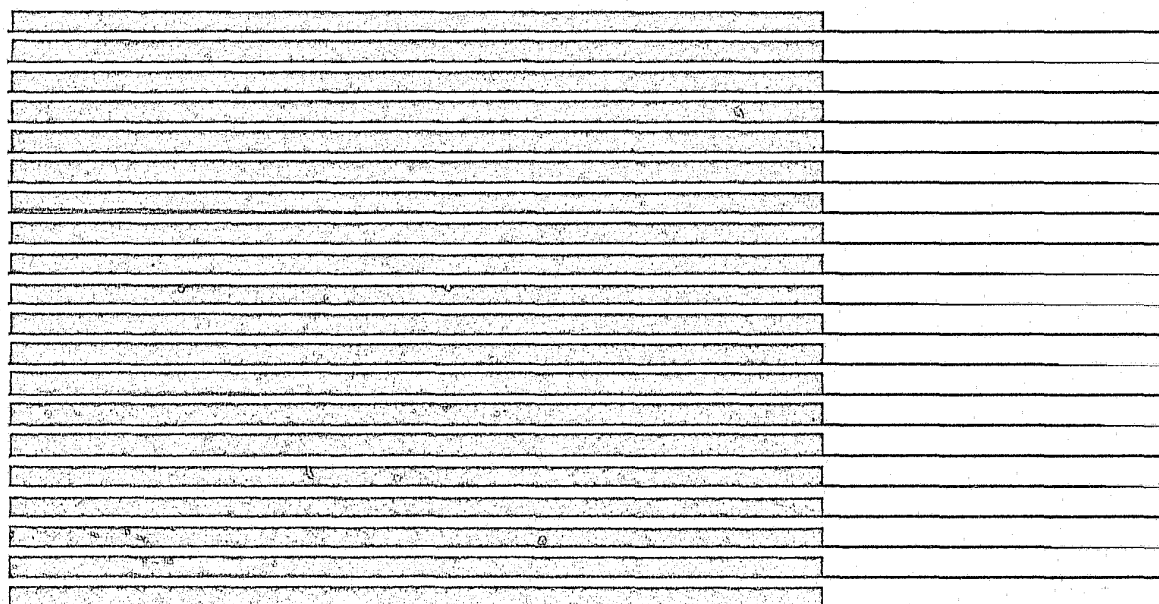


National Institute on Drug Abuse

Methamphetamine Abuse in the United States

September 1988

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National Institute on Drug Abuse
Division of Epidemiology and Statistical Analysis
5600 Fishers Lane
Rockville, Maryland 20857

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EXECUTIVE SUMMARY

This report addresses recent methamphetamine abuse patterns and trends. It includes findings from a July 1988 ethnographic study of drug treatment clients who were former methamphetamine abusers from San Diego, Portland, and Dallas. A second section reviews methamphetamine data from emergency rooms and medical examiner facilities collected by the National Institute on Drug Abuse (NIDA)'s Drug Abuse Warning Network (DAWN) from 1985 to 1987. A summary of published reports and recent information from representatives to the NIDA's Community Epidemiology Work Group (CEWG) is provided in a third section. Law enforcement information on methamphetamine price, purity, and clandestine laboratory seizures concludes the report.

Methamphetamine is called by many street names including *crank*, *crystal*, *meth*, *speed*, *go-fast*, *go*, *crystal meth*, *zip*, *chris*, or *cristy*. The variety of names may hinder reporting and data collection regarding methamphetamine.

Various indicator data and other sources suggest that abuse of methamphetamine from clandestine labs has been increasing during recent years. Abuse patterns appear most active in the US West while trends in Philadelphia and Minneapolis have declined. Law enforcement agents report the most important factor in the spread of methamphetamine abuse is the introduction of its clandestine production into a community, thus creating an illicit market for the drug followed by expanded production to supply that market. As a result, methamphetamine abuse is presently a regional phenomenon yet has the possibility of expanding to the entire nation. Just as cocaine was introduced and successfully test-marketed in the 1970's before its expansion in the later half of that decade and the 1980's, domestically produced methamphetamine looms as a potential national drug crisis for the 1990's.

