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# Commerce in drugs and chemicals and the detection of clandestine laboratories

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## ABSTRACT

There were 225 clandestine laboratories seized in the United States of America in 1982, an increase of 23 per cent over 1981. These laboratories most commonly produced methamphetamines, phencyclidine (PCP), lysergic acid diethylamide (LSD), amphetamine and methaqualone. In order to determine whether a seized drug has been clandestinely manufactured and to identify the source of the drug, special techniques are used, involving detailed physical and chemical examinations. The results of such examinations are computerized and compared with reference samples to provide indications of the drug source. Undercover techniques are also effectively used for the detection of clandestine laboratories. Chemicals necessary for the illegal production of drugs of abuse were often diverted from legitimate sources through international commerce, which, together with clandestine laboratories, are recognized as an international problem that requires monitoring through international co-operation.

## Introduction

It is widely accepted that illicit drug traffic and abuse are international problems. Although not common to all nations, the problems are none the less international because they cannot be successfully dealt with by a country without the co-operation and assistance of others. This has become increasingly true of drugs that are clandestinely manufactured employing drugs and chemicals which may not be controlled under international treaties.

Since the sudden increase in popularity of LSD in the mid-1960s, the clandestine manufacture of drugs of abuse has constituted a major source of drugs in the illicit traffic in the United States. Traffickers have proved to be very adept at synthesizing a great variety of drugs, including: methamphetamine, PCP, amphetamine, methaqualone and LSD. Although patterns of

abuse and trafficking and the popularity of illegally manufactured drugs have changed over the years, recent seizures provide a clear view of the current nature of this activity.

### **Seizures of clandestine laboratories**

In 1982 the United States Drug Enforcement Administration (DEA) recorded 225 seizures of clandestine laboratories compared with 183 seizures of such laboratories in the preceding year, an increase of 23 per cent. Methamphetamine, PCP, LSD, amphetamine and methaqualone laboratories are the most common types of clandestine laboratories detected in the past years. In 1982, such laboratories accounted for 91.5 per cent of all clandestine laboratories seized in the United States. Methamphetamine, PCP and LSD are among the top 10 drugs abused in the United States. In 1982, 12,830 hospital emergency cases requiring medical treatment for abuse of these drugs were reported in the United States. In each case clandestine manufacture was virtually the only source of these drugs.

### **Chemical precursors**

The sources of the chemical precursors for these drugs have been and continue to be the result of diversion from both domestic and foreign legitimate commerce. For example, recent undercover negotiations conducted by DEA resulted in the seizure of 864 bottles of phenyl-2-propanone (P2P) which were to be used in a clandestine laboratory for manufacturing methamphetamine. The investigation revealed that the drug dealer obtained the P2P from a legitimate firm in Europe. Another recent investigation revealed shipments of the essential LSD precursor, ergotamine tartrate, across international borders. The chemical was shipped from a European source to a clandestine laboratory in the United States.

### **Clandestine laboratories: an international problem**

The United States is not alone in experiencing a problem with clandestine laboratories for manufacturing illicit drugs. For example, clandestine laboratories manufacturing amphetamines and methamphetamine have been seized in Belgium, Denmark, Iran (Islamic Republic of), Mexico, the Netherlands, the Republic of Korea, Sweden, and the United Kingdom of Great Britain and Northern Ireland (in England and Scotland). Clandestine laboratories in Canada and the Federal Republic of Germany were manufacturing LSD. Methaqualone is being manufactured in Mexico and PCP in Canada. Clandestine laboratories manufacturing heroin have been seized in Burma, France, Iran (Islamic Republic of), Italy and other

countries. Cocaine is processed in South American countries. At present, there is insufficient evidence as to the source of the precursor chemicals in the cases cited, but presumably, as in the United States, they were obtained from both foreign and domestic sources.

