Assessing Drug Abuse Within and Across Communities

Community Epidemiology Surveillance Networks on Drug Abuse

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Preface

Drug abuse and addiction have a devastating impact on a community. They lead to increased rates of crime and violence, family disintegration, childhood developmental barriers, illness, and even death. Addiction is not discriminatory. It is an "equal opportunity destroyer," affecting all aspects of society.

The National Institute on Drug Abuse (NIDA) supports over 85 percent of the world's research on drug abuse and addiction. Through NIDA's research program, much has been learned about how drugs affect us—what they do to our brains, our bodies, our behavior, our relationships, our communities, and our society. Great strides have been made in understanding the biological, behavioral, social, and environmental influences that place individuals at risk for drug abuse and addiction. Importantly, research has also yielded major advances in preventing and treating drug abuse.

Communities can play an active role in preventing and reducing drug use in their own local environment. Science has taught us much about the fundamental principles underlying successful drug abuse prevention, principles that can be applied locally to both evaluate existing prevention efforts and develop new programs. These principles are outlined in NIDA's science-based guide to drug abuse prevention, *Preventing Drug Use Among Children and Adolescents–A Research-Based Guide*, published last year. This booklet was specifically designed to aid communities in their local prevention efforts.

Understanding the local environment is essential if a community is to successfully address drug abuse problems. It sets the context in which both prevention and treatment programs must operate. Research has shown that to be maximally effective both prevention and treatment efforts must be tailored to current local needs. However, local drug abuse problems are not easy to detect, quantify, and categorize. Patterns change as new drugs become available, new combinations become popular, and users experiment with new ways of administering drugs.

To help communities understand their local drug abuse problems, NIDA has developed this guidebook. It will be a useful tool as you develop a drug abuse epidemiologic surveillance system to assess local drug abuse patterns and trends. This model can be used by States, counties, cities, and communities. It is based on the work of NIDA's Community Epidemiology Work Group (CEWG), a national surveillance network composed of researchers from around the country that has been meeting biannually for more than 20 years to monitor drug use and abuse trends.

This particular model has proven to be useful in assessing local drug abuse patterns and trends, and especially emerging problems. It has been successfully applied in many States, and by countries and regions internationally. The information generated by the networks is used to alert prevention, treatment, and public health officials, as well as the general public, so that appropriate and timely action can be taken. Researchers, too, find the information useful in developing and assessing hypotheses explaining changes in drug use patterns and the characteristics of drug users. States, counties, and smaller communities interested in developing a surveillance network capability will find this guide useful.

There is great efficiency in using data sources to assess the nature of the drug abuse problem in a community. Analyses of information gathered through these means will suggest where additional research is needed, which groups or areas need to be targeted for preventive and treatment interventions, and what questions need to be answered for both policy and programmatic decisions. However, it is important to note that this is but one of several approaches that might be used to assess the drug abuse problem at the local level.

We hope this guide proves useful in improving the quality of the Nation's prevention and treatment efforts. We would welcome feedback from users about both its usefulness and ways we might improve upon it.

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Community Epidemiology Surveillance Networks on Drug Abuse

What Are Community Epidemiology Surveillance Networks?

Community Epidemiology Surveillance Networks are multi-agency work groups with a public-health orientation which study the spread, growth, or development of drug abuse and related problems. The networks have a common goal—the elimination or reduction of drug abuse and its related consequences.

. . . network members access existing information from multiple sources . . .

To achieve this goal, network members access existing information from multiple sources including drug abuse treatment agencies, public health offices, law enforcement agencies, hospital emergency departments, medical examiner and coroners' offices, and local school and household surveys. Members meet periodically to review, compare, and draw conclusions from the data. The data are reported in a standardized format to facilitate the review and comparative analyses. Qualitative studies may be conducted to help members understand the quantitative findings from existing data sets.

The primary objectives of the network members are to:

- identify drug abuse patterns in defined geographic areas;
- identify changes in drug abuse patterns over defined time periods to establish trends;
- detect emerging substances of abuse; and
- communicate and disseminate the information to appropriate community agencies and organizations so it can be used in developing policies, practices, prevention strategies, and research studies.

Network members are individuals who are in a position to contribute and assess information about drug use in specific geographic areas. They may represent agencies and organizations that have some responsibility for addressing drug abuse problems or that benefit directly from acquiring information about drug abuse. Researchers and other individuals who have special knowledge about a particular issue or drug-abusing population also may participate. Regularly scheduled network meetings provide a forum for members to share, review, and analyze information on the epidemiology of drug abuse.

This guide focuses on practical ways of accessing and analyzing diverse indicator data from a variety of data sources and on effective ways of reporting such data.

Where and How Did Surveillance Networks Get Started?

The first national level surveillance network was established by the National Institute on Drug Abuse (NIDA) in 1976 to assess current drug use patterns in major metropolitan areas across the country and to identify emerging trends within and across these areas. This network, called the Community Epidemiology Work Group (CEWG), has been meeting semiannually for more than 21 years to fulfill its role as a drug abuse surveillance system. CEWG members represent Atlanta, Baltimore, Boston, Chicago, Denver, Detroit, Honolulu, Los Angeles, Miami, Minneapolis-St. Paul, Newark, New Orleans, New York City, Philadelphia, Phoenix, St. Louis, San Diego, San Francisco, Seattle, the State of Texas[1], and Washington, D.C. Appendix A is a list of the CEWG members. Contact them for information specific to their cities and for additional advice on the organization of a local community surveillance network.

Based on the NIDA CEWG model, State Epidemiology Work Groups (SEWGs) have been organized in many States. Other countries also have adopted the model. Similar work groups have been organized or are under development in Asia, Australia, Canada, Central America, Europe, Mexico, and South Africa. Recently, a program has been initiated to establish surveillance networks throughout the countries of the Americas. In addition, an International Epidemiology Work Group (IEWG), which represents a network of national and regional surveillance networks, has been established.

National CEWG information is disseminated by the Division of Epidemiology and Prevention Research, NIDA, through its biannual report series entitled *Epidemiologic Trends in Drug Abuse*. Information on the national CEWG, its reports, and other important data sources can be accessed directly at http://www.cdmgroup.com/cewg. In addition, it can also be accessed through NIDA's Home Page http://www.nida.nih.gov. Clicking on *organization*, you will find it listed under Division of Epidemiology and Prevention Research.

Why Are Networks Established?

The primary purpose of a local surveillance network is to share timely and reliable information about drug abuse. What types of drugs are being used in particular communities? Who is using them? How are they being used? What are the consequences of use? How are the patterns of use changing?

The primary purpose . . . is to share timely and reliable information . . .

Information of this type is essential to many agencies and organizations, especially those with responsibility for planning and allocating resources to address drug abuse and related problems. Too often,

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[1] Originally, data were reported for the city of Dallas. Currently, data produced by the Texas State Epidemiology Work Group also are reported.

agencies plan strategies and commit resources without having up-to-date information about the nature and extent of drug abuse problems. These efforts can be wasteful and counterproductive.

Networks . . . contribute to one or more elements of a needs assessment . . .

Patterns of drug use are determined not only by the availability and cost of different substances, but also by the dynamics and differences within groups, cultures, and communities. Drug abuse patterns are complex, constantly changing phenomena. Like a disease, they can quickly spread through and across communities. Drug abuse has been associated with increasing rates of crime and violence as well as health problems such as human immunodeficiency virus (HIV) infection which causes the aquired immunodeficiency syndrome (AIDS); other sexually transmitted diseases (STDs); and other infectious diseases such as hepatitis. If a pattern is identified early, appropriate action can be taken to control its spread.

By monitoring drug abuse over time, it also is possible to evaluate whether programs are having any impact on particular aspects of drug abuse problems.

Networks do not necessarily conduct needs assessments. Rather, they may contribute to one or more elements of a needs assessment. A needs assessment is a methodology used by administrators and planners to determine the need for specific services in a particular geographic area. The purposes of a needs assessment are to:

- define the problem;
- determine the magnitude of the problem;
- identify the services that are currently available to address the problem;
- identify the demand for services;
- determine the gaps in service;
- determine what additional services/resources are needed to fill the gaps; and
- help prioritize the problems and services so that administrators and planners can determine how limited resources should be used.

Surveillance networks help define and determine the magnitude of drug problems and provide an early warning for emerging problems. It is important for members to understand the specific purpose (goals and objectives) and limits of the network. Through this understanding, local networks are more likely to be successful and contribute to needs assessments.

What Are the Advantages of a Network?

The surveillance network model has many advantages for planning purposes:

- It uses a practical formula.
- It is not costly.
- It makes use of existing resources.
- It has proven to be effective.
- It provides immediate feedback.
- It works on many different levels.
- The information is useful to many agencies and organizations.
- It provides input from different perspectives.
- It establishes a network of people who share information and work together on common problems.
- It builds an infrastructure for further research.

It takes minimal agency support and a few committed people to get a network started

It takes minimal agency support and a few committed people to get a network started. Once established, the network should be self-sufficient. It requires the participants' time to gather and prepare information prior to meetings, meet periodically, and prepare information for dissemination following the meeting.

Often, people who are sought as members of a network already are engaged by agencies or organizations involved in the drug abuse field and may be currently collecting data from or about drug-using populations. In addition, their agency would probably recognize the short- and long-term benefits to be derived from participation in a surveillance network. The only other requirement for startup is a place to meet.

Optimally, meetings should be regularly scheduled about twice each year. This time frame provides a sufficient time gap (6 months) to assess changes in drug use patterns and keep the groups active without placing a heavy burden on participants. At least 1 full day should be set aside for each meeting.

What Sources of Information Do Networks Access and Use?