Demographic profiles in all communities tracked for this study reflect a similar pattern. Abusing populations are predominantly white, lower middle income, high school educated, young adults ranging in age from 20-35 years. Although clients in drug treatment programs for methamphetamine abuse report that the drug is commonly used by adolescent males, that group is not observed in morbidity and mortality data. Abuse patterns suggest an estimated two to four year latency period from first use to full addiction. Most treatment clients interviewed for this report initiated use by intranasal snorting, but then turned to IV administration. Compulsive abuse accelerates with IV use because of the drug's rapid onset of action in a pattern similar to crack cocaine abuse. Although crack is not injected, inhalation of its vapors provides a rapid pulmonary delivery of the drug in concentrated dose to the brain promoting an intensified onset of action. This method, like IV methamphetamine use, triggers an initial, short term jolt which compels the user to repeat drug use again and again in a futile attempt to re-experience the drug's exhilarating effects. Additionally, needle sharing with methamphetamine appears common despite users' knowledge of HIV transmission risk. Thus, methamphetamine has been characterized as "white man's version of crack" and a "Gateway to needle use and sharing." Further investigation of a latency period and IV needle practices with methamphetamine is warranted.

Former abusers identify the need for methamphetamine-specific prevention strategies targeted particularly to at-risk communities. Disruption of illicit production appears to impact on prevalence of methamphetamine use. As a result, both supply and demand side reduction strategies appear necessary for controlling methamphetamine abuse. The uniform demographic pattern of the abuser population and the movement of clandestine labs to isolated areas warrant further investigation of methamphetamine abuse in rural areas and smaller communities, particularly in western states.

BACKGROUND ON METHAMPHETAMINE

Methamphetamine is the N-methyl homologue of amphetamine. Legal methamphetamine takes on the physical appearance of a white, odorless, bitter, crystalline powder which is freely soluble in water and alcohol. Illegally, the drug resembles a fine coarse powder, crystals, or chunks. The color varies from off-white to yellow, and is supplied in plastic wrap, aluminum foil, capsules or tablets of various sizes and colors often imitating commercially produced compounds.

Methamphetamine is pharmacologically classified as a sympathomimetic amine with central nervous system (CNS) stimulant activity. The CNS effects are mediated by the release of norepinephrine and dopamine from central noradrenergic neurons in the brain.

The drug contains two major mechanisms of action:

- 1) stimulation of the brain's synaptic site which leads to the production of a state of arousal, wakefulness, or mood elevation, and
- 2) suppression of appetite by acting on the control centers of the hypothalamus and depressing gastrointestinal activity.

Although methamphetamine tends to keep the user awake and alert, and provides temporary mood elevation, the drug itself is not the source of stimulation. Methamphetamine releases stored energy from body reserves by chemically interacting with the central nervous system.

Therapeutic uses of methamphetamine include hyperkinesis (hyperactivity) in children and obesity. Trade names of the drug include *Desoxyn* (Abbott), *Methedrine* (Burroughs Wellcome), and *Methampex* (Lemmon).

The drug attracts illicit users due to its powerful CNS stimulant action. When injected intravenously, methamphetamine produces a "rush" which many users are unable to describe in words. Some suggest similarities to an intense orgasm. Many who experience the intense euphoria as a result of IV use become regular mainliners, prizing speed over other drugs, and sometimes over food or sex.

Side effects of methamphetamine include irritability, nervousness, insomnia, nausea, hot flashes, dryness of the mouth, sweating, palpitations, and hypertension. Excessive doses can produce mental confusion, severe anxiety, and aggressiveness. Continued moderate to chronic use may lead to physical dependence and even death.

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DEMOGRAPHIC CHARACTERISTICS and USE PATTERNS REPORTED BY METHAMPHETAMINE ABUSERS IN TREATMENT

This section presents characteristics and abuse patterns identified from interviews conducted among 56 clients in residential drug abuse and addiction treatment programs in San Diego, California; Portland, Oregon; and Dallas, Texas. All clients interviewed were active abusers of methamphetamine prior to their admission for treatment. Clients were chosen at random from volunteers in 5 treatment programs. No attempt was made to sample any particular population of clients nor treatment programs. The interviews were conducted in private with one interviewer from a team of three trained persons. All the data were collected within an 8-day period during July 1988. Patterns identified in this investigation were similar in all three cities with only a few regional variations. Consequently, data will be presented together for the three cities except in those incidents where patterns differed by city.