### Diverted substances from legal sources

In addition to the clandestine synthesis of drugs, there has recently developed a practice of clandestine production of pills (counterfeiting) utilizing both controlled and non-controlled drugs from diverted bulk powder. The most outstanding example of this phenomenon is the recently documented world-wide diversion of methaqualone powder. It appears that methaqualone powder was diverted from virtually every country in which it was legally manufactured. In 1981, 57 tons of methaqualone originating from at least five countries were seized in or *en route* to the United States as a result of international enforcement co-operation. The bulk powder had been ordered by drug traffickers through legitimate brokers in "free zone" areas who in turn ordered this powder directly from the manufacturer. The powder was often shipped to countries in the Caribbean for making tablets to be smuggled into the United States. This form of illicit traffic has decreased owing to the legal actions of the nations involved, but at its height it was believed that approximately 150 tons were being diverted from legitimate production on an annual basis. These estimates do not include the considerable amount of methaqualone also diverted to African and south-west Asian nations.

A similar pattern has developed with the diversion of diazepam. The most consistent use of diverted bulk diazepam powder has been in the production of methaqualone counterfeits that resembled "Quaalude 300s", marketed in the United States, including the inscription "Lemmon 714". These methaqualone look-alikes, which contain diazepam as the active ingredient, have been found on the illicit market throughout the United States and some other parts of the world. The number of methaqualone counterfeit tablets containing diazepam that have been seized or purchased by law enforcement personnel increased 400 per cent from 1977 to 1980.

Organized and expanding trafficking operations in the benzo-diazepines, especially diazepam, exist in many countries, particularly those bordering the United States. In a typical scenario, the trafficker poses as a legitimate enterprise and places an order for bulk diazepam through a broker or directly from the manufacturer. Because the powder is controlled neither internationally nor in many manufacturing countries, the transaction point is legal. The powder is shipped through one or more free ports into the country of destination, where it is used for illegal purposes.

A large-scale organization uncovered in Canada was responsible for diverting hundreds of kilograms of diazepam into the illicit market yearly. At least five companies were placing orders for diazepam, in 200-kilogram lots, from a European source. Ultimately, these shipments of diazepam were received by one organization, which was preparing counterfeit methaqualone tablets from diazepam and then smuggling the tablets into the United States. This organization is known to have received approximately 1,250 kilograms of diazepam between March and June 1980. One Canadian courier was alleged to be delivering to Miami between 9 million and 12 million tablets a month. It is believed that there was further distribution from this organization to other United States cities.

Diazepam has also been found in varying amounts in combination with other drugs, including heroin, cocaine, PCP, dihydrocodone and chlor-diazepoxide. Diazepam has also been found to be the active ingredient in shipments of counterfeit hydromorphone (Dilaudid) tablets, a potent synthetic narcotic used against pain and controlled under schedule II in the United States. This drug has been smuggled into the United States from South America. This new trend of counterfeiting hydromorphone was discovered in September 1980. Initially the traffickers used caffeine or phenobarbital as the active ingredient.

It can be seen that by utilizing intermediaries and free trade zones and by exploiting gaps and weaknesses in both national and international law, drug traffickers have gained access to a great variety of drugs and chemicals. These include controlled drugs, uncontrolled drugs, precursors for the manufacture of controlled drugs and chemicals such as ether and acid. The clandestine manufacturer often obtains the necessary chemical precursors for illicit operations through seemingly legitimate business transactions that cross international boundaries. Although national restrictions on various chemical precursors may be imposed, they are found to be circumvented when similar controls are not exercised by other nations.

### **Techniques to determine the source of the drug**

Because problems of clandestine manufacture have so greatly and for so long affected the United States, a number of successful techniques have been developed to deal with them.

The first prerequisite in developing an effective measure is knowledge of the nature and extent of the drug-related problem. For this purpose, information about police arrests, seizures and hospital records have been used. Special methods are required to detect clandestine manufacture and processing. Often illegally produced drugs are not what they appear to be or what they are sold as. Therefore, it is necessary to undertake an in-depth chemical analysis of each seizure to determine such characteristics as the real

identity of the drug, the amount contained in each tablet or capsule, the variation from dose to dose and the presence of other chemicals and their percentage.