Networks make use of multiple sources of information. Each source provides information about particular drug-using populations and/or different facets of the behaviors and outcomes of the same or similar populations. The information obtained from each source is considered an indicator of drug abuse. The direction of changes in indicators across time is a measure of relative change in drug abuse behavior and related problems rather than a measure of absolute change. Indicators do not provide estimates of the number (prevalence) of drug abusers at any given time or the rate at which drug-abusing populations may be

. . . indicators help identify different types of drug abusers . . .

increasing or decreasing in size. However, indicators do help identify different types of drug abusers, such as those who have been arrested, treated in emergency rooms, admitted to drug abuse treatment programs, involved in accidents, diagnosed with HIV/AIDS, or died with drugs found in their bodies.

One source can complement and support another and help to validate information on drug use patterns

By comparing information from different sources concurrently, network members can identify and learn more about different drug-using populations, the similarities and differences across groups, and perhaps emerging patterns and trends. One source can complement and support another and help to validate information on drug use patterns.

Networks, at all levels, use many data sources:

- drug abuse treatment and intervention agencies;
- hospitals and hospital associations (which may provide data on drug-exposed newborns);
- State, county, and local health agencies and departments;
- school and community surveys;
- education offices and departments;
- State and county crime and forensic laboratories;
- agencies and departments that collect and report arrest data;
- medical examiner and coroner offices;
- HIV outreach programs;
- studies by university researchers; and
- drug hotlines.

There may be many other potential sources of information, depending on the community itself.

How Are Local Networks Organized?

Generally, the impetus for organizing a surveillance network comes from an agency that recognizes the need for up-to-date information about drug abuse patterns and trends. The agency may be one that coordinates drug abuse data sources or a health planning organization. Sponsoring a network can be of great benefit to an agency, as it provides that agency with important information about drug trends, knowledge about street use, and a network of sources to answer questions. Any agency that deals with the general public, answers questions about drugs, or provides public information will find the investment in sponsoring a local network worthwhile. In addition, it will be possible to provide education and information materials and press releases to inform the public of current trends.

It is best to plan and maintain small work groups . . .

It is best to plan and maintain small work groups so that all participants have an opportunity to contribute to the process. Try to get members from different organizations and with different perspectives. Include the medical examiner, treatment program personnel, HIV street

outreach workers, health planners, university researchers, and local police officers. If the network is composed of representatives of different towns, cities, or counties, the reporting process should be standardized so that comparisons can be more easily made across different jurisdictions.

Initially, one or two staff members can be assigned to review and report on potential benefits, other potentially valuable participants, and accessible sources of information. Representatives of other agencies can be contacted to determine how the information might be useful to them, their level of interest, and who from their agencies might meet the qualifications to participate in the network. This type of review should be completed within a 1–2 month period.

If, on the basis of the information, it is decided to begin efforts to organize a surveillance network, arrange a small planning meeting of staff from key agencies. This meeting should include researchers and agency representatives who are familiar with drug abuse issues and sources of data and who are interested in the possibility of establishing a network. The meeting should be structured to:

- establish the rationale for, and the purpose of, a network;
- identify potential sources of data/information;
- identify agencies and individuals with access to information;
- identify individuals who could contribute in other ways to the network;
- develop an agenda for the first meeting;
- determine who should be invited to participate in the first meeting and what they should be asked to contribute;
- establish a time and place for the first meeting; and
- develop a plan for the second meeting, including the date, place, and general themes to be covered.

A preliminary step that has proven useful is to hold a preplanning meeting with officials of selected organizations or agencies to discuss the purpose and goals of the network; how the agency or organization can contribute; the staff capabilities, knowledge, skills, and experience required to contribute; and the benefits to the agency of belonging to the network.

While it is unlikely that an agency official will be a working member of the local network, enlisting the official's support may well increase the agency's participation in and contribution to the network. Unless the official understands the value of the network, he or she may not be willing to support the initiative and the investment of time by the agency. In addition, the official may help identify the most qualified person(s) from the agency to serve on the network. In some instances, it is beneficial to invite both the official and his or her data person to the meeting so the official can become informed of the benefits of the group and the data person can be involved from the beginning in identifying needed information.

How Should the First Network Meeting Be Organized?

The first meeting is critical because it sets the stage for what the surveillance network will be, how it will function, and how it will be perceived by participants and others.

Two interrelated objectives should always be kept in mind:

- obtaining knowledge about drug abuse; and
- developing and strengthening the work group.

Care should be taken to avoid common pitfalls that others have encountered in planning initial network meetings. Four principles should be observed:

1. Start small. Be selective in inviting individuals to attend. It is easy to add individuals once the needs and sources have been identified and to change individuals based on the strengths and interests of the members.

2. Have clear, attainable objectives for the meeting. Avoid trying to overachieve at the beginning.

3. Establish the agenda in coordination with other participants so they feel invested from the beginning.

4. Give each participant a role to play and a contribution to make.

The first meeting should be organized to accomplish several objectives:

Have clear, attainable objectives for the meeting

- Identify known and potential sources of data and information. Selected participants can be asked to describe particular data sets and to prepare and briefly present data from sources to which they have access.
- Review the types of data sources (indicators) accessed by other epidemiologic networks to determine if they might be obtainable in your area. If they are, determine what steps should be taken to identify agencies and individuals who can provide access to each of these sources.
- Assign participants to follow up (after meetings) and, if appropriate, make contacts to find out what types of data are available, how the data can be made available, and who is most knowledgeable about the data and the data sources.
- Determine how the information from the meetings should be recorded, reported, and disseminated, including to whom it should be sent. A full report with all the information will prove very useful for agency planners, grant writers, and staff associated with the network member agencies. An executive summary that brings all the information together in a quick-refer-

*Surveillance net-
works need to
remain focused on
questions . . .*

ence format will prove very popular with the press and the
general public.
• Identify current and potential sources of support for organizing
and conducting the meeting, and producing and disseminating
reports from the meeting. The full report should be based
largely on the papers prepared and presented by participants,
along with data tables.

Surveillance networks need to remain focused on questions such as;
What drugs are currently being used? Who is using them? Are drug use
patterns changing from year to year? If so, how?

What Types of Problems Are Encountered by Networks?

It is easy to get sidetracked, especially when extraneous information
is presented. As in any work group, individuals who participate in
network meetings have self-interests. They are likely to have different
backgrounds and different frames of reference. It may not always be
clear to them what is expected. If each member is sent the specific
format for the presentation in advance, it will be easier to keep the
meetings on track and to get the information in a form that is compa-
rable with that submitted by other members. Appendix B is a copy of
the format used by the national CEWG.

It must be kept in mind that there is limited time to address the key
questions and achieve the network's objectives. It is therefore impor-
tant for the persons coordinating or chairing network meetings to
define carefully what information participants need to present and to
keep the meetings focused. Tell each member in advance the time limit
for the oral presentation.

*. . . define clearly
what information
participants need to
present and keep the
meetings focused*

Another problem is the turnover in members and finding members
who are interested in the network and are willing to commit to the
process and collect and report on the information on a continuing basis.
The network coordinator should understand that part of the job is an
ongoing search for new members and persons who have the time to
participate. It is a good policy to routinely call the agency directors to
thank them for the past participation of their staff, inform them that
another meeting is planned, explain the importance of their agency's
participation and the benefit to the agency, and request that the par-
ticular staff member be given time and support to prepare the report
and participate in the meeting. At times, the director will not know that
a meeting has been scheduled, and the local network member will be
assigned to another task and be unable to attend the meeting or not
have time to gather the needed data.

Who Should Be Invited to the First Network Meeting?

The first meeting should be considered a planning session. The organizers should emphasize that the individuals who attend this meeting will not necessarily be permanent members and they are not obligated to attend future meetings. One of the primary objectives of the first meeting is to identify individuals who are in the best position to contribute information to the network planning process. If a national CEWG member is located in your State, or if there is a planner at the State Alcohol and Drug Abuse Agency who is knowledgeable about sources of data, invite them to the first meeting.

One of the primary objectives of the first meeting is to identify individuals who are in the best position to contribute information . . .

The first meeting should include individuals (generally agency representatives) who are capable of providing information about different sources of data, including the following:

Survey Data

If not yet known, find out if any relevant local surveys have been or are currently being conducted or planned. These would include household, school, and special population surveys that provide information about substance use. Every State Alcohol and Drug Abuse Agency has received a contract from the Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Substance Abuse Treatment (CSAT), to perform surveys in the State, so contact the State to find out who is in charge of these surveys. In addition, some States have contracts from other Federal agencies to perform surveys. In some instances the State agency has done the surveys, while in other States a university or survey research firm has done the surveys. If a relevant survey has been or is being conducted, invite the Principal Investigator or another person who can describe the data collected.

Drug Abuse Treatment Data

If not yet known, find out which agencies collect information about drug abusers entering, undergoing, and/or leaving treatment. Every treatment program that receives funds from the State Alcohol and Drug Abuse Agency is required to report data to the State. Which local drug abuse treatment programs participate in the State system and which are required to report client data to county and city coordinating agencies? Find out who in the coordinating agencies is responsible for coordinating these efforts. Contact these individuals to find out who would be the most appropriate person to participate in the first network meeting.

. . . find out who would be the most appropriate person to participate in the first network meeting

Law Enforcement Data

If not yet known, find out which agencies, departments, or offices collect drug use data on local arrestees charged with criminal offenses, including drug violations. Drug violations, including arrests for possession and/or trafficking, are reported by counties

and States. Several different State offices can be contacted to determine sources of arrest data. These include the Uniform Crime Report Office, the Statistical Analysis Center, the Law Enforcement Planning Office, and the Attorney General's Office. In some instances, the same arrest will be reported by the local police, the State police, and Federal agents, so inquire about possible duplicate reporting and overlap. Other law enforcement data which can be very useful include information on price and purity of drugs confiscated. Try to find out which levels of law enforcement agencies are included in a report. State Statistical Analysis Centers assemble statewide criminal justice statistics, act as a clearinghouse for statewide crime information and statistics, and issue periodic reports. The names, addresses, and telephone numbers of center offices in each State are listed in Appendix C.