Methamphetamine has many street names most of which were known by all those interviewed who would rarely refer to the drug by its five-syllable name. The terms most frequently used were *crank*, *crystal*, *meth*, *speed*, *go-fast*, *go*, *zip*, *chris*, or *cristy*. In San Diego the drug is usually called *crystal*; in Portland the name *crank* is most often used; and in Dallas it is known as *speed*.

Clients interviewed ranged from 18 to 44 years of age: 5 percent were 18-19 years; 50 percent were 20-29 years; 40 percent were 30-39 years; and 5 percent were 40-49 years. There were 35 males (63 percent) and 21 females (37 percent) interviewed; 89 percent of clients participating in the study were white and 11 percent were black. There were no Hispanic or Asian clients interviewed. Thirty-two percent did not graduate from high school; 43 percent were high school graduates; 23 percent had some college; and 2 percent graduated from college. Forty-three percent of males in the study did not graduate from high school while only 14 percent of females did not. Although participants were selected at random, demographic characteristics of the clients interviewed paralleled those cited among indicator data found in other sections of this report.

All participants in the study considered themselves to have been dependent upon or addicted to methamphetamine. The average age at first use of methamphetamine was 20.6 years; it was younger for males (18.7 years) and slightly older for females (23.6 years). First use occurred in adolescence (12-17 years) for 29 percent of those interviewed; in young adulthood (18-26 years) for 60 percent; and above the age of 27 years for 11 percent of the participants.

First use occurred between 1975 and 1979 for 30 percent of the study participants; from 1980 to 1984 for 48 percent, and from 1985 to the present for 21 percent. There appears to be a comparable latency period between first use and seeking treatment for methamphetamine and cocaine. This supposition is compatible with similar pharmacological patterns of both drugs.¹ Binge use of methamphetamine was reported by all participants in the study. Before entering treatment all clients reported daily use of the drug except for days on which they were "crashing" from an average 3-day binge of drug. When using methamphetamine on a daily basis, it was administered several times a day.

Intravenous (IV) use of methamphetamine was the preferred route of administration by 62 percent of the participants. IV use was reported by 74 percent of males and 43 percent of females in this study. Intranasal snorting was the preferred route for 18 percent of those interviewed. Oral administration was the desired route for 13 percent, and only 7 percent smoked methamphetamine. When administered orally, methamphetamine was mixed with a beverage usually coffee. Oral ingestion was frequently reported to cause nausea.

Of those interviewed, 52 percent first used methamphetamine by intranasal snorting. However, as use became more frequent, severe nasal irritation often led to initial IV use. Of the respondents, 60 percent began methamphetamine use by a route other than IV but "progressed" to IV administration. One person started with IV use and switched to snorting. Only 18 percent had never injected methamphetamine, and 20 percent had always administered the drug by the IV route.

Once methamphetamine was injected, the user experienced an initial, intense, short-term *rush* which was compared by many subjects to the *jolt* of crack cocaine use. This experience dramatically changed the motivation for future use of methamphetamine. Rather than using the drug merely for its long-acting, stimulant effect, users reported extreme compulsion related to the rapid and intense onset of action associated with IV administration. Thus, methamphetamine became the gateway to needle use (and often needle sharing) as well as a far more compulsive use pattern of the drug.

All IV users interviewed knew of the connection between needle sharing and transmission of the HIV virus. Most had learned about needle cleaning within the last 6-12 months. However, only a few stated that they always used a clean needle once they had learned how to clean their equipment. Most believed that the person with whom they shared did not present a risk to them. Some reported cleaning needles a few times, but then expressed that since they hadn't always done so, it wasn't worth the effort. One subject reported a rumor that bleach residue in the needle would decrease the potency of methamphetamine.

Concomitant use of methamphetamine with other drugs was reported by 73 percent of the respondents. Among males, 86 percent had used the drug in combination, while 53 percent of the females had done so. There were 89 mentions of other drugs used in combination with methamphetamine cited by 41 respondents. The most frequently cited drugs used with methamphetamine in descending order of mention were alcohol, cocaine, marijuana, and heroin. Marijuana and alcohol were the most often cited drugs used with methamphetamine in San Diego and Portland. Cocaine was the most frequently mentioned drug combination in Dallas.

