

Section I

History and Epidemiology

History of Methamphetamine

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Stimulants have been used medicinally for thousands of years. Chinese physicians have used ma haung, a tea made from the herb *Ephedra vulgaris*, as a medicinal herb for 5000 years. Chat, another stimulant, was used 2000 years ago by Roman gladiators to overcome fatigue and thus fight longer during contests (Wadler, 1994). Coffee has been in existence since at least A.D. 900, when an Arabian medical book referred to it as useful for a variety of indications, including measles and lust reduction. Coffee drinking was so widespread that coffeehouses were common in England, Arabia, and France as early as the 1600s (Ray and Ksir, 2002).

Other drugs used historically for medicinal purposes include opiates, alcohol, and marijuana. Opiates were used as early as the third century B.C. as analgesics, to treat anxiety and psychotic disorders, and were even given to children to ease colic. Fermented honey (mead) may have been used since 8000 B.C. By 6400 B.C., beer and berry wine were being used by Neolithic humans (Ray and Ksir, 2002). Alcohol was also used to reduce anxiety and to help insomnia sufferers fall asleep (Doweiko, 1999).

By the 1500s, drugs were big business. Prior to the arrival of the Spanish in South America in 1518, the coca leaf had been chewed by the Incas in their religious ceremonies and was used as a medium for barter (Byck, 1987; Ray and Ksir, 2002). As Spanish landlords realized that chewing the coca leaf reduced thirst, hunger, fatigue, and increased productivity, the practice of chewing the leaves was encouraged and soon became widespread (Mann, 1994) Cocaine was extracted in 1859. Combined with the invention of the syringe in 1853 cocaine use began to increase in popularity. The extracts from the coca leaf were used in a range of medicinal drinks including Coca-Cola. Cocaine use was widespread; users included many prominent people, among them Sigmund Freud, who was one of cocaine's greatest proponents (Doweiko, 1999).

Opiates, cocaine, and alcohol were so widely used that, by the early 1900s, when there was great concern with drug use, many patented medicines containing these drugs were sold on the streets by peddlers. The ingredients of these snake oil concoctions were kept secret. No agency existed to regulate the contents or claims made about these drug cordials. When the medical community began to question the claims made about these elixirs, the conflict led to the Pure Food and Drug Act of 1906, which prohibited the distribution of food and drugs that were misbranded (Ray and Ksir, 2002).

Another law that passed in the effort to control the manufacture and distribution of opiates was the Harrison Act of 1914. Dr Hamilton Wright thought that the U.S. would improve its trading status with China by helping the Chinese control the importation of opium. In 1912, an international conference was held; at that time, Great Britain wanted to include controlling the importation of morphine, heroin, and cocaine as well. When all talks and compromises were over, the Harrison Act of 1914 was born; its intent was “to provide for the registration of, with collectors of internal revenue, and to impose a special tax upon all persons who produce, import, manufacture, compound, deal in, dispense, or give away opium or coca leaves, their cults, derivatives or preparation, and for other purposes” (Terry and Pellens, 1928). The Harrison Act was meant to be solely a tax law and did not prevent the use or distribution of such drugs (Ray and Ksir, 2002).

In the 1820s a “new drug” called marijuana (which had been used to make rope and clothing since George Washington grew it) came to the attention of Congress. Medicinal use of marijuana can be historically dated to the year 2737 B.C. when Emperor Shen Nung wrote a pharmacy book recommending the use of marijuana to treat “female weakness, gout, rheumatism, ben ben, constipation, and absent mindedness” (Snyder, 1970). There is also a documented case of physicians using marijuana on a rabies patient to control the terror and excitement that the patient suffered (Elliot, 1992). In the 1800s, American and European physicians used marijuana as a hypnotic, anticonvulsant, analgesic, and as treatment for migraine headaches (Ray and Ksir, 2002; Grinspoon and Bakalar, 1992, 1993, 1995). It was not until the 1920s that marijuana became a concern in the U.S. In 1926, newspaper articles began associating marijuana use with violent crime (no evidence of this existed). Harry Aslinger, who was the U.S. Commissioner of Narcotics, reported in 1931 that marijuana use was not a problem. However, in a Congressional hearing in 1937, Aslinger reported that marijuana trafficking had increased at such an alarming rate “that it has come to be the cause for the greatest national concern” (Ray and Ksir, 2002). By this time, newspaper and magazine reports of marijuana had burgeoned to include, not only violent crimes being committed, but also police interviews stating