Hospital Data Pertaining to Drug Use

If not yet known, contact the State, county, and city health departments to identify individuals who can provide information about relevant hospital data sources. If the geographic area covered by the network is relatively small, it may be appropriate to contact administrators of each hospital to find out what types of data related to drug use are collected, and who coordinates such efforts within or outside the hospital.

AIDS Cases and HIV Seroprevalence Data

HIV/AIDS is a reportable condition in all States and territories in the United States. The HIV/AIDS Surveillance System, established by the Centers for Disease Control and Prevention (CDC), monitors the incidence and demographic profile of AIDS cases and describes the modes of HIV transmission among infected persons. State and local health departments conduct active surveillance. Standardized case report forms and software (HIV/AIDS Reporting System) are used to produce local tabulations and to report cases monthly to the CDC. Currently, all 50 States, U.S. territories and possessions, and 6 major cities report through the CDC surveillance system. One of the objectives of surveillance is to identify changing patterns in the modes of HIV transmission. The local health department office responsible for HIV/AIDS surveillance should be contacted to find out who is the best person to report relevant information at the first network meeting. Examples of information could include the percent of injection drug users who have contracted the virus and the number of cases where HIV has been transmitted heterosexually. Look for trends associated with trading drugs for sex and increases in those racial/ethnic, age, and sex categories that may be related to drug use and risky sexual behavior.

In addition, the Ryan White Act requires regional data collection and needs assessment for HIV programs, and the local group that coordinates the Ryan White funds will have valuable information.

Health Data

Since substance abuse also is related to numerous health consequences, such as tuberculosis and sexually transmitted diseases, the State, county, or city health departments will have information on the number of individuals who have these diseases and the prevalence rates for these diseases in your local area. Contact the health department to get the statistics and to obtain information from the street outreach workers who seek out persons with these diseases. In some instances, certain outreach workers concentrate on drug-using populations while others will concentrate on prostitutes and commercial sex trade workers.

School Data

Some school systems, including colleges and universities, maintain records on the number and types of drug use problems identified by schools. These reports may include students who were suspended or dropped out of school because of drug use. In addition, many schools have used their Federal Safe and Drug Free Schools grants to fund surveys, and, in some States, the Center for Substance Abuse Prevention (CSAP) has funded the State Alcohol and Drug Abuse Agency to conduct surveys of school students. If a relevant survey has been or is being conducted, invite the Principal Investigator or another person who could describe the data collected.

These reports may include students who were suspended or dropped out of school because of drug use

Community-Level Data Sources

At the community or neighborhood level, data/information sources can be obtained from smaller entities. Be careful to check that this information is not already included in reports from the various State agencies. These are some suggested local sources of data:

- local hospitals;
- treatment programs (both public and private);
- health clinics;
- community mental health centers;
- schools;
- local Police Department or sheriff's office;
- criminal justice and correctional agencies;
- HIV and STD outreach workers;
- needle exchange programs;
- university researchers;
- medical examiners and coroners;
- recreation facilities; and
- pharmaceutical associations.

Accessing Data From Different Sources

Treatment Data

Data about drugs used prior to entering treatment are generally collected from clients entering treatment programs. If information about the names and locations of drug abuse treatment programs is not currently available to network members, this information can be obtained from the State Alcohol and Drug Abuse Agency. A listing of treatment programs also is likely to be found in the yellow pages of local telephone directories and from directories obtainable from mayor's offices or chambers of commerce. Most publicly funded programs are required to collect and report admission data to the States, and the States report it to the Federal Government. Each State will have its own name for its client data system.

These data have limitations. Drug abusers entering treatment are not representative of drug abusers in the community. They represent individuals referred to drug treatment by criminal justice agencies because they were arrested or incarcerated, they are clients referred from other sources (e.g., family, church, school), or they can be self-referred clients. Usually they have been using drugs for a number of years prior to entering treatment, and their admission to treatment will not be a sign of the emergence of a new drug or new epidemic, but a sign that the client who began using 10 or 15 years ago is now sufficiently impaired to the point of wanting and needing treatment.

Also, individual drug abuse treatment agencies may be structured to treat particular types of drug abusers, although client populations may change over time. In recent years, changes in insurance coverage and managed care have had an impact on these programs and the types of clients served. In addition, information is often reported only by publicly funded programs, and the types of clients who can afford private treatment will not be represented in the information submitted to the State agency. Try to obtain information from the private programs to supplement the information from the public programs.

In contacting drug abuse treatment programs to determine if client data are available, several things should be kept in mind:

- Information that would potentially make it possible to identify an individual client cannot be divulged under penalty of Federal law, so programs cannot provide the information that might be desired except at aggregate or summary levels.
- Treatment programs are in the business of treating clients; not surprisingly, staff see treatment as their primary obligation. Often these staff do not see the potential benefits of research and are likely to feel that any attempt to obtain client data is another demand on their limited time.

- The task of treating drug abusers is very difficult and requires a considerable investment of time and resources.
- The HIV/AIDS epidemic has added considerable pressure on staff and programs, especially those programs that serve clients at high risk for this disease (e.g., injection drug users).
- Most treatment programs have limited resources and an ongoing need to identify and secure additional financial resources.
- The current emphasis on managed care has placed considerable pressure on treatment programs to reduce the length of services provided and reduce costs.

Exhibit A–1 is a standard format that could be used to make data requests.

By quantifying treatment data, it is possible to identify the types of drug problems reported by different types of clients. Intake data are particularly useful to epidemiologic networks because these data generally include specific information about drugs used prior to seeking admission to treatment. Typically, programs distinguish the primary, secondary, and tertiary substances used by individuals entering treatment. The primary drug is usually the drug that the client feels is causing him/her the most serious problems. Specific drug data, along with client demographic data, can provide a great deal of information that will enable networks to track drug use patterns and trends within specific geographic areas.

Intake data generally include specific information about drugs used . . .

Exhibit A–2 is an example of how drug abuse treatment data can be quantified for a particular geographic area and what can be learned from such data. This exhibit was used by a member of the national CEWG to report Baltimore City treatment indicator data at the December 1997 CEWG meeting.

These data show the demographic characteristics of different types of substance abusers admitted to Baltimore City publicly funded treatment programs in 1996. As can be seen:

- 53.2 percent of the 14,613 clients reported heroin as the primary drug of abuse.
- 21.3 percent reported cocaine as their primary substance (of these, 76.6 percent are crack abusers).
- 11.7 percent fell into the "alcohol with other drug" category.
- 11.5 percent reported marijuana as their primary drug of abuse.

Much more can be learned about each type of primary drug abuse category from this exhibit. For example, more than half (51.8 percent) of the heroin abusers snorted the drug (primary route of administration), and 48.2 percent injected it. Individuals who snorted heroin were more likely than injectors to be African-American (94.2 vs. 78.3 percent), female (49.5 percent), and younger. Only 26.8 percent of the snorters were 35 years of age or older, compared with 65.7 percent of the injectors.

Exhibit A–1: Standard Data Request Form

CEWG Site _____

Characteristics of Clients Admitted to Treatment

From _____ to _____ , 1994
MONTH · MONTH

Total number of treatment admissions, excluding alcohol only: _____

	Alcohol-in-Combination (Exclude Alcohol Only)	Cocaine	Heroin	Marijuana	Stimulant/Methamphetamine
Total N: (Use to derive percentages)					
Gender:					
Male	%	%	%	%	%
Female	%	%	%	%	%
Race/Ethnicity:					
White	%	%	%	%	%
African American	%	%	%	%	%
Hispanic	%	%	%	%	%
Other 1. _____	%	%	%	%	%
Other 2. _____	%	%	%	%	%
Age at Admission:					
17 and under	%	%	%	%	%
18 to 25	%	%	%	%	%
26 to 34	%	%	%	%	%
35 and older	%	%	%	%	%
Route of Administration:					
Smoking	%	%	%	%	%
Sniffing	%	%	%	%	%
Intravenous	%	%	%	%	%
Other/multiple	%	%	%	%	%
Secondary Drug:					
Type of Drug					
	%	%	%	%	%
Tertiary Drug:					
Type of Drug					
	%	%	%	%	%

SOURCE: National Institute on Drug Abuse, 1996.

EXHIBIT A–2: Characteristics of Drug Abuse Treatment Admissions By Selected Primary Substance, Baltimore City—1996

Drug Use	Total	Alcohol (with drug)	Heroin		Cocaine		Marijuana
			Injected	Snorted	Crack	Other	
(Number of Admissions)	(14,613)	(1,704)	(3,741)	(4,027)	(2,384)	(728)	(1,686)
Primary Use of Substance	100.0	11.7	25.6	27.6	16.3	5.0	11.5
Other Substances Reported*							
None	27.1	-	18.8	33.7	42.4	25.3	40.5
Alcohol	26.3	-	26.2	22.2	37.5	40.2	44.4
Cocaine	41.4	58.0	72.5	51.3	-	0.1	14.4
Marijuana/hashish/THC	18.9	50.3	9.4	18.9	23.7	27.1	0.1
Heroin/opiates/synthetics	10.8	27.0	3.3	2.0	19.7	41.4	7.8
Demographic Characteristics	%	%	%	%	%	%	%
Gender							
Male	59.6	74.3	56.5	50.5	48.1	70.2	85.9
Female	40.4	25.7	43.5	49.5	51.9	29.8	14.1
Race/Ethnicity							
White	16.9	24.7	20.9	5.4	16.2	22.1	22.0
African-American	82.1	73.6	78.3	94.2	83.1	76.1	75.7
Hispanic	.06	.09	.06	.02	.05	.08	1.5
Other	0.4	0.8	0.2	0.1	0.3	1.0	0.9
Age at Admission							
<18	7.3	14.5	0.5	0.2	0.5	0.3	45.4
18-25	14.3	13.5	5.9	18.0	9.7	12.3	32.2
26-34	37.6	28.0	27.9	55.0	47.0	36.6	13.8
35 +	40.8	44.0	65.7	26.8	42.8	50.8	8.6
Average Age at Admission	32.4 yrs.	31.9 yrs.	37.4 yrs.	31.3 yrs.	33.6 yrs.	34.7 yrs.	21.4 yrs.