The most frequently cited adverse effects of methamphetamine were depression, paranoia, fatigue, and loss of control. One-third of females and males interviewed stated that sexual activity was enhanced with methamphetamine use. One-third of females and 14 percent of males reported sexual activity was not affected by the drug's use. One-third of females and 54 percent of males did not have an opinion on the relationship between methamphetamine use and sexual activity. All of the study participants reported at least some history of cocaine use. When asked to compare the harmfulness of methamphetamine to that of cocaine, 53 percent of respondents believed methamphetamine to be more harmful, 27 percent cited cocaine as more harmful, and 20 percent replied that the drugs were equally dangerous.

Dosage levels reported by those interviewed varied according to how long methamphetamine had been used, the purity of the drug, and its route of administration. Doses tended to increase significantly with continued use, particularly with IV administration. The smallest unit of purchase was usually 1/4 gram which would provide approximately 4 doses to the first time, intranasal user. Quantities used by study participants ranged from less than 1/4 gram to 4 grams per day. The standard price of methamphetamine was consistent in all three cities at \$25 per 1/4 gram. A common unit of sale is called an *eightball*, reported to be 1/8 of an ounce or 3.5 grams which usually sold for \$150. Prices for an eightball were mentioned as low as \$90 and as high as \$200.

SELECTED ANECDOTAL STATEMENTS FROM CLIENTS

The words of the study participants may help provide further insight to the intensity of methamphetamine abuse. Accordingly, this section concludes with some selected anecdotal statements offered during client interviews.

"I'm a rushaholic."

"When I slammed the stuff, I would clean the house until it was clean, then I'd mess it up again just to clean it again. I was 'tweaked' at night and would shuffle cards for hours and hours."

"I was paranoid. I'd hide in closets when anyone would come knock at the door."

"A friend of mine sold everything in his house while his wife was at work. Everything: sofas, chairs, frig., t.v. - everything. He sold it all."

"I was up for 62 days. I drank coke and ate candy bars."

"I'm a crankster."

"My boyfriend and I call it the drug of the three F's - Fixing, F_____king, and Fighting."

"I didn't care about my son. I was so messed-up I sold my mother's wedding rings."

"I played cards with people who weren't there."

"Crystal: the most bizarre drug. Crystal's economy is in its small dose and long lasting effects."

"I used it to get more done, but I didn't. When there wasn't any available, people would get really weird, we called them sprung."

"It's so easy to make I could teach a ten year old how to make it."

"Bikers protected me and the lab."

"There are labs everywhere. I know one block that has five labs on it."

"Labs are on farms with animals to hide the smell."

"There's not a junkie I know who would take time to rinse needles."

"If you use meth everyday for a week, you're gonna be hooked."

"The impulse for the rush never goes away."

REVIEW of METHAMPHETAMINE DAWN DATA, 1985-1987

This section examines the most current three-year trends in methamphetamine-related medical emergencies and deaths reported to the National Institute on Drug Abuse (NIDA) through the Drug Abuse Warning Network (DAWN). The report examines the entire DAWN system and specifically reviews the six cities reporting the highest levels of methamphetamine abuse. Those cities are Philadelphia, San Diego, Dallas, Phoenix, San Francisco, and Los Angeles. The data cover the period from 1985 through 1987 and are based on records submitted by 127 hospital emergency rooms (ER) and 15 medical examiner (ME) facilities which reported to the DAWN throughout the period from these 6 cities. The cities are not statistically comparable as standardization and controlled sampling are not available.

The purpose of this review is to identify trends in cities where methamphetamine abuse is at a high intensity and to determine patterns for focused community responses. This review is not intended to be scientific. Final tabulations for 1987 have not been authorized, thus data for 1987 are provisional but will be helpful to understand local trends.

This review is divided into two parts. The first covers trends from 1985 to 1987 in methamphetamine ER episodes, and the second tracks available data from ME reported deaths. The ER trends discussed are based on the report, "DAWN Drug Alert, 12 Quarter Summary: Adjusted Data January 1985 to December 1987 (run date: May 17, 1988)." The ME trends are taken from Data from the DAWN Semiannual Report Trend Data Through July-December 1987 published in NIDA Statistical Series G, Number 21. The introduction of the published report contains additional information on technical aspects of the data. DAWN data include reports for amphetamine and *speed* that may refer actually to methamphetamine but can not be considered in this review because they were not so mentioned.

