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## **ANALYTIC SUPPORT PROGRAM CONTRACT**

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### **Methamphetamine Use: Lessons Learned**

*Executive Summary*

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# Executive Summary

This report provides an overview of the methamphetamine problem in the United States. It looks at the history of the problem, trends in use, characteristics of users, adverse effects, trafficking and production and treatment issues. The analysis relies on extensive review of extant literature on the drug, analysis of existing datasets relevant to methamphetamine use, and conversations with law enforcement treatment, and government personnel dealing with the problem.

## History of Methamphetamine Use

Amphetamines, including methamphetamine, were first synthesized in the early part of the 20<sup>th</sup> century, although they were not identified for medical use until the 1930s. First manufactured as a bronchial dilator, they were quickly prescribed for a variety of other conditions—narcolepsy, attention deficit disorder, obesity, and fatigue. With an increasing problem of abuse of these drugs due to legal availability and easy access in the 1950s and 1960s, amphetamines/methamphetamine were made Schedule II substances in 1970. Through the next decade, further restrictions on prescriptions and on the precursor chemicals needed for manufacture resulted in reductions in use nationwide. Methamphetamine had faded from a previous national popularity rivaled only by marijuana until reappearing in Hawaii and the West in the 1980s.

## Trends

Throughout the 1990s, methamphetamine use grew steadily in the West and Northwest. By the turn of the millennium, it had reappeared in many areas of the Midwest and South and surfaced to a lesser degree in the Northeast and Mid Atlantic. In the general population, as reflected in the National Survey on Drug Use and Health (NSDUH), methamphetamine use rose from just under 2% of the adult population in 1994 to approximately 5% in 2004. Reporting on youth, Monitoring the Future (MTF) reports that amphetamine/methamphetamine use has remained stable over the last decade for both 8<sup>th</sup> graders and 12th graders, dropping slightly in 2003. Data from the Youth Behavioral Risk Surveillance System (YBRSS) shows similarly stable, if not slightly declining, numbers of users among youth nationwide.

National treatment data from the Treatment Episode Data Set (TEDS) on admissions to treatment indicate a steady rise in the number of persons nationwide who enter treatment for methamphetamine abuse. From 1992 to 2002 the rate of treatment admissions for methamphetamine abuse in the U.S. increased fivefold, from less than 1% in 1992 to over 6% in 2003. The Drug Abuse Warning Network emergency room reports show a similar trend nationally: a slight rise from just under 16,000 mentions in 1995 to 17,696 in 2002.

But National trends are seriously misleading. While national data such as these show some increases, albeit at low levels, regional data on methamphetamine use provide a far more serious picture of the problem. TEDS data show that in 1992 only two states (Hawaii and California) reported more than 5% of total treatment admissions were for methamphetamine. In 2003, 26 states reported over 5%, 8 states reported over 20%, and 2 states (Hawaii and Idaho) reported over 40% methamphetamine admissions. The highest rates were reported in Hawaii and the West, where states like Idaho reported 42%, Nevada reported 28%, and California reported 31%. Midwestern states like Iowa (20%), and Southern states like Arkansas (22%) also report rates far higher than the national average. While the highest rates of use remain in the West and Midwest, there are increases in other new areas. In North Dakota, for example, in 1992 no admissions were for methamphetamine; in 2003, 12% of North Dakota admissions were for meth abuse.

Regional differences in DAWN emergency room mentions are similarly dramatic. While some cities with high numbers of ER mentions for meth have remained unchanged or even declined somewhat (Los Angeles, San Francisco, San Diego, Dallas, Denver), other areas have experienced enormous upswings in ER mentions since 1995: Seattle (109% increase), Minneapolis (243% increase), New Orleans (194% increase), St. Louis (97% increase). These regional trends are mirrored in the Arrestee Drug Abuse Monitoring (ADAM) data. In 11 ADAM sites in 2003, 25% of arrestees tested positive for methamphetamine in their systems; only one site had a proportion that high in 1996.

## **Characteristics of Users and Adverse Effects**

Unlike many other illegal drugs, methamphetamine is a drug that appeals equally to men and women. All of the national data sets show an almost equal gender split for self reported meth use. Users also tend to be White and in their 20s and 30s. Though both cocaine and methamphetamine are stimulants, a comparison of characteristics of methamphetamine users and cocaine or crack users indicates that the two drugs do not, for the most part, share a common user group; that is, the drugs do not seem to substitute for each other or appeal to the same users.