* "Other substances reported" adds to more than 100 percent because it includes secondary and tertiary substances.
SOURCE: National Institute on Drug Abuse, 1997.

Most of the primary heroin abusers reported using other drugs. Cocaine was, reportedly, used by 72.5 percent of the heroin injectors and 51.3 percent of the snorters. Marijuana was more popular among the heroin snorters (18.9 percent) than the injectors (9.4 percent).

The Baltimore City data show that there are important differences within and between drug categories. Although treatment data of this type are limited, much can be learned about different populations entering substance abuse treatment.

. . . treatment data have been useful in identifying drug abuse patterns and trends and emerging drug problems

It also is useful to know where clients are seeking treatment live. Some treatment programs serve clients who live in a particular geographic area that, while others accept clients from distant areas. Information that would identify an individual client is confidential, so it will not be possible to obtain addresses or even ZIP code information on individual clients. The local program should be able to aggregate the client information and provide data on the number of clients who live in each ZIP code, area, census tract, or block numbering area (BNA). Maps of ZIP code areas, census tracts, and/or BNAs for specific geographic areas can be obtained by calling the U.S. Bureau of Census Customer Service number: (301) 457–4100. The information can be ordered in a variety of formats at the following address: U.S. Department of Commerce, U.S. Bureau of the Census, P.O. Box 277943, Atlanta, GA 30384–7943.

It also is possible to compare data from the same sources at different time periods to determine changes in drug use patterns and populations. Historically, treatment data have been useful in identifying drug abuse patterns and trends and emerging drug problems. These data are generally a good indicator of the types of drugs being used in geographic areas over time, but check with your sources to make sure an upswing in admissions or a shift in drug patterns is not due simply to the startup of a new and specialized treatment program. As an example, the Texas Legislature funded a criminal justice treatment initiative that resulted in a very large number of arrestees, prisoners, and probationers being referred to treatment. Some of these clients were severely addicted, while others were not yet addicted to heroin or cocaine. This influx of a significant number of males and clients who were not yet addicted to "hard drugs" resulted in a major change in the drug use patterns that was caused by funding policies rather than shifts in the use of drugs on the street. Exhibit A–3 is an example of how treatment data can be analyzed over time to assess drug abuse trends. This exhibit was used to report Baltimore City treatment indicator data at the December 1997 CEWG meeting.

As can be seen in Exhibit A–3, changes in client characteristics were not substantial over time. However, the rates of use (per 100,00 population) were substantial for some primary drugs of abuse.

There were significant increases in rates of heroin use between 1992 and 1995 and in rates of marijuana/hashish use between 1992 and 1996. Rates of heroin snorting increased significantly from 1993–1995.

EXHIBIT A–3: Demographic Composition and Admission Rates of Drug Treatment Population, Baltimore City—1992-96

	1992	1993	1994	1995	1996
(Number of admissions)	(12,447)	(13,165)	(13,988)	(14,772)	(14,613)
Demographic Characteristic	%	%	%	%	%
Gender					
Male	63.0	58.9	58.5	56.6	59.6
Female	37.0	41.1	41.5	43.4	40.4
Race/ethnicity					
White	19.0	19.6	18.4	17.3	16.9
African-American	80.2	79.4	80.6	81.4	82.1
Hispanic	0.4	0.6	0.5	0.8	0.6
Other	0.4	0.4	0.5	0.4	0.4
Age at Admission					
<18	4.6	4.7	5.9	6.6	7.3
18-25	19.4	19.4	18.0	16.1	14.3
26-34	41.6	41.7	41.0	39.8	37.6
35 +	34.4	34.1	35.1	37.6	40.8
Admissions per 100,000 Population Aged 12 +	1,879	2,015 +++	2,181 +++	2,349 +++	2,372
Primary Substance					
Alcohol with secondary drug	314	295	278	247 ---	277 ++
Cocaine	572	569	564	535 -	505 -
Smoked (crack)	312	381 +++	401	410	387 -
Injected	141	88 ---	79	57 ---	52
Snorted	112	94 --	78 --	64 --	60
Other	6	6	6	4	6
Marijuana/hashish	70	100 +++	144 +++	220 +++	274 +++
Heroin/opiates/synthetics	890	1,023 +++	1,173 +++	1,328 +++	1,300
Injected	575	586	600	622	607
Snorted	285	407 +++	535 +++	670 +++	654
Other	30	29	38 ++	36	39
PCP	9	12	9	8	7
Stimulants	2	*	*	*	1
Methamphetamine	*	*	*	*	*
Amphetamine/stimulants	2	*	*	*	*
All other	22	16 -	12	11	9

* Less than 1 per 100,00 population.
+/- Significant increase/decrease over previous year=s rate: + + +/--p<.01;+/-p<.05.
SOURCE: National Institute on Drug Abuse, 1997.

Treatment Episode Data Set

The Treatment Episode Data Set (TEDS) is administered at the Federal level by the Office of Applied Studies (OAS) of the Substance Abuse and Mental Health Services Administration (SAMHSA) and can be accessed at http://www.samhsa.gov.

TEDS collects the following anonymous information on each client: date of admission; number of prior treatments; source of referral; date of birth; gender; race/ethnicity; education level; employment status; primary, secondary, and tertiary substance problems; usual route of administration for each problem substance; frequency of use; age of first use; and services provided. Additional data can be collected on diagnostic code, psychiatric problems, pregnancy at time of admission, veteran status, living arrangements, primary source of income or support, health insurance, expected source of payment for treatment, marital status, and time waiting to enter treatment. The local program or the State Alcohol and Drug Abuse Agency should be requested to generate tables on client characteristics from the TEDS data.

Uniform Facility Data Set

The annual Uniform Facility Data Set (UFDS) survey, which was previously known as the National Drug and Alcohol Treatment Unit Survey (NDATUS), is another source for sociodemographic information on clients in various programs. UFDS is an annual Federal survey administered by the State Alcohol and Drug Abuse Agency. In some States, reporting by all programs is mandatory, while in other States reporting by private programs is optional. UFDS, which is administered by OAS, is available at http://www.samhsa.gov. The Web site will have information aggregated at the State level, but it will not have the information reported by each program.

The local program fills out information on the UFDS form based on the operations and clients in treatment on a particular day, such as September 30. The form collects information on the number of clients by race/ethnicity, gender, age group, and treatment modality, (e.g., detoxification, residential, outpatient, methadone). The form also collects information on the capacity of the program; ownership; licensure status; qualifications of staff; kinds of services provided (assessment, therapy, testing, health care, transitional, continuing care, and community outreach); availability of services targeted to special groups, such as women or youth; and revenue sources. It does not provide information on which drugs were being abused by the clients, but it does show the differences in characteristics between the public and private programs. Until 1995, the form was in triplicate so the local programs could keep a copy of the completed questionnaire and the State also could keep a copy, so it should be easy to get historical information on local programs. Since 1995, the form was not on triplicate paper, so it might be more difficult to obtain information on the individual programs unless the State or each of the local programs kept their own copy of the form.

Methadone Treatment Programs

Another source of data can be the reports that local methadone maintenance programs file with the State methadone licensing authorities each year. This information will vary by State, but it probably includes information that is not collected elsewhere. Some States have a methadone registry that also can provide information on heroin addicts.

In reporting treatment data at a network meeting, it is important to have a standardized format so that participants can easily assess the information. If there are sufficient numbers of clients, it is possible to distinguish drug use patterns by age, ethnic group, and gender. It also is useful to include data from prior years so that comparisons can be made to determine relative change in drug use patterns and drug-using populations, as well as changes in program capacities.

Medical Examiner and Coroner Data

Medical examiners and coroners (ME/Cs) are responsible for investigating sudden or violent deaths and for providing accurate, legally defensible determinations of the causes of these deaths. Information provided by ME/Cs plays a critical role in the judicial system and in decisions made by public safety and public health agencies. The records of ME/Cs, which provide vital information about mortality patterns and trends in the United States, are an excellent source of data for epidemiologic networks.

Death investigation practices vary considerably among jurisdictions

Death investigation practices vary considerably among jurisdictions (whether State, county, district, or city). The most noticeable difference is that some jurisdictions use the medical examiner system, while others use the coroner system. The type of system used may be uniform throughout a State or may vary from county to county within a State. Medical examiners may have State, district, or county jurisdiction. Usually they are appointed and must be licensed physicians; some are expert forensic pathologists. In comparison, coroners or justices of the peace may have district or county jurisdiction, are usually elected, and need not be physicians. Many are required only to be of a minimum age (often 18) and a resident of the county or district.

Often, ME/Cs or members of their staff will be interested and active participants in a network, because they need to know what drugs are on the street and changes in purity or combinations that could be causing a series of overdose deaths.