Trends in Emergency Room Methamphetamine Episodes

Methamphetamine ER mentions from all DAWN cities rose from 726 in 1985 to 1,523 in 1987 representing an increase of 110 percent (exhibit 1). The largest increase occurred between 1986 and 1987 when 533 additional ER mentions were reported. A majority of the methamphetamine ER mentions from the entire DAWN system have been reported by the three cities: Philadelphia; San Diego; and Dallas. The total mentions from these 3 cities accounted for 74 percent of all DAWN methamphetamine ER mentions in 1985, 63 percent in 1986, and 68 percent in 1987. Phoenix, San Francisco, and Los Angeles accounted for 11 percent of methamphetamine ER mentions from the entire DAWN system in 1985; 13 percent in 1986; and 12 percent in 1987.

The DAWN system's increase from 1985 to 1987 was reflected in four of the cities reviewed. Phoenix experienced an 825 percent increase during the 3-year period reviewed, rising from 12 to 111 mentions. San Diego's ER mentions increased 501 percent rising from 85 to 511. In 1987 San Diego accounted for one-third of the total DAWN methamphetamine mentions for that year. Dallas reported a 271 percent increase rising from 69 mentions in 1985 to 256 by 1987. Los Angeles reported nearly double the ER mentions in 1987 as compared to 1985. Yet it did not have enough mentions to be considered statistically significant.

Philadelphia was the only city to reflect a decrease over the three-year period. Its 382 ER mentions in 1985 accounted for 53 percent of the total DAWN system's methamphetamine episodes. By 1987 Philadelphia reported 270 mentions which represented 18 percent of the total system. San Francisco's ER episodes remained relatively stable during the three-year period of review.

Minneapolis, Seattle, Kansas City, and Atlanta experienced a growth in ER mentions as the use of methamphetamines began to be reported between 1985 and 1987. Yet mentions in these cities were too few to infer any concrete trend analysis.

Trends in Medical Examiner Methamphetamine-Related Deaths

Between 1985 and 1986, methamphetamine-related deaths increased by 78 percent rising from 65 to 116, based on data reported by medical examiner facilities from the entire DAWN system. DAWN mortality data for 1987 had not been tabulated at the time of this writing. Yet ME facilities reported 64 deaths from January to June 1987 continuing the increase of the previous 2 years.

San Francisco, Philadelphia, San Diego, and Los Angeles accounted for 90 percent of methamphetamine deaths from the total DAWN system. The data for these cities are presented in exhibit 2. Philadelphia reported 34 deaths or 53 percent of the total for all cities of the DAWN system in 1985. In 1986, Philadelphia's deaths declined to 23 mentions or only 20 percent of those for the total system. In the same year, the deaths in the three California cities dramatically increased to collectively account for 75 percent of all DAWN methamphetamine mentions. Such deaths increased from 3 to 23 in Los Angeles; from 9 to 27 in San Diego; and from 13 to 37 in San Francisco. During the first six months of 1987, the rate of methamphetamine deaths continued to increase in San Francisco; remained relatively stable in San Diego; and decreased in Los Angeles.

EXHIBIT 1

EMERGENCY ROOM MENTIONS FROM SELECTED CITIES
1985-1987

CITY	1985	1986	1987	TOTAL
PHILADELPHIA	382	257	270	909
SAN DIEGO	85	199	511	795
DALLAS	69	167	256	492
PHOENIX	12	30	111	153
SAN FRANCISCO	49	59	34	142
LOS ANGELES	19	38	45	102
SELECT CITIES TOTAL	616	750	1,227	2,593
TOTAL DAWN SYSTEM	762	989	1,522	3,237

SOURCE: NIDA DAWN Drug Alert, May 1988

EXHIBIT 2

MEDICAL EXAMINER MENTIONS FOR SELECTED CITIES
JANUARY 1985 to JUNE 1987

CITY	JAN-JUN 1985	JUL-DEC 1985	JAN-JUN 1986	JUL-DEC 1986	JAN-JUN 1987	TOTAL
SAN FRANCISCO	3	10	20	17	25	75
PHILADELPHIA	21	13	11	12	11	68
SAN DIEGO	2	7	7	20	16	52
LOS ANGELES	1	2	15	8	5	31
SELECT CITIES TOTAL	27	32	53	57	57	226
TOTAL DAWN SYSTEM	31	34	57	59	64	245

SOURCE: Statistical Series, Semiannual Report July - December 1987 Series G, Number 21

