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## Use of Archival Data

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## 1. INTRODUCTION

The foregoing section laid out the natural history of drug use and abuse including a discussion of the origins and pathways and the associated health, social, and psychological consequences. This section will address the methods most often used by drug abuse epidemiologists to both describe the problem within a defined geographic area or population and to understand the nature of the problem. The first chapter in this section discusses the most basic epidemiologic approach used to define the parameters of a drug problem, the use of archival or existing data. In this chapter, the need for multiple sources of information on drug use is recommended in response to the stigmatized nature of drug abuse in most societies which often limits identification through self-report as individuals seek to avoid incriminating themselves. Even where laws against the possession, sales or use of drugs of abuse are not fully enforced, there is usually social stigma against drug users, thus inhibiting acknowledgement of such use.

Assessing vulnerable or susceptible persons or persons who are actually affected with a health problem is a difficult challenge for all epidemiologists and not limited to those addressing drug abuse. Researchers interested in mental health problems, cancer, heart disease, and most other medical problems face similar barriers. For some of these conditions, registries, reports or insurance billing information represent the primary source of information on affected cases. An excellent example of this approach is the use of Surveillance, Epidemiology, and End Result (SEER) data for cancer incidence and mortality (National Cancer Institute). Currently SEER receives reports of cases from 14 population-based areas including States, counties, and extended metropolitan regions. Information from SEER is projected for all of the United States. Another example of this approach is for HIV infection and AIDS. The Centers for Disease Prevention and Control have established registries within State-level health departments that receive reports of infected persons (Centers for Disease Control and Prevention, 2001). Both the SEER and HIV registries begin with reports that have minimal information and add subsequent information from medical records or investigative summaries (Gornick et al., 2004). For other medical problems, surveys are used to determine the extent of these problems in general populations, usually asking the respondents if they have the problem or if they have symptoms that may or may not be both sensitive and specific to the index problem. These types of studies may follow a series of cohorts recruited from a general population living in defined areas every year or less frequently. A good example is the renowned Framingham study in which study participants are being followed every two years with questionnaires and medical examinations (National Heart, Lung, and Blood Institute). The first cohort established in 1948 consisted of over 5,000 residents between the ages of 30 and 62. The second consisted of the children of the first cohort, established in 1971. Currently, the researchers are recruiting the children of the second cohort.

Data from the study have contributed greatly to our knowledge about the risks for heart disease (e.g., Lloyd-Jones et al., 2004). Other researchers have studied cohorts of persons who have been identified as being at risk for disease by virtue of their family history or life styles. These longitudinal studies determine the specific factors that precipitate or protect from disease manifestation, morbidity, and mortality.

This chapter will focus on the use of archival data in epidemiologic systems to monitor and understand the drug abuse situation. The first section will describe potential sources of archival data and discuss their advantages and disadvantages. The second section will present an example of a successful surveillance system, the Community Epidemiology Work Group (CEWG) and the contributions this system has made to our understanding of drug abuse in the United States. Finally, the chapter will conclude with suggestions as to how archival data can be used for policy.

## **2. SOURCES OF ARCHIVAL DATA**

Archival data consist of information maintained by agencies that provide services to drug abusers, such as drug abuse treatment programs, hospital emergency rooms and clinics, medical examiners or coroner's offices, social service organizations as well as law enforcement and criminal justice agencies. Through the review of archival data it is possible to determine: (1) the nature of the drug use problem, i.e., types of drugs being used, methods of use, and frequency of use and (2) the characteristics of those who use drugs. The use of such data has many advantages. Archival data are both inexpensive and generally easy to access. However, there are inherent biases associated with archival data as the information included on routine records or statistical reports may be limited or unverified. For example, emergency room personnel do not routinely ask about or test for drugs that may be used by the patients they serve and unless the episode is related to a drug-related problem, may fail to even consider the involvement of drugs. Yet archival data are rich sources of information particularly for communities and countries that do not have the resources for other epidemiologic studies. In addition, if archival data are standardized and routine, they can serve as a significant part of a more comprehensive surveillance system and over time have the potential for identifying emergent new drug use patterns, including new drugs of abuse, new methods for using existing drugs, and new populations involved in the use of drugs. Both the World Health Organization and the United Nations suggest that archival data should be one component of a multiple component epidemiologic information system (WHO, 2000; United Nations, 2003) that includes both household and school surveys and studies of special populations. To be effective these data sources should form an integrated information system of experts that collects and reviews the data on a regular basis.

