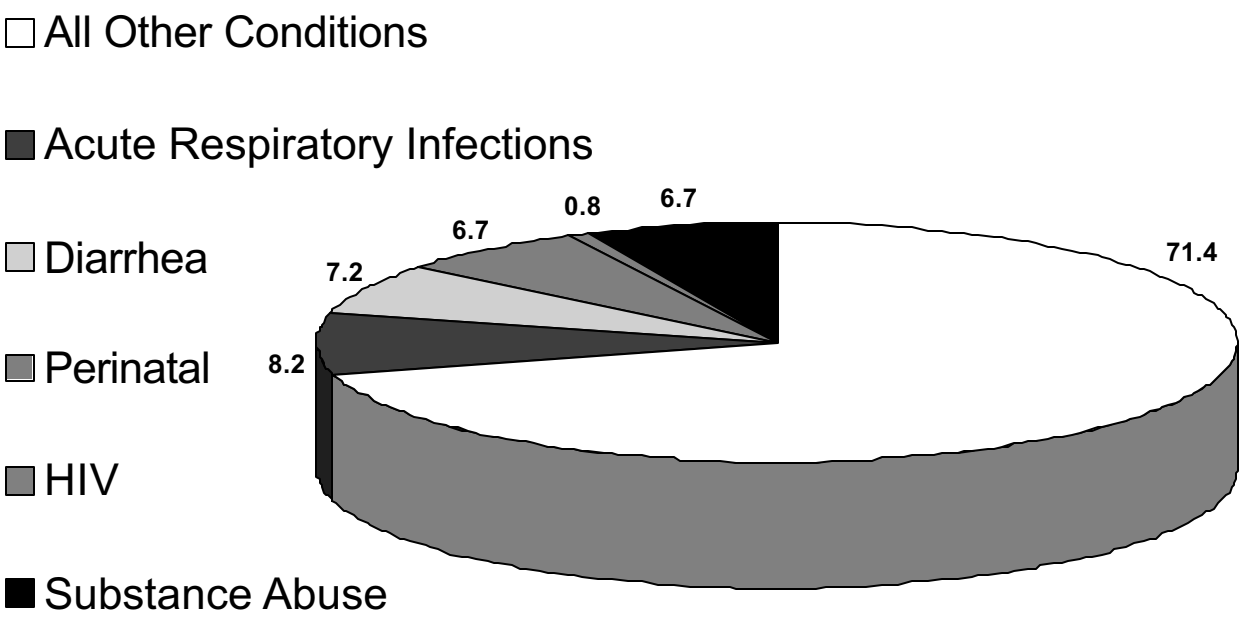
Public health interventions also need to focus on the process of the spread of injecting. The global urgency of this task is underlined by demographic trends: substance use and injecting are predominantly (though not exclusively) engaged in by younger urban people. The global population is increasingly an urban one. By next year, the majority of births in the world will be in urban settings, and the proportion of young people is still increasing. Between 1960 and 1990, the total youth population (age 15 to 24) doubled. Currently, almost 30 percent of the total world population is between the ages of 10 and 24.

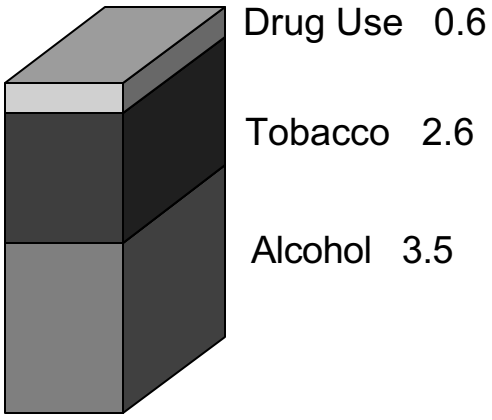
So far, effective interventions that can prevent the spread of the HIV epidemic can be divided into four components:

- Early implementation of prevention initiatives while HIV prevalence is low (that is, below 5 percent)
- Community outreach to IDUs, which provides HIV/AIDS information and helps users to develop trust in health providers
- Widespread access to sterile injection equipment
- Increased access to drug treatment