METHAMPHETAMINE PATTERNS AND TRENDS OF ABUSE in SELECTED CITIES

This section reviews patterns and trends of methamphetamine abuse in selected cities and states from information gathered by members of the National Institute on Drug Abuse's (NIDA) Community Epidemiology Work Group (CEWG). The CEWG is a panel of researchers from 20 major metropolitan areas who prepare semiannual reports on drug abuse epidemiology in their local areas. Meetings of the CEWG are sponsored by NIDA in June and December of each year to provide timely reporting on drug abuse patterns and trends and to identify emerging substances of abuse, risk factors, and populations associated with illicit drug use. Additionally, statewide epidemiology work groups have been established in several states under the NIDA's direction. This section reviews CEWG reports from December 1985 through December 1987 as well as information provided by CEWG members during the summer of 1988. Metropolitan areas and states reviewed for this report include Philadelphia, Minneapolis, Dallas, Texas, Oklahoma, Denver, Phoenix, San Diego, Los Angeles, San Francisco, and Miami.

Philadelphia

During the first half of 1985, indicators of methamphetamine abuse continued the steady increase which had started in 1982. By example, treatment admissions had increased 11 percent over the last half of 1984. Yet, by the second half of 1985 there was a 27 percent decline in such admissions from the first 6 months of that same year. Medical Examiner reports also reflected a 27 percent decline between the first and second halves of 1985.

In June of 1986, police seizures included 17 pounds of methamphetamine from a row-house laboratory and other labs were reported in the city and surrounding counties. Manufacturers of the drug were believed to be under the control of several motorcycle gangs. A chemical used to make methamphetamine, P2P, was selling for \$1,200 to \$1,500 a pint or \$17,000 per gallon.

By the end of 1986, emergency room (ER) mentions of methamphetamine had declined to an average of 70 per quarter from about 110 per quarter the previous year. Yet Philadelphia still had the most mentions of any city in the nation. Treatment admissions for the drug continued the decline started in the second half of 1985. Methamphetamine was involved in 13 percent of all drug-related deaths. It was reported to be selling for \$80-\$100 per gram. Intravenous use was cited by 70 percent of clients admitted to treatment for methamphetamine dependency.

Street prices for methamphetamine dropped to \$60-\$80 per gram by June 1987 because of a significant decrease in demand. Treatment admissions for the drug were half of what they had been in 1985. By 1988 methamphetamine abuse indicators significantly decreased from those of the early 1980's. This pattern is attributed to increased cocaine smoking and seizure of local methamphetamine labs.

Minneapolis

Law enforcement data traces methamphetamine availability back to the late 1970's in the Minneapolis/St. Paul area. A methamphetamine-related death occurred in 1985 that was not reported in DAWN, yet no other such mortalities have been recorded since that time. Most indicators showed declining methamphetamine activity from 1984 forward. By 1987, about 33 percent of all treatment admissions reported some "stimulant" use prior to admission and then declined to 25 percent in 1988. Daily stimulant use was cited by 5 percent of treatment admissions in 1988. Methamphetamine white powder continues to be reported in police seizure data.

Dallas and Texas

Treatment admission records indicate methamphetamine abuse peaked in early 1975 with the drug being cited as the primary problem for 24 percent of newly admitted clients. This indicator declined sharply to 6 percent by the end of 1976. At the end of 1978 treatment admission began a steady rise for 3 years climbing back to the 24 percent level by 1981. Methamphetamine abuse data then slowed for 5 years. In 1986, several drug abuse indicators marked a sharp increase of methamphetamine activity. Emergency room episodes more than doubled over the previous year. Treatment admissions rose again and law enforcement seizures began a dramatic increase with 162 methamphetamine labs closed in Texas during 1987.

The escalating trend continued into 1988. Dallas is now known as "Speed City." The average age of Texas methamphetamine clients entering treatment is 27 years; 83 percent are white as compared to 43 percent of admissions for all drugs. With 70 percent of methamphetamine clients in treatment reporting IV use, it is now the most likely drug to be used by this route of administration in Texas.

Oklahoma

Most drug indicator data have traditionally been collected from major metropolitan areas. The establishment of statewide drug abuse epidemiology work groups provides the opportunity to look beyond large cities to smaller towns and rural areas. The demographics of methamphetamine abusers from all other sources would suggest the drug would be found in such communities. The need to isolate clandestine labs away from populated areas to avoid detection is another reason to examine drug abuse patterns in rural communities. The Oklahoma State Epidemiology Work Group has proven valuable in exploring suspected methamphetamine abuse outside major metropolitan areas.