Each geographic or political community varies in the types of data that would be readily available as input into any drug use information system. Generally, the sources of these data are obvious, but some are less so. Most guides or manuals, such as the WHO Guide to Drug Abuse Epidemiology (World Health Organization, 2000) and the UN's Global Assessment Program's Toolkit, Module 1 (United Nations, 2003), suggest ways to make an inventory of these resources. How and whether drug use patterns will be reflected in archival data depends on the natural history of local drug use patterns, the types of services available to drug users, and the type of information collected through existing data collection systems. For this reason it is important to gain an understanding of the local drug situation and how this might be captured through archival data sources. Methods to do this include a review of any available data on the natural history of drug use, talking with local providers of services to drug users, and holding focus groups with drug users. One caution in the selection of these "informants" is that the lifestyles of different types of drug users may vary widely due to the physiological effects of the drugs used, the costs and availability of the drugs, and numerous other social, psychological, physical and environmental factors.

The circumstances that prompt drug users into a treatment service situation may not be universal. The literature does indicate that not all drug users come into contact with service agencies and many manage their drug use without any apparent need for treatment or medical assistance and without coming to the attention of law enforcement. As Hser et al. indicate in their chapter in this publication, most natural history studies begin with groups of drug users already identified through treatment or the criminal justice system. They also state that it is likely that the more severe or problematic drug users will have contact with social service, health, or criminal justice agencies. There is a dearth of information in the literature regarding drug users' utilization and contact with any of these agencies. Nurco and his colleagues (1984, 1988) have studied the addiction careers of different groups of narcotic users and provide findings on the association between periods of addiction and involvement in crime. They find that criminal activities decrease during periods of nonaddiction. Other studies have found that drug users differ in their use of medical services. Those with more severe problems, including psychosocial issues, are more likely to use emergency and inpatient services than other groups of drug users or neighborhood control non-drug users (French et al., 2000; Reynolds et al., 2003). Furthermore, as with the general population, those with more resources will have access to more services. Finally, there are differences in service utilization by gender and ethnicity (Brown et al., 1993). All these factors must be considered when accessing archival data to correct the bias or, at least, to be cognizant that biases are present.

There are six primary sources of archival data that are generally included in most information systems on drug use. They each have their advantages and disadvantages. These are: (1) drug treatment programs, (2) hospital admissions

and emergency rooms/departments logs, (3) public health or infectious disease registries, (4) poison control centers, (5) medical examiners/coroners offices, and (6) criminal justice/law enforcement agencies. These are good sources of information, but each also has certain limitations that are discussed below. Probably the greatest limitations to these sources are: (1) they include persons who may have used drugs only once, (2) they are not “population-based”, i.e. prevalence and incidence rates of drug use for the general population can not be calculated directly from these numbers, (3) a drug user could appear multiple times in multiple records, since they are not independent of each other, and (4) they are sensitive to administrative and policy changes, e.g. if a city official in response to public opinion orders a crack-down on drug users, the numbers of arrests may increase representing a change in implementation of law and not necessarily an increase in drug use.