EXHIBIT 1

WHO
GLOBAL BURDEN OF DISEASE
PERCENTAGE OF ALL DALYs[1]—SELECTED CONDITIONS
1990





[1] DALY = Disability-Adjusted Life Year

SOURCE: World Health Organization

EXHIBIT 2

WHO
ESTIMATED BURDEN OF DISEASES BY SEX AND CAUSE[1]
1998

Disease	Total		Males		Females		High Income		Low and Middle Income	
Population (000)	5,884,576		2,963,656,		2,920,920		908,828		4,976,748	
	N	**%**	***N***	**%**	***N***	**%**	***N***	**%**	***N***	**%**
Alcohol Dependence	18,292	1.3	16,162	2.2	2,130	0.3	4,739	4.4	13,553	1.1
Drug Dependence	6,326	0.5	5,104	0.7	1,222	0.2	1,544	1.4	4,782	0.4

[1] All values are in millions

SOURCE: *The World Health Report 1999*

EXHIBIT 3

WHO
CAUSES OF DEATH AMONG INJECTING DRUG USERS
IN TREATMENT IN NINE CITIES BY ICD-9 CODE
1980–1992

City	AIDS		Mental Disorders		Injury and Poisoning		Disease of Circulatory System		Ill-defined Conditions		Other Causes		Total Number of Deaths
ICD-9 Code	042-044, 2579.5		290-319		800-999		390-459		780-799				
	N	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*
Barcelona (Spain)	121	26.3	6	1.3	239	51.9	21	4.6	0	0.0	73	15.9	460
Glasgow (UK)	1	3.4	4	13.6	19	65.5	0	0	0	0.0	5	17.3	29
Liverpool (UK)	0	0.0	3	20.0	8	53.3	0	0.0	0	0.0	4	26.7	15
Naples (Italy)	35	17.5	32	16.0	50	25.0	6	3.0	41	20.5	36	18.0	200
New Haven (USA)	16	27.6	0	0.0	11	19.0	4	6.9	15	25.9	12	20.6	58
Moscow (Russia)	0	0.0	1	2.0	20	40.8	14	28.6	0	0.0	14	28.6	49
Rome (Italy)	488	29.4	177	27.8	94	14.7	38	5.9	13	2.0	129	20.2	639
Turin (Italy)	99	17.6	66	11.7	274	48.7	14	2.5	26	4.6	84	14.9	563
Warsaw (Poland)	0	0.0	4	4.9	26	31.7	4	4.9	35	42.7	13	15.8	82

SOURCE: WHO Multi-site collaborative study on the mortality of injecting drug users attending treatment facilities in nine cities (unpublished report available on request from WHO/SAB)

A REVIEW OF THE DRUG ABUSE SITUATION IN THE WORLD

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The United Nations International Drug Control Programme (UNDCP), through its International Drug Abuse Assessment System (IDAAS), gathers data on drug abuse patterns and trends from countries worldwide. The most recent data show that cannabis is the most widely abused drug in all parts of the world (2.5 percent annual prevalence) and that use of cannabis has increased in many regions in the last 10 years. The abuse of amphetamine-type stimulants (ATS) is also widespread and increasing (0.52 percent annual prevalence). Cocaine use has spread (0.23 percent annual prevalence) but has mainly stabilized in North America. Heroin use is more widespread than a decade ago (0.14 percent annual prevalence) and substantial increases are reported from Eastern Europe, some Middle East countries, and countries in central Asia.

INTRODUCTION

1. The International Drug Abuse Assessment System

In 1991, the three United Nations (UN) drug units—the Division of Narcotic Drugs (DND), the United Nations Fund for Drug Abuse (UNFDAC), and the International Narcotics Board (INCB) Secretariat — merged into a single drug control program that is responsible for coordinating all UN drug control activities. The International Drug Abuse Assessment System (IDAAS) functions as a global drug abuse surveillance system under the United Nations International Drug Control Programme.