Methamphetamine is a drug that has both acute toxic effects and can produce long term physiological problems. It is a powerful central nervous system stimulant that promotes the release of neurotransmitters like dopamine, norepinephrine and serotonin, each of which controls the brain's messaging systems for reward and pleasure, sleep, appetite and mood. However, when ingested (injected, snorted, eaten), meth produces prolonged euphoric or energized states. The adverse effects are both short-term (cardiac problems, hyperthermia, depression, confusion) and chronic. When used chronically, methamphetamine causes long-term neural changes that result in impaired memory, mood alterations, impaired motor coordination, and psychiatric problems long after termination of use.

## Trafficking, Production, Regulation

Methamphetamine is synthesized from precursor chemicals. Methods of production are commonly available on the Internet or in underground publications and can be executed by almost anyone with high school chemistry experience. Many of the chemicals used are household products that are not feasible to regulate. However, others (ephedrine and pseudoephedrine products, anhydrous ammonia) have come under serious scrutiny and legislation on both the state and Federal level has developed to monitor their sale and limit their availability for illegal uses.

Methamphetamine found in the U.S. is most often produced domestically or in Mexico. It is produced either in small “Mom and Pop” labs making only a few pounds at a time or in superlabs which produce 10 pounds or more in a production cycle. Historically, needed precursor chemicals for large-scale production were smuggled to labs primarily in the Southwest and California, but current distribution is more geographically dispersed. The total number of meth clandestine lab incidents/seizures has risen steadily from just over 9,000 (44 states reporting) in 2000 to approximately 16,000 (46 states reporting) in 2002, to just over 17,000 (47 states reporting) in 2003. Some Western states (California, New Mexico, Idaho, Nevada, Colorado) have experienced significant declines in lab incidents/seizures, while states like Louisiana, Missouri, Arkansas, Mississippi, Tennessee, and Georgia have seen the numbers of seizures/incidents, as much as tripled or quadrupled since 2000.

While the number of “Mom and Pop” labs, often called Small Toxic Labs or STLs, is far greater than the number of superlabs, DEA estimates that the bulk of meth on the market comes from superlabs. The damage done to farmland, water supply, and vegetation from labs of any size, however, is a major problem in all areas where meth is manufactured. Environmental cleanup is costly and may require specialized equipment and training not available to local law enforcement.

Control and regulation of the chemicals used in meth production began in the 1980s and continues. In the 1990s, a series of laws targeted ephedrine and other precursor chemicals and increased the penalties for methamphetamine trafficking and manufacture. In 2000, Congress passed the Methamphetamine Anti-Proliferation Act to address diversion of products containing pseudoephedrine, and introduced thresholds for these and other over the counter medications containing possible precursor substances. Successful law enforcement operations such as DEA’S Operation Mountain Express and Operation Northern Star targeted importation of ephedrine/pseudoephedrine through domestic organizations operating superlabs in Phoenix, Las Vegas, Riverside and San Diego. The Combat Methamphetamine Epidemic Act of 2005, having passed the House of Representatives in December 2005, and currently under consideration in the Senate, would restrict the circumstances and amounts of sale of ephedrine/pseudo-ephedrine products, set impact quotas on these substances, and increase penalties for production and distribution.

On the retail level, methamphetamine is a new market in some areas and established market in others. In those areas where it is relatively new, it is generally produced by local “cooks” and distributed in a “hand to hand”, relational network of people. In areas where the market is well established and the demand is high, more organized networks of producers and distributors appear to operate.

## **Treatment**

Methamphetamine users are seen as some of the most difficult drug treatment patients, due to protracted physiological and psychological problems caused by the drug’s impact on neural pathways. Earliest treatment approaches were based on experience with treating cocaine users. Current psychosocial approaches include case management, community reinforcement and the Matrix Model, a manualized protocol of relapse prevention, cognitive approaches, family therapy and incentives.

Pharmacotherapies are still under development for stimulant users. Several medications and supportive protocols have been studied in a series of NIDA-supported clinical trials, though no standard pharmacotherapy for meth treatment has yet been finalized.