as much (Ray and Ksir, 2002). These reports were believed by the public but, in fact, there was no evidence provided to support their validity. This concern led to the passage of the Marijuana Tax Act in 1937. This act required the registration and taxation of those importing, buying, or selling marijuana, but did not make the possession of marijuana illegal (Ray and Ksir, 2002).

Ephedra

In 1927, the U.S. medical community began to use ephedrine, which is the active ingredient in ma haung, to open bronchial passages in patients with asthma. As the supplies of *Ephedra vulgaris* began to dwindle, pharmaceutical companies began to search for a synthetic alternative. Amphetamine was first synthesized in 1887, but because there was very little interest in it, the substance went unnoticed until it became the alternative to ephedrine (Feldman et al., 1997). By the 1930s, all the major effects of amphetamine were known. While researching the effects, it was discovered that amphetamines could awaken dogs that were under anesthesia. This discovery led to the use of amphetamines, in pill form, to treat narcolepsy (Feldman et al., 1997). Amphetamines were also rumored to have been used in Japan, Britain, Germany, and the U.S. during World War II (Brecher 1972; Lovett, 1994; Feldman et al., 1997). U.S. and Japanese army personnel are said to have used amphetamines to stay awake and alert while assigned to especially long periods on duty (Feldman et al., 1997). Because of the use of amphetamines by Japanese soldiers, Japan “suffered a serious methamphetamine problem during early postwar years” (Suwaki, 1991).

Amphetamine use became so common that college students in the 1950s and 1960s used amphetamines to stay awake all night to study for exams. Long-haul truckers named their routes after how much amphetamine was needed to make the trip. To get halfway across the U.S., truckers used “St. Louie,” and for a transcontinental truck run, “West Coast turnabouts” were used (Feldman et al., 1997).

In the 1960s, California users of amphetamine began using speedballs, which are a combination of amphetamine and heroin taken intravenously. Physicians of the Haight-Ashbury Free Clinic in San Francisco tried to warn the public of the dangers of amphetamines by coining the term “speed kills.” Dr. D. Smith of the Haight-Ashbury Free Clinic said:

In the 1970s the Haight-Ashbury area, of San Francisco, turned into one of the most violent areas of the city. It was a direct result of the amphetamine epidemic. In addition, we saw a great deal of amphetamine psychosis,

from high doses of amphetamine producing paranoia, auditory, and visual hallucinations. We started getting a feel that the medical and the psychiatric system did not know how to handle drug epidemics. For example, I was also running the alcohol and drug abuse-screening unit at San Francisco General Hospital where with the diagnosis of paranoid schizophrenia you treat with long-term psychotropic medication. With amphetamine psychosis you detoxify them and use a short-term course of psychotropic medication and get them into recovery.

By the 1980s, amphetamine use dropped because of increased control of its legal manufacture, which, however, led to an increase in the illegal manufacture of methamphetamine. In the 1980s, youth in Hawaii reported smoking methamphetamine and it soon spread to California (Ray and Ksir, 2002). Long-term users in Hawaii have reported to these authors that smokeable methamphetamine dates from at least 1979 in Nanakuli, Oahu.

There are different types of methamphetamine. “Crank” refers to methamphetamine sulfate and has been in use since the 1960s. “Crystal” refers to methamphetamine hydrochloride (Ray and Ksir, 2002), and “ice” is a colorless and odorless concentration of methamphetamine. Ice is manufactured from legally obtained chemicals and is cheaper than crack cocaine. Doweiko suggests that there is historical evidence that ice was brought to Hawaii from Japan by army troops during World War II. The use of ice went unnoticed until the West Coast news media began to report it in the 1970s; a newspaper article quoted an unnamed San Diego police officer who stated that ice was being used in Hawaii.