## 2.1. Drug Treatment Programs

The availability of treatment for drug use varies across communities and includes a range of possibilities from public, free-standing programs to private regimens within existing general or specialty clinic practice (Substance Abuse and Mental Health Services Administration, 2003). Therefore, it is important when considering drug use treatment resources to develop a list of facilities where drug users would go for treatment. In most communities where no treatment programs are readily available, nearby general, mental health, or psychiatric hospitals may provide treatment services to local residents. Treatment data collection systems usually have a pragmatic focus on collecting data from a defined set of treatment services rather than being all inclusive

The major advantage of accessing drug treatment facilities is that they are more likely than other types of facilities to collect useful information on drug use patterns, since their focus is drug abuse. In addition to having information on the demographic characteristics of their patients including their place of residence, they should have detailed data on the types of drugs being used, the frequency of their use, the mode of drug administration, and about associated social, economic, psychological, and health problems, since this information is needed for deciding on treatment strategies.

Unfortunately, there are a number of potential disadvantages associated with treatment data. For instance, the treatment provider may be interested solely in the patients’ drug of choice or the patients’ self-determined primary drug problem and may not ask about the use of other types of drugs or about the patients’ histories with drugs and other substances, such as alcohol and tobacco. Patients involved in public programs may have different drug using patterns, problems, and histories from those attending private programs/regimens. Also, those in treatment may not be representative of drug users in general. For instance, Price et al. (2001) found that at the time of their 1997 follow-up survey of a cohort of drug abusers

recruited in the early 1970s, fewer than 9 percent of those admitting to drug use were in any type of treatment program. In addition, those in treatment may also be older and their drug use may not represent emergent patterns of use. Often data on drug treatment distinguishes between new treatment clients and repeat admissions to help discern recent drug trends, although there typically remains a lag between onset of an emergent drug practice and entry into treatment. Finally, not all of those presenting for treatment are self-referred or self-motivated. A sufficient portion of these admissions may be in treatment as an alternative to jail and possibly may not be as involved with drugs as the general drug using population (Friedmann et al., 2003; Joe et al., 1999). For these reasons, it is important to have a good understanding as to how people come to treatment and how information regarding drug use is recorded. Interpretation of treatment data should also consider shifts in drug treatment provision, such as implementation of a new treatment modality or improved access to treatment that may increase the number of people entering drug treatment. Large scale shifts in treatment provision may occur in response to growing or changing drug trends, and it can difficult to tease out the relative contribution of drug use trends per se over that of shifts in service provision.

## **2.2. Hospital Admissions and Emergency Department Logs**

The process of maintaining records in hospitals varies across countries. In the United States, hospital admissions and discharges are reported centrally and the International Classification of Diseases is used to code the diagnosis associated with each hospital stay. Emergency or urgent care episodes generally include cases of accidents, suicides, homicides as well as those situations when someone is ill and has no ready access to medical care. As discussed above, this would be the situation for most problematic drug users.

Among the advantages of using hospital and emergency department information is that it is here that new drugs of abuse and new ways of using drugs may be observed as naïve drug users may have negative physical reactions to these new drugs, requiring medical attention. In addition, drug users who may not come to the attention of the criminal justice system or admit themselves to treatment may use the emergency department for their health care. The major disadvantage of using hospital and emergency department records is unless drug use is obvious, i.e. drug use is the primary, secondary or tertiary reason for the visit, staff may not ask about it. In addition, some drugs may not cause the kind of consequences which require emergency treatment, even though they may be of great concern to the community. A case in point is ecstasy. In the absence of laboratory tests of body fluids, drugs also may go undetected and, thus, unreported because the patient or whoever provided the initial information was unaware that the drug ingested was contaminated with other substances. This type of situation occurred relatively frequently in the

past when marijuana was reported as the cause for emergency room presentation when, in fact, the marijuana had been contaminated with phencyclidine (PCP) which was a more likely candidate for causing the primary condition requiring emergency attention. Thus, similar to treatment data, the service delivery process at the care giving facility needs to be understood fully in order to avoid drawing inaccurate conclusions from the records.

### **2.3. Public Health Reports of Infectious Diseases**

Reporting the diagnosis of certain infectious diseases is required in many communities and in many countries. Generally, reportable infectious diseases are found at high rates among drug abusers including human immunodeficiency virus (HIV) infection or acquired immunodeficiency syndrome (AIDS), hepatitis A, B, C, and Delta; tuberculosis, and sexually transmitted diseases. Usually inquiries are made as to the mode of transmission and as tracing and notification are essential components of these programs, demographic information should be available for each case.