Data gathered in early 1988 from treatment and law enforcement sources as well as the state forensic toxicologists all indicate a growing problem with methamphetamine abuse in Oklahoma. A state rehabilitation program cites amphetamine use as gaining popularity, ranking third behind marijuana and cocaine as illicit primary drugs of abuse. The state Bureau of Narcotics and Dangerous Drugs reports an increase in the availability of amphetamines as a result of illegal production. The Bureau has experienced difficulty in locating the laboratories presumably as a result of more sophisticated methods to hide illicit production and the mobility of those involved. The state's chief forensic toxicologists report increased incidents with amphetamine.

The police in Lawton, located 50 miles north of the Texas border, report increased availability of methamphetamine coming in from Texas labs. The relative ease of obtaining chemicals to make the drug is a reason cited for this activity. The drug is usually called, *crystal*, *crank*, or *speed*. It is used primarily by young whites. The city confiscated \$280,000 worth of the drug during a 9 month period in 1987.

Denver

In 1980, primary treatment admissions for amphetamine and methamphetamine account for 13 percent of clients. That percentage declined on a steady basis through June of 1987 when it reached 6 percent. However, at that same time, Denver police began reporting increased availability of methamphetamine coming from local labs. It was reported popular with the biker subculture.

Emergency room mentions of methamphetamine increased from 13 in 1984 to 35 in 1986. The drug was reported to be prevalent among teenagers and "street people." By the end of 1987 its availability

and use were increasing. Denver Police had recovered 20 times as much of the drug as they had the previous year. Its selling price was estimated at \$80-\$100 per gram. A new drug mixture of approximately two parts cocaine to one part methamphetamine was reported in Colorado during 1987. The compound was named *croak*, from the terms "crank" and "coke." In 1988, emergency room mentions for methamphetamine have continued to rise.

Phoenix

In 1985, motorcycle gangs were reported to monopolize methamphetamine trafficking. The drug ranked fourth as a primary substance of abuse among treatment admissions. Nearly half of the methamphetamine users in treatment were 25-34 years of age, and 92 percent of clients were white. This pattern continued through 1986.

By June of 1987, high potency methamphetamine was available and nine labs had been seized. The drug sold for \$750 - \$1,200 per ounce and \$60-\$90 per gram. By the end of 1987, it was speculated that labs were moving from California to Phoenix because of law enforcement seizures in that state. Emergency room mentions of the drug increased significantly beginning in early 1986 through 1988. The city had 12 ER mentions of the drug in 1985 but increased to 115 in 1987. Three methamphetamine-related deaths were reported in 1987, the first to be recorded in the city.

San Diego

In December of 1985, there was a 72 percent increase in methamphetamine treatment admissions reported in San Diego for the first half of that year as compared to the same period in 1984. Local Drug Enforcement Administration agents stated that, "San Diego is to *crystal* what Bogota is to cocaine." Treatment admissions continued to rise in the second half of 1985.

By early 1986, a glut of the drug was reported due to a proliferation of independent laboratory chemists who obtained the formulas for producing methamphetamine while in prison. Wholesale prices dropped from \$17,000 per pound to \$10,000. Emergency room mentions leaped from 95 in 1985 to 208 in 1986. Deaths related to the drug tripled from 9 to 27 between those same years.

By the end of 1987, methamphetamine clients accounted for 47 percent of the city's treatment caseload. Treatment admissions had increased 87 percent in a single year and more than 400 percent over 4 years. Emergency room mentions more than doubled for the second year in a row, going from 208 in 1986 to 451 in 1987. Related deaths also continued at an increasing rate.

In the first quarter of 1988, San Diego ranked first in the nation for arrestees testing positive for amphetamines. In April 1988, 35 percent of male arrestees tested positive for the drug. This was more than double for any other city in the comparative study.

Los Angeles

Between 1983 and 1985, CEWG reports indicated that treatment admissions, ER mentions and drug related deaths for methamphetamine all declined. In contrast, law enforcement seizures increased almost 1,000 per cent between 1984 and 1985. In 1986 ER mentions nearly doubled over 1985, and deaths increased from 3 to 23. The drug was reported to be used predominantly by whites and was not considered prevalent among minority groups. Other trends are difficult to identify because of inconsistent reporting from Los Angeles and the combining of all stimulant drugs for various abuse indicators.