A second variation in death investigation practices involves which deaths are actually to be investigated. About 20 percent of deaths in the United States are investigated by ME/Cs, although the percentage varies by State. The guidelines for which deaths are to be investigated also vary widely by jurisdiction, but most jurisdictions require that the following deaths be investigated:

- deaths caused by homicide, suicide, or accidental causes such as motor vehicle crashes, falls, burns, or the ingestion of drugs or other chemical agents;
- sudden or suspicious deaths (e.g., due to sudden infant death syndrome [SIDS]) and unattended deaths;
- deaths caused by an agent or disease constituting a threat to public health;
- deaths that occurred while the decedents were at work;
- deaths of people in custody or confinement and of those institutionalized for reasons other than organic disease; and
- deaths of people to be cremated.

The thoroughness of death investigations (and as a result, the completeness of death investigation records) also varies from case to case. Sometimes a postmortem examination may consist of only an external examination of the body. The record of a complete death investigation, however, includes the following items:

- the initial report of the death made to the ME/C office (e.g., by a family member, police officer, or attending physician);
- a determination of circumstances surrounding the death;
- findings of a scene investigation;
- findings of a postmortem examination or autopsy;
- results of laboratory tests to determine the presence of drugs, toxins, or infectious agents; and
- certification of the cause and manner of death.

Until recently, death investigation information was not readily available to the public health community or to other human resource programs. Making this information more available is one of the goals of the Medical Examiner and Coroner Information Sharing Program (MECISP). In 1986, because of the lack of uniformity in death investigation policies, the frequent lack of communication between jurisdictions, and the need for more widespread distribution of death investigation data, CDC established the MECISP. These are the primary goals of the MECISP:

- to improve the quality of death investigations in the United States and to promote the use of more standardized policies on when and how to conduct these investigations;
- to facilitate communication among death investigators, the public health community, Federal agencies, and other interested groups;
- to improve the quality, completeness, management, and dissemination of information on investigated deaths; and
- to promote the sharing and use of ME/C death investigation data.

Through financial and technical support, the MECISP helps ME/C offices to collect, manage, and disseminate data. The MECISP also publishes a directory that describes death investigation laws and lists the contact persons for all ME/C jurisdictions in the United States.

Information about the MECISP and ME/C data can be obtained from

Surveillance and Programs Branch
Division of Environmental Hazards and Health Effects
National Center for Environmental Health, Mail Stop F35
Centers for Disease Control and Prevention
4770 Buford Highway, NE
Atlanta, GA 30341–3724

State Data on Alcohol and Drug Deaths

R. T. Ravenholt (1984) published a widely used listing of causes of deaths due to alcohol or other drugs, and this listing has been updated by the Department of Health and Human Services (U. S. DHHS 1987) and the National Institute on Alcoholism and Alcohol Abuse (NIAAA) (Dufour and Caces 1993). Because of changing drug use patterns and diseases, different versions of the list exist. Exhibit B–1 is the list as used by the Texas Commission on Alcohol and Drug Abuse (TCADA) in 1996.

The death certificate is submitted . . . to the State health department . . .

Causes of death are listed on death certificates, which are filled out by local doctors, coroners, and justices of the peace, among others. In some jurisdictions, the certificate must be filled out by trained medical personnel such as pathologists or medical examiners, while in other locations, elected officials with no formal training fill out the certificate. This variation exists not only among the States, but also within local jurisdictions. Discrepancies and nonreporting can occur for various reasons. In some jurisdictions, the staff of the medical examiner will not be consistent in their reports; one will specify the exact drugs involved while another will denote only "drug abuse," even though the toxicological reports are available. In other instances, to spare the feelings of the family, the coroner will not mention drugs on the certificate. In an area where suicide has a negative religious connotation, the death certificate will not mention drugs or suicide as a motive. There is no way to tell how widespread such underreporting is.

The death certificate is submitted by the local official to the section of the State health department that is responsible for handling birth and death data. This certificate may be submitted immediately, or there may be a significant lag. In some instances, a completed certificate will be submitted, while in other instances, the cause of death will be shown as "pending," and an amended certificate will be issued later after toxicology or pathology reports have been received. Because of the lag, it may take 6–10 months to get the complete data for the previous year.

Exhibit B–1: Drug and Alcohol Abuse Mortality, Texas

Alcohol Mortalities		
Direct Causes	**Percentage**	**Age**
Alcoholic psychoses (291)	100%	≥10
Alcohol dependence syndrome (303)	100%	≥10
Alcohol abuse (305.0)	100%	≥10
Alcoholic polyneuropathy (357.5)	100%	≥15
Alcoholic cardiomyopathy (425.5)	100%	≥15
Alcoholic gastritis (535.3)	100%	≥15
Alcoholic fatty liver (571.0)	100%	≥15
Acute alcoholic hepatitis (571.1)	100%	≥15
Alcoholic cirrhosis of the liver (571.2)	100%	≥15
Alcoholic liver damage, unspecified (571.3)	100%	≥15
Excessive blood level of alcohol (790.3)	100%	≥15
Alcohol poisonings (E860.0-E860.1)	100%	≥15
Indirect Causes	**Percentage**	**Age**
Respiratory tuberculosis (011-012)	25%	≥35
Cancer of the lip, tongue, oral cavity, pharynx (140-149)	50%*	≥35
Cancer of the esophagus (150)	75%	≥35
Cancer of the stomach (151)	20%	≥35
Cancer of the liver and intrahepatic bile ducts (155)	15%	≥35
Cancer of the larynx (161)	50%**	≥35
Diabetes mellitus (250)	5%	≥35
Essential hypertension (401)	8%	≥35
Cerebrovascular disease (430-438)	7%	≥35
Pneumonia and influenza (480-487)	5%	≥35
Diseases of esophagus, stomach and duodenum (530-537)	10%	≥35
Other cirrhosis of the liver (571.5-571.6)	50%	≥35
Acute pancreatitis (577.0)	42%	≥35
Chronic pancreatitis (577.1)	60%	≥35
Motor vehicle accidents (E810-E825)	42%	≥0
Other road vehicle accidents (E826-E829)	20%	≥0
Water transport accidents (E830-E838)	20%	≥0

*The percentage is 40 percent for females.
**The percentage is 32 percent for females.
SOURCE: Texas Commission on Alcohol and Drug Abuse, 1996.

Indirect Causes	Percentage	Age
Air and space transport accidents (E840-E845)	16%	0
Accidental falls (E880-E888)	35%	15
Accidents caused by fires (E890-E899)	45%	0
Accidental drownings (E910)	38%	0
All other accidents (E867-E869, E900-E909, E911-E929, E980)	25%	15
Suicides (E950-E959)	28%	15
Homicides (E960-E969)	46%	15
Drug Mortalities		
Direct Causes	**Percentage**	**Age**
Drug psychoses (292)	100%	10, 64
Drug dependence (304)	100%	10, 64
Nondependent abuse of drugs (305.1-305.9)	100%	10, 64
Drug withdrawal syndrome in newborn (779.5)	100%	0, 64
Accidental poisoning by drugs, medicaments, and biologicals (E850-E859)	100%	10, 64
Heroin, methadone, other opiates and related narcotics, and other drugs causing adverse effects in therapeutic use (E935.0-E935.2, E937-E940)	100%	10, 64
Suicide and self-inflicted poisoning by drugs and medicinal substances (E950.0, E950.4)	100%	10, 64
Homicidal poisoning by drugs and medicinal substances (E962.0)	100%	10, 64
Injury undetermined whether accidentally or purposely inflicted from poisoning by drugs, medicaments, and other (E980)	100%	10, 64
Human immunodeficiency virus infection (042-044)	19%	10, 64
Viral hepatitis B (0.70.2-070.5)	13%	10, 64
Viral hepatitis non-A, non-B (070.4-070.5)	21%	10, 64
Acute and subacute infective endocarditis (421)	14%	10, 64
Homicides (E960.0-E961)	28%	15, 64

*The percentage is 40 percent for females.
**The percentage is 32 percent for females.
SOURCE: Texas Commission on Alcohol and Drug Abuse, 1996.

Nosologists at the State health department classify the death certificate according to the World Health Organization's *International Classification of Diseases (ICD-9), 3rd Edition*. While the classifications differentiate among types of drugs, the use of the words "acute intoxication" will result in one classification, while the use of "toxicity" will result in a different classification. Exhibit B-2 is a shortened list of the 1992 deaths involving alcohol or other drugs in the State of Texas, and it shows the impact that different terms have on the ICD coding of deaths involving the same drug. The wording from the death certificate is entered in the "AOD Cause from Death Certificate" column.

Underlying vs. Multiple Cause Tapes

After all death certificates have been received and classified, the information is computerized. Two different computer tapes are normally available from the National Center for Health Statistics (NCHS) and the State health departments. One tape is based on the Underlying (or primary) Cause of Death. The Underlying Cause of Death is defined as "(a) the disease or injury which initiated the train of events leading directly to death, or (b) the circumstances of the accident or violence which produced the fatal injury." A second computer tape includes Multiple Causes of Death. This tape not only provides the underlying (or first) cause, but also additional or multiple cause codes. A maximum of 20 causes of death can be captured on a record for multiple cause purposes. While the Multiple Cause Tape is more complex to handle, it is recommended for use, because many alcohol- and drug-related deaths are not recorded as the underlying (or first) cause.

. . . the Multiple Cause Tape is . . . recommended for use . . .