As in the case of hospital and emergency department information, these reporting systems will include drug users who may not appear in any other service agency records. In addition, monitoring these systems on a routine basis will detect increases of the spread of infection and identify those populations or areas to target interventions. However, these systems may not request information on drug use or, if they do ask about drug using behaviors, they may not provide much detail (Klevens et al., 2001).

### **2.4. Poison Control Reports**

Both medical personnel and the public report negative health effects of drugs and other substances to poison control centers. The broad based reporting provides valuable information on both emergent and existing drug use practices. An example of an emergent problem discovered through reports from a poison control center was noted at a December 1998 meeting of the Community Epidemiology Work Group in Miami in which the use of gamma-hydroxybutyrate (GHB) and its precursor gamma-butyrolactone (GBL) were reported being used in combination with 3, 4-methylenedioxyamphetamine, also known as MDMA, X, and ecstasy, in clubs and at dance parties, such as raves (National Institute on Drug Abuse, 1999). The report also stated that GHB was implicated in both the onset of serious illness and death. The major limitation of these reporting systems is that the reports are of single drug use episodes, do not necessarily reflect long-term drug use or widespread drug use patterns, and may lack detailed information regarding the specifics of drug use to understand what populations are represented in the reports.

## **2.5. Medical Examiners/Coroners Reports**

In most locales, medical examiners and coroners are responsible for investigating sudden and unexpected as well as violent deaths. As legal issues are at stake, they are responsible for compiling sufficient evidence to support their determination of cause of death. In many countries, their reports of cause of death are an important part of the nation's vital statistics. However, there is great variation across communities, and even within communities, in the training of medical examiners/coroners and in their level of expertise and interest in issues, such as drug use. Medical examiners/coroners in different jurisdictions may use different criteria for defining drug-related deaths and have different levels of experience in recognizing these deaths. For these reasons, the quality of reports of cause of death may not be uniform across jurisdictions (Shai, 1994; Smith Sehden and Hutchins, 2001). In addition, not all deaths are thoroughly investigated and even, in cases where all deaths are investigated, toxicology screens to determine the use of drugs are not always ordered. Therefore, it is important to know the processes used by the medical examiner's office when accessing death reports. Most drug use data systems include information on the direct and indirect causes of death, but unless the information on drug use is collected, information for deaths among drug users due to natural causes or other diseases may not be included. Drug users may die from a number of reasons related directly to drug use as in the case of drug poisoning or overdose. Or the cause of death may be indirectly linked to drug use, such as homicide, suicide, and AIDS or other infection, e.g., sepsis, bacterial endocarditis. Therefore it is important to distinguish between deaths caused by drugs (e.g., overdose or poisoning by drugs) and those deaths where drug use was an in-direct cause. There are clear advantages to this source of information on drug use practices, similar to those of the other medical/health sources mentioned above. However, the reporting system will be substantially affected due to the lack of medical training in some offices, the failure to conduct posthumous investigations, lack of drug testing and, in addition, the limitations imposed by rules concerning which deaths are referred to the medical examiner/coroner for autopsy. Drug-related deaths data are also more reflective of drugs or combinations of drugs that are associated with higher risk of mortality. It is also important to recognize that most death data only indicate one drug as the primary cause of death, while toxicology results often indicate the presence of several drugs that may have cumulatively resulted in death.