In addition to Member States, various entities provide relevant data on drug abuse. These include epidemiology networks, research institutes, and such international and regional organizations as the World Health Organization, the Inter-American Drug Abuse Control Commission, and the European Monitoring Centre for Drugs and Drug Addiction.

Drug abuse information from Member States is gathered primarily through the Annual Reports Questionnaire (ARQ). The ARQ is completed and submitted by governments in accord with reporting obligations established through three international drug control conventions. The ARQ requests information on: types of drugs abused; trends in drug abuse; magnitude of the drug abuse problem; age and gender data; route of drug administration; health consequences of drug abuse; and steps being taken to deal with drug abuse. The number of Member States that provide data on each question area varies by year.

WORLDWIDE DRUG ABUSE PATTERNS AND TRENDS

1. Cannabis

Cannabis is the most widely abused drug in all parts of the world. An estimated 141 million people use cannabis (2.5 percent annual prevalence). Prevalence data suggest that the use of cannabis is particularly high in western Africa, Oceania, Central America, North America, and in a number of European countries.

During the past 10 years and across all regions, there has been a net increase in cannabis use, that is, there have been more countries reporting increases than countries reporting decreases. This increase is especially marked in Europe, but this trend also appears in Africa, Asia, and the Americas. The upward trend accelerated during the 1990s.

2. Amphetamine-type Stimulants (ATS)

The abuse of synthetic drugs, particularly of amphetamine-type stimulants, is widespread and increasing rapidly. Worldwide, some 30 million people are estimated to abuse ATS, with an annual prevalence of 0.52 percent. High prevalence rates are shown in western Europe, Australia, and some Latin American countries.

Having spread relatively slowly in the 1980s, the abuse of ATS increased rapidly in a large number of countries in the 1990s. From 1995 to 1997, the strongest increase was reported in Europe, which is also an important producer region.

3. Cocaine

Some 13 million people (0.23 percent annual prevalence) are estimated to abuse cocaine worldwide. The highest prevalence is reported in the United States, although a large number of Latin American countries also show substantial levels of abuse of cocaine and "bazuco" (coca paste).

Trend data suggest that the spread of cocaine abuse was strong in the Americas in the mid 1980s, lost momentum in the early 1990s, and started to rise again in the middle of the 1990s, notably in and around coca leaf producing countries. The main trends over the period of 1995 to 1997 have been a stabilization of cocaine abuse in the main markets of North America, and strong increases in the Andean and neighbouring countries, and along the trafficking routes to North America and Europe. However, the strongest spread was observed in Europe, although the increase was less significant than the increase in ATS abuse in Europe.

4. Heroin and Other Opiates

Around eight million people (0.14 percent annual prevalence) abuse opiates, mostly in South East and South West Asia. In general, consumption affects less than 2 percent of the population in these regions; however, use can be more widespread in some of the opium cultivating areas.

Compared to a decade ago, heroin consumption is now far more widespread. The most dynamic growth in 1990s was in the Americas. While consumption in most western European countries stabilized over the 1995–1997 period (with a few exceptions), strong increases were reported from most of the countries of the former Soviet Union and countries in eastern Europe. Increases in abuse also were reported from the main immediate "transit countries" of the opiates originating in Afghanistan, that