The Spread of Methamphetamine Use in the U.S.

After the withdrawal of Desoxyn and methedrine from the pharmaceutical market, illicit methamphetamine laboratories emerged in San Francisco late in 1962. Motorcycle gangs took over the manufacture and distribution of methamphetamine in the mid-1960s spreading it north and south along the Pacific Coast. By the 1970s the use of methamphetamine had spread from the blue-collar workers to include college students, young professionals, minorities, and women.

By the 1980s intensified law enforcement efforts that targeted the biker subculture, together with new, easier ways of producing methamphetamine, caused the production and distribution to move to the San Diego area. With the move to San Diego, Mexican traffickers became involved in the

manufacture and distribution. Large amounts of the illicitly produced methamphetamine and precursor chemicals were smuggled in from Mexico to California, and distributed not only to the traditional market, but also to the southwestern and midwestern states (Anglin et al., 2000).

Hawaii and Ice

During the 1980s there was a surge in Hawaii of methamphetamine use when a smokeable, highly pure form of D-MA-hydrochloride (ice) became available, imported from Far East sources in the Philippines, Japan, Korea, and Taiwan (Laidler and Morgan, 1997). During the 1990s use of ice in the Hawaiian Islands became rampant. The distribution of methamphetamine in Hawaii was gradually dominated by Mexico- and California-based trafficking organizations. These crime groups are supplemented in Hawaii by extended kinship networks, which sometimes include whole families or neighborhoods (Laidler and Morgan, 1997).

The use of ice in Honolulu had led to particularly serious physical and psychological problems and significant social disruption in poor working communities where it replaced marijuana which had become scarce and expensive due to eradication policies (NIDA, 1991–1994, summary).

There are thought to be several influences on the tremendous growth of ice in Honolulu after 1987. Residents were pushed away from marijuana, their staple drug of choice, and pulled toward ice by a well-organized marketing campaign by Asian distributors. Also, the overwhelming drug of choice, marijuana, which had been grown and used throughout the islands for many years, became the target of a government eradication campaign. This drove up prices and left locals without their customary smoke. Also very important, many locals derived either part of or their entire livelihood from marijuana production. Thus, when a new, easy-to-use smokeable product entered the market, one that at first seemed nonthreatening to youthful novitiates, i.e., ice, it was readily accepted. Initial users were likely to think of it as a substitute of sorts for marijuana (NIDA, 1991–1994, p. 22). As one respondent reported:

The ice use on the Waianae coast is greater than a lot of other places in the state. This is like a central distribution center for ice. It's a known fact among the drug

addicts and users on the island. It's [ice] easier to get than marijuana. It's not much more expensive than marijuana either. The amount of people here that use ice is increasing because people who couldn't find marijuana were starting to find ice easier. Plenty of guys I know started using ice because they can't get marijuana. I'd rather see them smoking marijuana because they were mellow, nice people. On ice, they change into robbing houses and carrying guns in less than one month (NIDA, 1991–1994, p. 123).

Methamphetamine continues to be a major problem in Hawaii. Methamphetamine is readily available, with the majority of it converted into ice before it is distributed. In the past few years, ice-related crimes have increased as the drug has increased in popularity and availability. The Arrestee Drug Abuse Monitoring Program in 2001 revealed that 35.9% of males arrested from January to September 2001 tested positive for methamphetamine abuse. Further tests showed arrested males and females in Honolulu tested positive for methamphetamine at a higher rate than for marijuana (28.8%) and for cocaine (11.2%). Among 37 metropolitan areas, Honolulu has the highest percentage of arrested males testing positive for methamphetamine, according to a report from the U.S. Department of Justice. No other city approached 30%. Cities participating in the survey ranged from New York City and Philadelphia to San Diego and Seattle. "The connection between property and violent crimes and ice comes up time and time again. Some of the people we interviewed said crystal meth destroyed their lives," said Major Darryl Perry, Honolulu Police Department Narcotics/Vice Division. Three fourths of the Honolulu Police Department's Narcotics/Vice Division resources go to narcotics investigations dealing primarily with ice, Perry said (*Honolulu Star-Bulletin*, June 12, 2002).