Equally important is the scientific examination of the tablets or capsules themselves. For this purpose, a ballistic tracking of the tablets or capsules is made. Ballistic tracking is the process by which tablets and capsules submitted to the DEA laboratory as drug evidence undergo a ballistic examination to determine the source of the drug. The ballistic examination consists of a macro- and microscopic physical examination and chemical analysis of tablets or capsules to determine individual characteristics of the manufacturer and of the tools with which the tablets or capsules were made. This information is then compared with information about samples contained in a reference library to determine whether the product was clandestinely manufactured and to identify its source. In each instance, the chemist can determine whether the product was made with the same punches and dies as a previously known product. This information is computerized, and all exhibits that have been identified as having been made with the same set of punches and dies are grouped together in a ballistics table. This table may consist of legitimate, commercially produced or clandestinely manufactured tablets and capsules. Most of the tables, however, list tablets manufactured by the same manufacturing sources in clandestine laboratories.

### **Liaison with industry**

Appropriate government authorities should try to establish close liaison with the pharmaceutical firms in their country so that these firms will be aware of the illicit drug problem and can assist government efforts to eliminate the problem. DEA has established a chemical precursor liaison programme through personal contacts with firms. On a voluntary basis, the firms report sales of non-controlled precursors such as N-acetylanthranilic acid, which is used to make methaqualone.

The sale of chemical precursors that have been placed under reporting controls in the United States, for example piperidine, an immediate precursor to phencyclidine, must be reported by the firms to local DEA offices, which then initiate investigations to determine whether the precursor will be used for licit or illicit purposes.

### **Undercover techniques**

The undercover approach to drug investigations is one of the most effective, although in some legal systems special precautions must be observed. The essence of this technique is that law enforcement officers pose



as drug law violators or people who are willing to assist violators. In this manner they are able, under carefully controlled circumstances, to mix with drug violators and gain their confidence and knowledge of their plans and activities. In the case of clandestine laboratory investigations, officers may offer to assist by supplying necessary chemicals or laboratory equipment. Arrangements can be made to simulate business activities for the supplying of such chemicals so that violators can be identified. Of course, it is essential that undercover operations be carefully regulated to insure that individuals are not tempted to commit crimes that would otherwise not have occurred.

### **Training**

Police officers and fire-fighters should be trained to recognize laboratory equipment and chemicals so that they can assist law enforcement efforts in identifying clandestine laboratories when they come across these materials during the course of their normal duties. They will recognize the material as evidence of a clandestine laboratory, and, depending on the circumstances, they can call upon the expertise of an appropriate law enforcement agency to conduct an investigation. The evidence can be used to determine the source of supply of the chemicals and equipment. A chemist under the employ of the Government can be brought to the laboratory and can determine what drug the laboratory was manufacturing and the quantitative and qualitative capabilities of the laboratory.

### **Legal control**

It is noteworthy that the majority of drugs that are produced clandestinely for abuse can be easily and economically manufactured from available precursors and using procedures in which great expertise in chemistry is not necessary. The establishment of international control over a few chemical precursors would significantly reduce the availability of clandestinely produced drugs. Enterprises that use chemical precursors for legitimate purposes would be affected by such control only to a minimal extent.

### **International co-operation**

Clandestine laboratories are an international problem contributing to the spread of drug abuse and trafficking in a number of countries. The criminal entrepreneurs, using clandestine laboratories, have been able to

supply dangerous drugs to the illicit market world-wide. These criminals have taken advantage of the lack of regulatory controls imposed on the manufacture and sale of pharmaceuticals and chemicals as well as on their shipment from one country to another. Although every nation can police itself, the flow of these dangerous drugs takes place through international commerce under the guise of legitimacy. The control of this problem, therefore, requires international monitoring through international co-operation between nations.