The Multiple Cause Tape will provide more substance abuse data. As an example, the computer record for a person who is intoxicated and dies in an automobile accident may list the first cause as an injury and the secondary cause as intoxication or alcohol abuse. In addition, the Underlying Cause Tape does not pick up the information from the amended death certificate. It will show "799.9—Pending." Notice that in exhibit B–2, the ICD codes for the first cause of death is listed in the "Cause Death" column; these same ICD codes are shown in exhibit B–1. This further demonstrates the value of searching through the Multiple Cause Tape.

In comparing the Underlying and Multiple Cause Tapes, staff at TCADA found in 1992 that the number of direct alcohol deaths increased from 993 to 1,533, the number of indirect alcohol deaths increased from 6,459 to 7,582, and the number of direct drug deaths increased from 473 to 1,952.

Use of Hard Copies of Death Certificates

If possible, obtain from the health department actual copies of death certificates, which mention specific information on the sub-

Exhibit B–2: A Sample of Deaths from Opiate Abuse, Texas—1992

FILENBR	AOD CAUSE FROM DEATH CERTIFICATE	CAUSEDTH	DEATHCNTY	RESCNTY
106187	alcohol and drug abuse	303	COMAL	COMAL
120279	alcohol/drug abuse	303	DALLAS	DALLAS
62213	IV drug abuse-cocaine, opioids	303	HARRIS	HARRIS
94347	chronic ETOH and drug abuse	303	NUECES	NUECES
53045	ETOH & IV drug abuse	303	TARRANT	TARRANT
21095	acute mixed drug intox-cocaine, heroin, salicylate	410	TARRANT	TARRANT
109591	IV drug abuse	420	HARRIS	HARRIS
40417	IV drug use	421	BELL	BELL
118110	IVDA	421	TRAVIS	TRAVIS
6640	narcotic/alcohol addiction	422	TRAVIS	TRAVIS
53605	IV drug abuse	429	DALLAS	DALLAS
114776	ETOH & IV drug use	703	CAMERON	CAMERON
60013	IV drug abuse	703	HARRIS	HARRIS
95012	IVDA	1177	TARRANT	TARRANT
36241	ETOH & IV drug abuse	1550	DALLAS	DENTON
4136	alcohol & drug abuse	1550	HARRIS	HIDALGO
45247	acute and chronic narcotism	3049	ARANSAS	ARANSAS
95378	intravenous narcotism	3049	BEXAR	BEXAR
77462	heroin addiction	3049	GUADALUPE	GUADALUPE
103314	acute and chronic narcotism	3049	NUECES	NUECES
6776	drug & alcohol abuse	3059	BEXAR	BEXAR
5625	drug abuse	3059	DALLAS	DALLAS
20624	intravenous drug abuse	3059	DALLAS	DALLAS
36039	narcotic abuse	3059	DALLAS	DALLAS
92142	illicit drug abuse	3059	HARRIS	HARRIS
41357	ETOH/IVDA abuse	3059	NUECES	LIVE OAK
65085	drug abuse	3059	TARRANT	TARRANT
80985	IV drug abuse	3059	TARRANT	TARRANT
96580	IVDA	3059	TARRANT	TARRANT
93748	drug abuse	3059	TRAVIS	TRAVIS
85663	IV drug use	3249	BEXAR	BEXAR
112648	alcohol and drug abuse	3453	JEFFERSON	JEFFERSON

SOURCE: Texas Commission on Alcohol and Drug Abuse, 1996.

stances involved in deaths, such as inhalants, heroin, narcotics, cocaine, intravenous drug abuse (IVDA), etc. While death certificates are public records, identifying information about the decedents should be blacked out and not used in reports.

Codes that are routinely requested for copies of death certificates include 304.6, 305.9, 850.0 through 858.9, 862.4, 869.2, 869.8, 950.0, 980.0, and 980.4. Inhalant deaths that resulted from industrial accidents are excluded. However, the computer tape is used to generate a listing of all cases with direct drug death codes, and this listing should be matched against the hard copies to obtain a more precise listing. By entering the wording on the actual certificates, it is possible to see how different coroners categorize deaths (exhibit B–2).

. . . many deaths are listed as IVDA, with no particular drug specified

One of the major problems is that many deaths are listed as IVDA, with no particular drug specified. Because of such classifications, the only solution may be to create a listing that includes all the categories that could be considered "hard drugs," including IVDA (e.g., cocaine, heroin, other opiates). County of death, rather than county of residence, is used to map the distribution of such drugs. County of death will provide insight as to where people go to obtain and use their drugs.

Age Limits

Ravenholt (1984) used deaths only where the age was 15 or above, which is probably too old, given that the average age of first use of alcohol in Texas is 13.5 according to the school survey and 12.7 for youth entering treatment. DAWN uses only deaths of persons older than 6. If there is no lower limit, then the data is skewed because of accidental overdoses of aspirin or other pills swallowed by toddlers. An upper age limit of 65 is used because examination of the copies of death certificates showed many very elderly persons dying primarily from advancing age, but in many instances digitalis or other prescribed drugs were shown as secondary causes of death. Exhibit B–1 shows the upper and lower age limits that TCADA uses.

Direct Death Causes

Direct causes are deaths in which 100 percent of the cases can be directly attributed to alcohol or drugs.

Indirect Death Causes

Ravenholt (1984) also listed causes of death where a proportion of the deaths could be attributed to alcohol or drugs. The indirect drug death list is quite outdated, since it allocates only 20 percent of homicides to drug involvement. This is probably too low a proportion, given the recent relationship between crack cocaine and violence. It is difficult to determine the percent of homicides or other violent deaths associated with crack cocaine. In 1995, TCADA used a causal factor of 28 percent, based on a 4-year study of toxicology screenings for drugs

(cocaine, heroin, and others) and alcohol on homicide victims in Bexar County, Texas. Since the drug scene has changed in the past decade, particularly in terms of increased violence, an even higher percentage of drug-related homicides may be documented later.

Using the Multiple Cause Tape will require prioritizing the causes of death in terms of direct vs. indirect causes. If a person committed suicide by an overdose of alcohol, then the death is classified either as a direct cause (overdose of alcohol) or as an indirect cause (suicide). Priority should be given to searching the data files first for direct causes and then searching the remaining records for indirect causes.

The list of indirect death causes developed by Ravenholt (1984) do not include AIDS-related categories, and work needs to be done to develop the proportions of deaths caused by AIDS-Related Diseases (ARD) that involve substance abuse. In many instances, if ARD causes are included in the computerized data set, then it is easy to match the copies of the death certificates that mention drugs as one of the multiple causes. The proportion of ARD deaths that indirectly involve drug abuse will vary by State based on the rates of transmission by risk category; the Texas proportion is shown in exhibit B–1.

Uses of the Death Data

One of the most frequently asked questions concerns the number of persons dying from alcohol and drug abuse. Epidemiology networks can use the Ravenholt (1984) categories to get an annual listing, the direct and indirect alcohol deaths, and direct drug deaths. The rates for deaths involving alcohol or other drugs can then be compared by county or sub-State planning region on a per 100,000 population basis.

Looking at the characteristics of persons who die from one particular drug or class of drugs can show a very different drug abuser than is seen in treatment or arrest data. For example, in Texas, the overdose death data provide insight into needs that are not normally seen in other areas. Looking at the characteristics of persons who die from overdoses of depressants or "downers" can show a substance abuse problem among women who overdose on these drugs combined with alcohol, often as suicides. Death certificates indicating inhalant abuse show a very different picture from that shown by other data sources. According to Texas school surveys, inhalant abusers were young (pre-teen or early teens); they were equally likely to be male or female; and Hispanic youth reported the highest lifetime use (26 percent), followed by Anglo youth (24 percent) and African-American youth (16 percent). Adolescent inhalant abusers entering treatment were young (average age of 14.7 years), male (78 percent), and Hispanic (84 percent).

Yet overdose death data for Texas present a very different picture. From 1990 through 1993, an average of 15 deaths involving inhalants were reported each year. Persons who died of inhalants were male (94 percent) and Anglo (90 percent), and the average age was 26 years. The

most common substance mentioned on the death certificates as the cause of death was freon, with an average of six deaths per year, and there is a pattern of abuse by air conditioning mechanics and technicians. The other common substances were toluene and trichloroethane. Trichloroethane can be contained in typewriter correction fluid, transparent tape, or spot remover. In addition, nitrous oxide was the cause of at least one death per year.

Analysis of overdose deaths where methadone was mentioned showed that in Texas in 1991 through 1994, 86 percent of the decedents were Anglo and the average age was 35.8 years, whereas only 38 percent of the addicts entering publicly funded treatment were Anglo and the average age for this group was 38.9 years.

In summary, death data involving alcohol or other drugs are difficult and complex to work with, but they are integral to assessing trends and patterns in the community. An essential point is that multiple drug abuse indicators must be analyzed in order to obtain an accurate picture. Single indicators may present a specific and somewhat biased view.

. . . death data involving alcohol or other drugs are difficult and complex to work with . . .

An example of the type of forensic data that can be obtained is shown in exhibit B–3, which depicts cocaine- and heroin-related deaths reported over an 8–year period in a Texas county. In this case, the medical examiner is very interested in drug abuse patterns, and he has tracked this information over the years.

EXHIBIT B–3: Cocaine- and Heroin-Related Deaths in Bexar County, Texas

Year	Cocaine Only	Heroin Only	Cocaine/Heroin	Total deaths (Cocaine & heroin)	Percentage of total drug deaths	Total deaths (Toxic cause)
1987	7 (27)	7 (9)	13 (2)	27 (38)	(30%)	71
1988	8 (38)	23 (3)	12 (9)	43 (50)	(54%)	102
1989	14 (29)	25 (12)	9 (7)	48 (48)	(51%)	93
1990	6 (34)	20 (5)	7 (13)	33 (52)	(52%)	64
1991	15 (74)	17 (4)	6 (12)	38 (90)	(49%)	78
1992	27 (82)	12 (5)	6 (22)	45 (109)	(45%)	100
1993	14 (67)	22 (8)	9 (8)	45 (83)		
1994	23 (68)	33 (3)	14 (10)	70 (81)	(72%)	113

SOURCE: Bexar County Forensic Science Center, Bexar County, TX, 1995.
NOTE—Numbers in parentheses are non-overdose, "incidental" detections.