## **2.6. Law Enforcement**

The illegal nature of drug use in most countries will also place drug users at risk of arrest. Law enforcement agencies not only can provide information about people arrested for drug use or non-drug use crimes, but also they often seize

drugs and in some cases, analyze the seized drugs to determine the type of drug and purity levels. Law enforcement agencies may also keep track of the street prices of drugs and have a better understanding as to how drugs are marketed. Information from law enforcement agencies has the advantage that it may capture a different segment of the drug using population to that captured through treatment services or other general health services; however, arrest data tend to over-represent males and obviously those who are criminally involved. One major disadvantage of arrest data is bias by the imposition of policing operations that target particular types of drugs or drug markets and strategic directions taken in response to public outcry or a political need to respond to a particular drug problem. Purity and price data can also be influenced by the focus of the policing activity while it is also important to consider sampling issues with price and purity data. Price data from law enforcement may be based on a small number of reports and may not be indicative of street level prices. Similarly not all drug seizures may be analyzed for purity: this may be related to local legislations around the necessity to verify purity and constituents of drugs seized. Lack of confirmation of drug seizure content can also affect the way drug trends are reflected in arrest statistics. Finally, as in many cases drug use carries great social stigma, those arrestees from the higher socioeconomic groups may be able to have their arrest records expunged or have the reason for arrest altered. Despite these weaknesses, law enforcement data provide an important adjunct to other data sources by capturing drug users who may not be represented in health data sources and also in understanding factors about the drug market that may influence consumption patterns.

## **2.7. Overcoming Limitations of Existing Data**

Experience with existing drug abuse data and information systems has led to a variety of methods being implemented to address their limitations. In general, there are two approaches used to collect the information needed to assess the drug use situation in a community. One is to collect information after the fact, either selecting time periods over the calendar year or selecting a random or systematic sample of records, such as hospital discharges, emergency logs, or arrests and to have trained staff abstract these records. The second approach is to be more proactive in collecting the information by interviewing persons admitted or discharged from a hospital, contacting the emergency department staff, or being present at the time of processing an arrest. This approach requires having trained staff available 24 hours a day or using some other time schedule to interview patients or arrestees, using the universe or a sample of the population, about their drug use and reasons for making their agency contact. There are significant costs associated with the two approaches both in terms of training and manpower. When using either, it is important to account for variations in contacts, such as seasons or holidays and

that the periods of data collection are sufficient to detect drug use. In addition, a denominator of all contacts, both drug users and non-users should be obtained as a basis for computation of population rates.

If agency reports are being used, it is important to work with the responsible agency staff to understand how the information is collected and inquiries should be made concerning whether reporting forms could be revised to include more detailed information about drug use, such as the type of drugs used, mode of ingestion (e.g., injecting, snorting, smoking, swallowing), frequency of use, and longevity of use. Understandably, most agencies would be resistant to making changes. For this reason, having agency representatives form a community-based data group that reviews the information from multiple sources may serve to stimulate change. The development of an information group or network allows access to a wide-range of data sources and any interpretation of data output represents the viewpoints of a number of community sectors. Thus, it is recommended that when forming these groups participating members are recruited from a variety of diverse agencies. The major objectives of these networks should include defining the characteristics of the drug use problem in the community and detecting emergent drug patterns in order to monitor them and to prevent their spread. In order to achieve these aims, it is important to collect data over sequential time periods, e.g. quarterly, semi-annually, or annually, and to interpret any observed changes to consider if they truly represent alterations of drug use patterns or if they are the artifact of administrative decisions about agency operations. If the observed change is consistent across all reporting sources, there will be more confidence in accepting the change as real.

### **3. THE COMMUNITY EPIDEMIOLOGY WORK GROUP: AN EXAMPLE**

One of the authors (Kozel) of this chapter is considered the founder of the Community Epidemiology Work Group (CEWG) that is supported by the National Institute on Drug Abuse (NIDA). The CEWG was established in 1976 as a group of epidemiology experts representing cities across the United States. Twenty-one city representatives participate in the group at the time of the writing of this chapter many of whom have been involved with the group for ten years or more. The group meets twice a year, in June and December, when each member presents a report of information from several sources. Several articles have been published about the CEWG, describing its operation and its findings (Kozel, 1993; Sloboda and Kozel, 2003). The CEWG members generally use existing reports from local agencies within their cities. The challenge to the CEWG has been to summarize this information with its varying definitions of terms and emphases. In an attempt

to standardize reporting procedures, for more than 25 years the membership of the CEWG along with the NIDA staff have developed routine reporting formats, so that an equivalent, minimal data set is collected. To enrich this basic information, the members draw on the findings of ongoing research or of periodic school or household surveys, and often adding ethnographic or focus group information that provides context to the primarily quantitatively-based drug abuse “picture” in their areas.