San Francisco

There was a tremendous increase in the prevalence of methamphetamine and other stimulants between 1980 and 1984. Methamphetamine ranked second in the coroner's findings of illicit drugs in decedents for FY 1984-85. DAWN ER data reflected a continued increase of the drug's mentions from 1981 to 1984. ER patients tended to be male, white, and in their 20's. The drug was used without other drugs by 66 percent of patients, and 88 percent reported use by IV injection.

In 1985, the upward trend in stimulant abuse indicators witnessed during the first half of the decade abated. Treatment admissions for primary methamphetamine held steady. By 1986, methamphetamine detected in decedents at the coroner's office nearly tripled over the previous year, rising from 13 to 37. Yet ER mentions remained relatively stable. Although IV injection remained the preferred route of administration there was also a significant number of users smoking the drug on cigarettes or heated in glass tubes.

Deaths related to methamphetamine continued to increase in the first half of 1987. ER mentions declined slightly for the entire year. Treatment clients were reported to be 80 percent white, 80 percent male, about 75 percent homosexual, and of low socio-economic status. Arrests declined 18 percent between 1986 and 1987. A city prevalence study estimated there were 4,000 stimulant users in San Francisco.

Miami

A search for methamphetamine-related ER mentions from Jackson Memorial Hospital revealed that there was no mention of the drug in 1987. As well, no mention of methamphetamine was reported by any Miami ER from 1985 to 1987. Only eight amphetamine mentions were recorded during the same three-year period. No ME mention was reported.

The Florida Drug Hotline, operated by Up Front Drug Information Center, received no inquiry from within the state of Florida for the year 1987. However, several requests were made for treatment referral from family members of methamphetamine abusers in Texas and California. It is generally considered that methamphetamine is not allowed in Florida by cocaine trafficking interests. This information was offered independently by several participants from the ethnographic study included in this report. One interviewee reported frantically searching for methamphetamine across all of Florida while on vacation, and was finally told by a cocaine dealer that the drug was not available because it was considered potential competition for cocaine. Another participant who had been involved in making the drug elsewhere had tried to set up a lab in Miami but left town when his family in California was threatened.

METHAMPHETAMINE LAW ENFORCEMENT DATA

Methamphetamine lab seizures more than tripled between 1981 and 1987, rising from 184 to 775 labs (exhibit 3). These totals are based on the number of labs confiscated by the Drug Enforcement Administration (DEA) plus seizures reported to them by state and local law enforcement agencies. Consequently, it is believed that the actual number of labs may be even greater. Between 1986 and 1987 there was a 42 percent increase in the number of lab seizures which represented the largest annual rate of increase for these data.

The escalating number of methamphetamine labs poses the question as to whether the drug is being mixed with cocaine in the illicit market. However, a review of 23,453 street drug samples tested by crime laboratories in which cocaine was the principal drug found only 11 samples containing methamphetamine. Likewise, a review of 4,053 samples in which amphetamine-type drugs were the principal ingredient found only 9 samples with cocaine.

Methamphetamine street samples tested by law enforcement labs ranged from a purity of 3.7 percent to 97 percent. The national average for methamphetamine purity was 40 to 50 percent for samples of 3 grams or less.

The national average prices for methamphetamine are \$25 per 1/4 gram, \$150 per 1/8 ounce called an *eightball* (3.5 grams), and \$10,000 per pound.

The California Bureau of Narcotic Enforcement reported the introduction of an analog of methamphetamine in the San Diego area during the Summer of 1987. The substance, known as methylmethamphetamine, was being made from the precursor chemical, methylephedrine. This new precursor appeared following a state law restricting the sale and transfer of ephedrine. Prior to this law, the reduction of ephedrine was the most popular method to manufacture methamphetamine. Methylmethamphetamine was reported to be approximately 10 times weaker than methamphetamine. Consequently, it was being sold with fewer adulterants or "cuts," as well as being used in larger doses than methamphetamine.

EXHIBIT 3 National Methamphetamine Lab Seizures

YEAR	1981	1982	1983	1984	1985	1986	1987
LABS	184	225	226	312	425	545	775

Totals of seizures conducted by DEA plus those reported to DEA by state and local enforcement agencies.

Source: Drug Enforcement Administration