Hospital Emergency Departments

The American Hospital Association defines an emergency department (ED) as "an organized hospital facility for the provision of unscheduled outpatient services to patients whose conditions are considered to require immediate care. An ED must be staffed 24 hours a day." The operative principle is that the patients arriving are, or may be, acutely ill and at risk of severe complications or death if they do not receive attention within minutes or hours.

In 1990, there were 5,472 hospital EDs in the United States, according to the American Hospital Association annual survey (American Hospital Association 1991). There were 92,080,647 ED visits in 1990, an increase of more than 40 percent from approximately 65,000,000 in 1973. ED visits amounted to about 25 percent of the 368,183,598 total outpatient visits seen by hospitals in 1990. The first examination for board certification in emergency medicine (as one of the 23 major medical specialties) was given in 1980 (Krentz 1989; Poppy 1990).

In 1992, there were 10,000 board-certified emergency physicians. There were also around 65,000 ED nurses; 21,000 belonged to the Emergency Nurses Association.

Today's ED is the nexus of a sophisticated emergency medical services system whose most complex element is the trauma center. Trauma centers are specially equipped and staffed emergency departments designated by level (from 1 to 3, in descending order of complexity) to treat patients who have severe burns or injuries. Trauma is the leading cause of death in Americans under the age of 45. The rate is especially high among young African-American males; trauma causes around 140,000 to 160,00 deaths each year (Gibbs 1990; Thal and Rochon 1991; U.S. Government Accounting Office [GAO] 1991). It is estimated that between 64 and 80 percent of trauma patients can be saved and will recover if they are treated promptly (Thal and Rochon 1991; U.S. GAO 1991).

Trauma centers are specially equipped and staffed emergency departments designated by level . . .

Drug Abuse Warning Network (DAWN)

The Drug Abuse Warning Network (DAWN) includes:

- an annual national probability survey of drug-related problems treated in hospital emergency departments (EDs); and
- drug-related death data collected from a nonrandom sample of medical examiners and coroners' offices (ME/Cs).

Since 1972, DAWN has been a source of data on drug-induced or drug-related emergency department visits and medical examiner or coroner deaths. This surveillance system is managed by the Office of Applied Studies, a component of the Substance Abuse and Mental Health Services Administration (SAMHSA) and the U.S. Department of Health and Human Services. More than 500 EDs provide data for DAWN. They are part of a scientifically selected sample of general hospitals in the country. The DAWN sample is constructed to produce estimates of substance abuse visits to emergency departments across the Nation and to 21 metropolitan areas.

Information on drug-related and drug-induced deaths, involving both legal and illegal drugs, is collected from ME/Cs representing 175 jurisdictions. ED and ME/C data are collected and reported from the following metropolitan areas: Atlanta, GA; Boston, MA; Buffalo, NY; Chicago, IL; Dallas, TX; Denver, CO; Detroit, MI; Los Angeles, CA; Miami, FL; Minneapolis, MN; New Orleans, LA: New York, NY; Newark, NJ; Philadelphia, PA; Phoenix, AZ; San Diego, CA; San Francisco, CA; Seattle, WA; and Washington, D.C. ED data also are reported from hospitals in Baltimore, MD and ME/C data are reported by ME/Cs in Kansas City, KS/MO.

DAWN reports include detailed data summaries for each metropolitan area . . .

DAWN excludes cases involving alcohol as the sole substance of abuse and excludes cases involving children under age 6. Information is presented on the characteristics of the decedents by gender, race/ethnicity, age, and manner of death, along with this information by type of drugs mentioned. DAWN information is posted at the following Web site: http://www.samhsa.gov.

DAWN reports include detailed data summaries for each metropolitan area and show (1) distribution of drug abuse episodes by demographic characteristics, number of episodes, and drug group and (2) distribution of drug mentions by reason for emergency department contact, classified by drug group. DAWN also reports the number of mentions per 100,000 population for certain drugs on a semiannual basis by metropolitan area, so it is possible to see if the rates of mentions are going up or down and to compare the metropolitan area rates with the national rates. Reports are available at http://www.samhsa.gov.

Data from DAWN can be used to identify substances associated with drug abuse episodes reported by DAWN-affiliated facilities; to monitor drug abuse patterns and trends and detect new abuse entities and new combinations; to assess health hazards associated with drug abuse; and to provide data for national, State, and local drug abuse policy and program planning.

DAWN has several advantages in that it is ongoing and, thus, continually provides current and consistent information; it identifies specific drugs being used and it provides data for selected metropolitan areas as well as a composite national picture.

DAWN collects information on drug abuse-related medical examiner cases and on all patients treated in an ED because of problems induced by or related to drug abuse. In general, drug abuse-related cases must meet these criteria to be reported to DAWN:

- the use of prescription drugs in a manner inconsistent with accepted medical practice;
- the use of over-the-counter (OTC) drugs contrary to approved labeling;
- the use of any other substance (heroin, marijuana, peyote, glue, aerosols, etc.) for psychic effect, dependence, or suicide; and
- the use of alcohol alone is not reported.

How DAWN Works

In each facility (hospital ED or medical examiner's office) that participates in DAWN, a reporter is assigned to data collection activities. Ideally, an ED nurse (or other medical personnel) reviews all ED records daily and completes a one-page DAWN form on each drug abuse-related case. This report records basic patient demographic data and detailed substance abuse information. When ED staff are not available, other service departments (such as social services, medical records, pharmacy, poison control, volunteer departments) may be recruited to participate in the reporting process. In some cases, the hospital may designate an independent reporter (i.e., not a hospital staff person) to report DAWN data. The DAWN staff are bound by Federal laws protecting patient confidentiality. The data collection form does not include any patient identifying information.

DAWN reporters submit completed forms, along with weekly log sheets listing case totals, to SAMHSA's DAWN operations contractor. Each participating facility or its designee (e.g., the reporter, nurses' fund) receives a small honorarium for submitting data. The DAWN operations contractor assumes responsibility for the other costs incurred in reporting, such as mailing reports, training facility personnel, telephone communication between facility reporters, and the contractor staff who review DAWN reports.

Contractor staff review, verify, and compile DAWN data. They are supported by regional field liaisons who travel to facilities to provide training, evaluation, and problem-solving as needed.

Approximately 13,000 drug abuse episodes are processed monthly through DAWN. Data accuracy is ensured through a combination of

quality assurance activities. For example, adherence to DAWN reporting guidelines is monitored through periodic record reviews and reabstracting studies. Particular emphasis is placed on training and on continuing support and followup provided by the field liaisons and central office data monitors.

How DAWN Data Are Disseminated

On a regular basis, the Office of Applied Studies (OAS) of SAMHSA publishes the DAWN semiannual and annual reports. The semiannual report presents data on recent trends in mentions of selected drugs, while the annual report displays calendar year data according to drugs used, patient/decedent characteristics, and drug use patterns. Both reports reflect data aggregated at the total DAWN system level and at the metropolitan area level. These reports are sent to DAWN facilities and are available on request to the general public, drug abuse researchers, public officials, and other regular users of DAWN statistics.

DAWN reports published by SAMHSA are available at the Web site: http://www.samhsa.gov.

As an example, exhibits C–1 and C–2 display San Diego metropolitan area DAWN mentions for 1992 through 1995. These tables were compiled for and presented at the June 1997 national CEWG meeting. The data show a relatively high number of methamphetamine/speed mentions ($n = 679$) in 1995.

Exhibit C–3 shows the Phoenix metropolitan area DAWN emergency room mentions for the period from 1993 through the 1996. These data show a relatively high number of methamphetamine mentions in all 4 years, but a slight decrease in such mentions in 1996 ($n=690$) compared with the preceding year ($n=761$).

National Hospital Ambulatory Medical Care Survey

Another potential source of useful information is the National Hospital Ambulatory Medical Care Survey (NHAMCS), which was initiated in 1991 by the National Center for Health Statistics (NCHS) to gather information about the health care provided by hospital emergency and outpatient departments. This survey has a broader definition of substance abuse-related visits, which includes alcohol as a primary diagnosis as well as injuries and illnesses sustained because of drug and alcohol use (e.g., the driver of a car hit by an intoxicated driver or a person caught in the crossfire between drug sellers). NCHS does not report which hospitals participate in its survey.

Hospital Data

The need for emergency department data is critical to understanding the usage patterns of drug abusers in a given community. Since emergency department personnel are often extremely busy, they may not normally collect information on drug use practices. Therefore,

Exhibit C–1: DAWN Data: Estimated Number of Emergency Room Drug Abuse Episodes/Mentions, San Diego—1992-95

	1992	1993	1994	1995
Drug episodes	6,088	5,310	5,051	4,601
Drug mentions	10,291	9,033	8,701	8,065
Alcohol-in-combination	1,722	1,515	1,377	1,384
Cocaine	1,149	869	668	638
Heroin/morphine	1,022	842	695	682
PCP/PCP combinations	73	65	54	60
LSD	58	48	47	53
Amphetamine	245	364	381	421
Methamphetamine/speed	931	929	913	679
Marijuana/hashish	416	479	513	480

SOURCE: National Institute on Drug Abuse, 1997.