At each meeting, after the members briefly discuss the current status and trends of drug use, the group will seek commonalities or discuss differences particularly of any change in drug use practices, such as the introduction of a new drug, a new way of using an existing drug, or new population groups using a drug. The members also discuss gaps in their data, set priorities as to which gaps need to be addressed, and develop ways as to how this can be done. Oftentimes one or more members will introduce and suggest a new resource to the others while sharing what additional or confirmatory information this source provides.

The CEWG model can be applied at different geopolitical levels from local communities, to countries, or to a region. Country or regional work groups would include representatives of smaller systems or networks and each representative would present the findings from his or her network. The aims of these larger groups are to seek unique and common trends across a large geographic area and to understand the factors influencing differences when they occur.

Although the CEWG is U.S.-based, over the years an international component has been added so that epidemiologists, researchers, and policy makers from other countries have an opportunity to report on drug use trends in their communities or countries. Exposure to the operation of the CEWG has led to a number of countries adopting the approach. For instance, the Ministerial Conference of the Pompidou Group created an Epidemiology Expert Group in 1982 to develop monitoring systems to evaluate the drug abuse and related problems in Europe. Other countries that have established similar groups include Mexico, Canada, and South Africa. Regional groups include the Americas and the Caribbean under the sponsorship of the Organization of American States, South and Southeast Asia under the sponsorship of the United Nations Office on Drugs and Crime—Regional Centre for East Asia and the Pacific, and the Southern African Development Community countries under the sponsorship of the European Communities. In addition, the Headquarters of the United Nations Office on Drugs and Crime (2003) has developed a manual for self-training in methods for establishing and implementing similar data systems.

The potential of an information system such as the CEWG addresses at least four aspects: (1) defining emergent drug use trends, (2) examining the time-space relationship of drug use patterns, (3) generating research questions, and (4) contributing to epidemiologic methods.

### 3.1. Emergent Trends

New trends in drug use patterns generally are observed first by law enforcement and emergency department staff. Sloboda and Kozel (2003) suggest that these new trends occur among existing drug using populations and that it may take one to two years before they are observed within a general population. As stated above emergent patterns of drug use may include new types or formulations of drugs, new methods for using existing drugs, new population groups using existing drugs, or some combination of all three possibilities. Examples of new drugs detected through the CEWG have been reported for methaqualone (Quaalude) in the 1970s, crack-cocaine in the 1980s, Rohypnol in the 1990s, and GHB and OxyContin in the late 1990s and early 2000s. At first these new drugs were observed in one or more cities. Once mentioned at the CEWG meeting, members went back to their colleagues and data sources to determine if these drugs were showing up in their areas. Over time, the members were able to document the spread of the use of these drugs and the health problems associated with their use. With this information it was possible to involve public health agencies to alert hospitals and law enforcement agencies and through print and electronic media to educate the public about these drugs and the consequences of their use.

Not only have new types of drugs been detected by CEWG members but also they have documented new ways to administer drugs. The use of blunts, i.e., marijuana-filled cigars, was noted in the early 1990s among African-American youth in cities in the northeast region of the country before spreading to other cities. Blunts combined with alcohol, which became culturally embedded as a 40 ounce can of malt liquor, became so prevalent that the pattern was included in movies and rap music. Other examples of new administration practices include snorting of heroin as a purer version of the drug was made available from Colombia and injecting crack cocaine when users discovered they could dissolve the drug in lemon juice or vinegar (Sloboda and Kozel, 2003).