Kat Brady, Community Alliance on Prisons coordinator, believes marijuana eradication efforts forced drug users to turn to methamphetamine. "I think that Green Harvest has had a devastating effect on Hawaii," she said. Brady praises the law approved this year (2002) that includes ice users in a program to send nonviolent, first-time offenders to drug treatment instead of prison (*Honolulu Star-Bulletin*, June 12, 2002).

Pound quantities of crystal methamphetamine arrive in Hawaii from the southwest regions of the U.S., smuggled by couriers and by private post such as FedEx and DHL. Local addicts can purchase ice from a variety of sources; dealers are abundant throughout the state. Most of the methamphetamine labs that are seized in Hawaii are capable of producing ounce quantities. In 2001, there were 30.0 kg of methamphetamine seized in the State of Hawaii

by Drug Enforcement Agency (DEA) agents, and only 7.9 kg of marijuana seized (U.S. DEA, 2002).

Current Trends

Methamphetamine is no longer just a big-city problem. Methamphetamine has become the most dangerous drug of small-town America. Methamphetamine is being made and distributed in some of the country's most rural areas. Children 12 to 14 years old who live in smaller towns are 104% more likely to use methamphetamine than those who live in larger cities. One of the reasons that methamphetamine is such a threat in rural areas is because it is easy and cheap to make. Drugs that can be bought over the counter at local stores are mixed with common ingredients to make methamphetamine. Small labs to cook the drug can be set up in kitchens, on countertops, in garages, or just about anywhere. Although superlabs with sophisticated traffickers still supply the majority of methamphetamine, these smaller tabletop labs have increased exponentially in the last decade, setting an alarming trend. More than 20% of the methamphetamine labs seized in 2001 had children present (U.S. DEA, 2002).

Use is increasing among men who have sex with men and use other drugs, young adults who attend "raves" or go to private clubs, homeless and runaway youth, commercial sex workers, members of motorcycle gangs, and people in occupations that demand long hours, mental alertness, and physical endurance. Emerging evidence indicates that users increasingly are administering methamphetamine intravenously. Injecting the drug puts the user at increased risk of contracting HIV/AIDS, hepatitis, and other infectious diseases (NIDA, 1999).

Amphetamine treatment admissions are on the rise. In 1993, amphetamine treatment rates were high in California, Oregon, and Nevada. By 1999, high treatment admission rates were reported in most states west of the Mississippi. Methamphetamine accounted for 94% of all amphetamine treatment admissions reported to the Treatment Episode Data Set (TEDS) in 1999. In 1993, the admission rate for primary methamphetamine abuse was 14 admissions per 100,000 in the U.S. age 12 or older. In 1996, the admission rate for methamphetamine abuse was 24 per 100,000 age 12 and older in the U.S. In 1999, the admission rate for methamphetamine abuse was 32 per 100,000 age 12 and older in the U.S. (DASIS, 2001).

In the Drug Abuse Warning Network (DAWN) 2002 report on emergency department (ED) visits related to the abuse of club drugs, methamphetamine accounted for the largest share of ED mentions. The highest rate of cases of ED visits involving methamphetamine was found in patients age 26 to 29.

DAWN estimated almost 15,000 mentions of methamphetamine visits. The term *club drugs* comes from the association with raves and dance clubs (DAWN, 2002).

During 1999, 4.3% of the U.S. population reported trying methamphetamine at least once. The highest rate of methamphetamine use was among the 18 to 25 age group, with 5.3% of them reporting lifetime use during 1999. In the age group between 12 and 17, 1.4% reported trying methamphetamine, and for those 26 and over lifetime use of methamphetamine was 4.5%.

In 2000 among high school seniors 7.9% had tried methamphetamine in their lifetime (down from 8.3% in 1999). Lifetime use among 8th and 10th graders was 4.2 and 6.9%, respectively. Also in 2000 4.3% of high school seniors had used methamphetamine in the last year and 1.9% had used in the past month (Hawaii Conference on Methamphetamine “ICE” Epidemic, 2002).

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