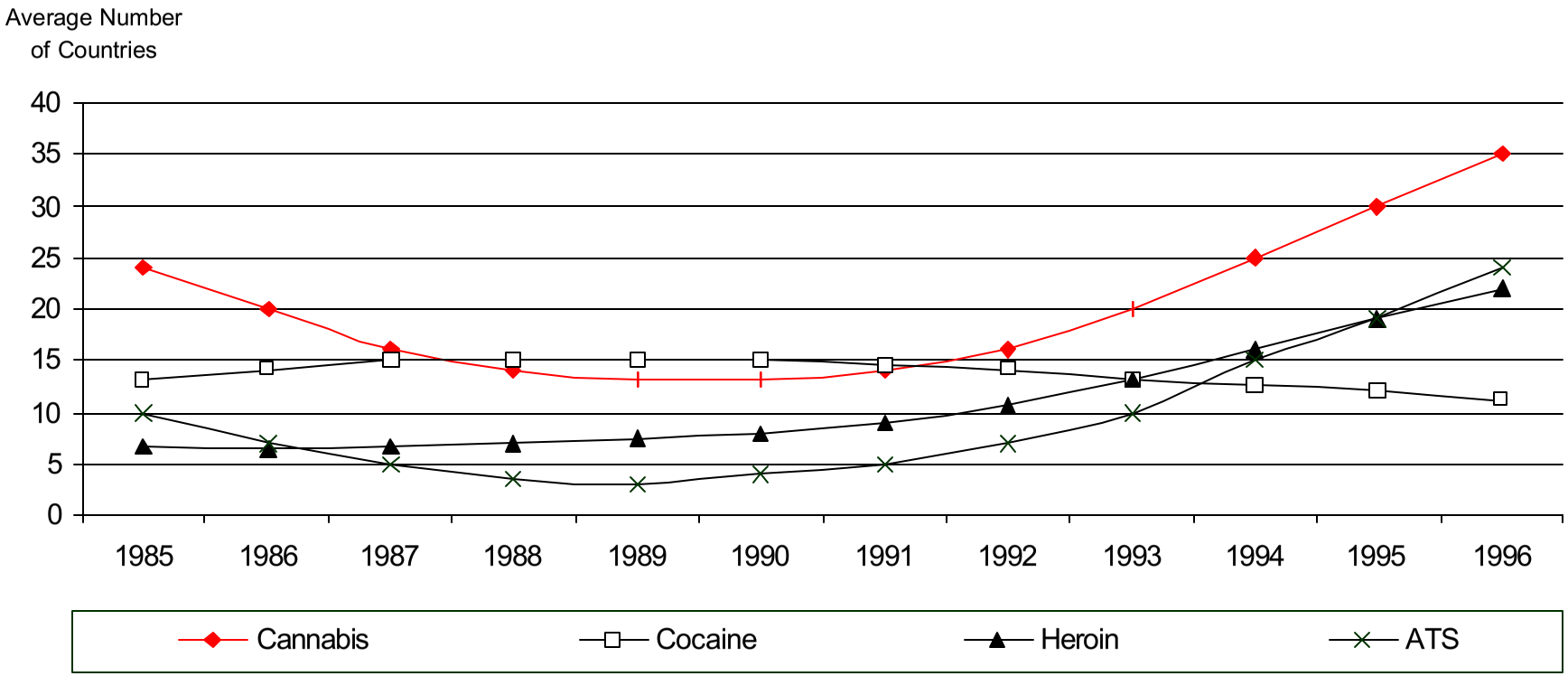
is, Iran, Turkey, and a number of countries in Central Asia. An even stronger growth in heroin addiction over the last decade occurred in Pakistan.

CONCLUSIONS

Diversification seems to be the key word in terms of the spread of various drugs across countries and regions, although there has been an upward trend in the (average) number of countries reporting increases in the use of cannabis, heroin, and ATS-type drugs (exhibit 1). The introduction of a drug new to an area does not seem to lead to a corresponding reduction in the use of "older" drugs. However, the global estimates should be interpreted with caution. It is very difficult, if not impossible, to precisely estimate the actual extent of abuse of illicit drugs at the global level, primarily because there are significant gaps in data but also because the data provided by some countries are of unknown quality. The UNDCP Global Programme on Assessing the Magnitude of Drug Abuse aims to develop the information infrastructure in some 100 countries and, at the same time, improve the quality and comparability of country-specific drug abuse data and information submitted to UNDCP.

EXHIBIT 1

TRENDS IN THE NET GROWTH OF THE NUMBER OF COUNTRIES WORLDWIDE
REPORTING AN INCREASE IN THE USE OF SELECTED ILLICIT DRUGS
1985–1996



SOURCE: United Nations International Drug Control Programme

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