Lastly, new subpopulations involved with specific drug use practices have been observed at the CEWG meetings. Several examples have been presented in Sloboda and Kozel (2003). Among these is the movement of heroin from urban to suburban areas as snorting the purer form became more acceptable in the 1990s. Another example has been the spread of methamphetamine use from more geographically defined areas around cities in the west and southwest and in rural areas to almost every part of the country and moving from outlaw motorcycle gangs and certain Asian groups to more diverse populations, including young people. It was possible to attribute these changes when information from the Drug Enforcement Administration was reviewed showing that the source of the new waves of methamphetamines came from Mexico and was distributed along marijuana trafficking routes.

### **3.2. Time-Space Relationship of Drug Use Patterns**

As with other public health issues, there is an apparent time-space relationship to various forms of drug use. There is a commonality in the use of drugs, such as marijuana, cocaine, and heroin across and within countries, the popularity of these drugs may rise and fall depending on their availability, purity, price, and on public perceptions regarding their social acceptability and the associated serious nature of the consequences of their use. Yet, some drugs are notably endemic to a particular geographic area or may be popular at certain periods of time. Examples of endemic drugs are “ice” in Hawaii and PCP in Washington, D.C. While many large cities were dealing with an epidemic of crack-cocaine, it did not make an appearance in Chicago until several years later. Certainly environmental factors, particularly drug markets and trafficking, explain much of the time-space relationship that has been observed consistently by the CEWG members. What is not as clear is what forces work to move new drugs and administration styles across boundaries and to more diverse populations. Clearly the expansion of interstate highways and movement of goods and people and the internet and media suggest an explanation to the “how” question, but the “why” of adopting these new patterns is not so apparent and warrants further investigation.

### **3.3. Generating Research Questions**

The above discussions regarding emergent new problems and their spread raise important questions. Some of these have been addressed first through ethnographic or qualitative studies and focus groups. This exploratory work helped refine research questions and suggest population and sampling plans that were incorporated into further research. An excellent example of such an approach surrounded the issue of the spread of methamphetamines that is described more fully by Pach and Gorman (2003). A group of ethnographers conducted a study using a standard approach in six cities. The cities were selected on the basis of how extensive the problem was—endemic, emergent, or unclear. This research provided insights into the new populations affected by methamphetamines and into the specific consequences of their use. Several other areas of research raised by the information presented by the CEWG are discussed in Sloboda and Kozel (2003).

### **3.4. Contributions of the CEWG to Drug Abuse Epidemiologic Methods**

Several epidemiologic methods have evolved through the processes of the CEWG. The most dominant has been the ability to develop a sound description of the drug abuse situation within a geographic area. The systematic integration of data from a variety of sources into reporting formats that can be reviewed and discussed have empowered communities to document drug abuse problems

and to provide planners and policy makers with information that helps to define prevention and treatment needs. In addition, the CEWG has shown how existing data sets can be used across time and geography to document emergent problems. Finally, through the research that has been generated by the CEWG, an integrated quantitative and qualitative approach has been developed that has been embraced by drug abuse epidemiologists (Agar and Kozel, 1999; Sterk and Elifson, Chapter 9, herein).

#### 4. CONCLUSIONS

Drug abuse has become recognized as a public health problem around the globe by both the United Nations and the World Health Organization. But even in the most accepting of countries the nature of drug abuse poses a barrier to the use of traditional public health epidemiologic approaches. Part of that nature is how it can and has changed over time, presenting public health workers with new drugs of abuse, new and sometimes very dangerous methods for drug administration, and involving more vulnerable populations. At times these changes are contained and short-lived, but many times they spread across population groups and become endemic over years. The Community Epidemiology Work Group has become an important tool to be used with others from the more traditional epidemiologic armamentarium to assess drug abuse at the local, regional, national, and international levels. The information gathered describes current drug use patterns and can suggest potential future issues. It can also generate questions or issues that can be further researched. Finally, it serves as a resource for public health planners and policy makers to plan for services and the allocation of resources. Clearly, the rapid diffusion of the CEWG model to other countries and regions of the world support the efficacy of this approach.

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