Exhibit C–2: Biannual Estimated Number of Emergency Room Drug Abuse Episodes/Mentions, San Diego—1995-96

	Jan-Jun 1995	Jul-Dec 1995	Jan-Jun 1996
Drug episodes	2,318	2,283	2,429
Drug mentions	4,133	3,932	4,211
Alcohol-in-combination	701	683	752
Cocaine	319	319	336
Heroin/morphine	301	382	462
PCP/PCP combinations	30	30	17
LSD	25	28	47
Amphetamine	254	167	146
Methamphetamine/speed	408	271	238
Marijuana/hashish	228	252	242

SOURCE: National Institute on Drug Abuse, 1997.

Exhibit C–3: DAWN Data: Number of Emergency Room Mentions By Drug, Phoenix—1993-96

Drug	Emergency Room Mentions							
	1993 Jan-Jun	1993 Jul-Dec	1994 Jan-Jun	1994 Jul-Dec	1995 Jan-Jun	1995 Jul-Dec	1996 Jan-Jun	1996 Jul-Dec
Drug Episodes	3,152	2,778	3,175	3,704	3,935	3,738	3,569	33,614
Drug Mentions	5,225	4,785	5,325	6,238	6,660	6,211	6,141	6,010
Cocaine	487	350	499	568	618	480	606	721
Heroin	251	236	246	236	226	261	274	350
Alprazolam	85	91	108	115	116	137	118	88
Marijuana	123	103	159	294	275	195	315	277
Diazepam	149	113	75	151	172	171	135	124
Amitriptyline	105	81	77	112	152	135	119	104
Diphenhydramine	93	53	105	102	75	73	45	69
Methamphetamine	229	252	379	434	435	326	365	325
Lithium-Carbonate	83	72	84	99	139	121	136	124
Clonazepam	108	107	105	131	145	167	118	96
Amphetamine	37	62	153	249	286	162	133	163
Trazodone	54	55	48	72	50	79	52	40
Carisoprodol	141	130	119	167	189	215	166	125

SOURCE: National Institute on Drug Abuse, 1997.

strategies need to be developed to convince those with the data to share it with the network. The purpose of collecting the data needs to be made clear to these groups.

It should be explained to hospital staff that there are three primary purposes for collecting local data on emergency department visits. First, such data will allow hospitals and the hospital associations to identify the extent to which substance abuse treatment in EDs affects hospital operations and resources. Second, data will highlight the impact of substance abuse on the local community and help the hospital and public agency planners identify the appropriate future resources needed to serve this population. Third, collecting and sharing these data will allow community-based providers and hospitals to work more closely to provide better case management and aftercare services. Exhibit C–4 shows a sample of an ED record layout.

Undoubtedly, one of the major hurdles in analyzing these data is integrating dissimilar data bases. For example, the general hospital data and State hospital data could be run on two separate systems, forms, or programming languages. Retrieving the information from private

Exhibit C–4: Suggested Emergency Department Record Layout, Drug- or Alcohol-Related Episodes

Data Set Element	Description
Medical Record Number	Unique Patient Identifier
Service Date	Year, Month
Date of Birth	Year, Month, Day
Sex	Male/Female
Race	White, African-American, etc.
Zip Code	5-Digit Zip Code
Hospital Number	6-Digit Medicare Provider Number
Primary Diagnosis	Drug/Alcohol-Related or Not
Secondary Diagnoses	Drug/Alcohol-Related or Not
Disposition of Patient	Home, Outpatient, Other Hospital
Source of Payment	Medicare/Medicaid, Private, HMO, etc.
Patient Origin	Jurisdiction of Patients' Residence
Source of Admission	Other ER, Institution, Home, etc.

SOURCE: National Institute on Drug Abuse, 1997.

Hospital based drug use data are difficult to collect, aggregate, and analyze

psychiatric hospitals is either too expensive or not possible because of the private hospital's claim that information is proprietary or confidential. However, if a representative of the private hospital is a member of the surveillance network, it may be possible to get aggregate patient information from this facility. To integrate these data sources, to the extent possible, the network might establish a special work group.

Given the difficulties associated with accessing and analyzing these sources of data, and the limited time and resources of a network, it is advisable to identify someone at the State or local level who has the knowledge, skills, and time to do the necessary work. Ideally, this person would access, prepare, and report these data at the network meeting in a simple format so that the data can be used along with other data sources to assess drug use patterns and trends. There should be periodic independent investigations on a sampling basis of the quality and accuracy of the data system(s).

Hospital-based drug use data are difficult to collect, aggregate, and analyze. Most hospitals collect information, maintain records, and report on the types of drug-related problems and the specific drugs used by patients. However, the lack of uniformity among public, private, and not-for-profit hospital data bases makes it increasingly difficult to report the extent of substance abuse in any jurisdiction, region, or on a statewide basis.

In attempting to obtain information about hospital patient drug use, three problems are usually confronted. Because hospitals tend to be complex organizations, it is difficult to identify individuals within them who have responsibility for patient data. Second, hospital staff who have responsibility for patient data tend to be very busy, difficult to reach, and reluctant to share information. Third, the reporting of drug-related medical problems (e.g., drug overdoses) often does not include specific information about the drugs involved.

To obtain information, contact should be made with the hospital's executive director, the official in charge of planning or marketing, or the hospital's epidemiology department. If the hospital is relatively small, it should be fairly easy to identify the appropriate hospital representative.

As an illustration, an ethnographer in one site made an effort to obtain patient drug use data from three local hospitals, two of which were public and one of which was a private hospital, to identify some of the difficulties that might be confronted. He started by making telephone calls to all three hospitals, explaining that he was associated with a local university and was interested in obtaining information regarding hospital admissions (e.g., drug overdoses) for the network (explaining the purpose and activities of this group).

The ethnographer's experiences with each of the hospitals was different. At the public hospitals, he found a general understanding of the information desired and genuine efforts to be helpful. The nurse to whom the ethnographer was referred at the University Hospital was very cooperative. She had her staff conduct a computer run on emergency room mentions for poisoning. Within a day of the request, the nurse faxed the ethnographer a report. The data included poisoning/overdose admissions, but they were not specifically related to drugs. The General Hospital staff also were helpful, but it was difficult to identify the potential sources of patient drug use data. Finally, the ethnographer was referred to the director of the outpatient drug abuse treatment program and was able to obtain some data.

The private hospital was much more concerned about patient confidentiality. The ethnographer was referred to a nurse who requested a letter explaining the purpose of the inquiry, the identification of the organization for which the ethnographer worked, and the specific information desired. She explained that the patient drug use data collected by the hospital was similar to the data collected by public hospitals. The drug overdose cases recorded did not include the names of the specific drugs involved. It was learned that it would be necessary to go to the doctors' charts for specific drug information.

Hospitals treat a broad range of drug use-related conditions and populations presenting those needs. Detoxification and medical rehabilitation are two of the primary services provided in a hospital. The research shows that about 5 percent of alcoholics and drug abusers require hospitalization or a medical setting for detoxification (Whitfield 1982). However, some drug abusers who do not have health insurance use the hospital emergency room as their source for primary and other care. Some chronic drug abusers relapse from time to time and "wear out their welcome" at one emergency room and then seek care at the next closest hospital. Others are admitted to the hospital for a medical or psychiatric illness that is a consequence of drug-using behavior. Each of these individuals is difficult to track within the addiction continuum of care, and each needs differing levels of care and case management to avoid future hospitalizations. Generally, alcohol and drug abuse patients receive care in three basic types of hospitals: acute general, private psychiatric, and State psychiatric hospitals.

Hospitals treat a broad range of drug use-related conditions . . .

Purpose of Studying Hospital-Based Drug-Related Discharges

Developing a drug abuse hospital data base is important because hospitals are the only treatment facilities open 24 hours a day, 365 days a year to provide emergency detoxification and rehabilitative and other inpatient treatment. Every hospital is in a position to test patients for alcohol and drug abuse treatment. Often, serious complications from drugs and alcohol occur at times when the hospital is the provider. Also, accidents and illnesses are often complicated by drug or alcohol use. Or, there may be a "comorbid" condition, such as affective disorder coexisting with drug or alcohol dependence. Hospital-based drug use data can provide a valuable resource for local networks.

Hospital-based drug use data can provide a valuable resource for local networks

Because of the recession in the early 1990s, State governments began to reduce their budgets. Some of the first services to be cut were drug-related nonhospital detoxification, intermediate care, halfway houses, and long-term drug abuse treatment facilities. Other reductions in Medicaid attempted to cut eligibility requirements of recipients and services reimbursed under each State's Medicaid plan. This in turn has continued to have an impact on public agencies, which have long waiting lists for treatment in all types of facilities. In the private sector, managed care and aggressive utilization review programs severely curtailed admissions to and occupancies of hospital-based and free-standing substance abuse treatment programs. Some general hospitals closed their detoxification units in exchange for more profitable service lines.

Where Can a Network Obtain Hospital Data?

The first step is to find out who in State or local government collects and analyzes hospital data. One can contact the State health planning or hospital rate-review agency; State alcohol, drug abuse, and mental health administrations; local health departments; or a regional or

statewide hospital association. Each agency might have some or all data for general, private, or State hospitals. It is good practice to collect data from more than one resource so that the data can be cross-validated.

Unless there is a network member who has knowledge of and expertise in accessing and analyzing hospital data sets, a second step might be to identify a researcher who can assist the network in collecting and analyzing the data.

. . . identify a researcher who can assist the network in collecting and analyzing the data

If the network is concerned about a relatively small geographic area (a region with one or two hospitals), it may be possible to obtain information directly from the local hospital. Initial contact should be made with the hospital's chief executive officer, official in charge of planning or marketing, or epidemiology department. Because of comorbidity (i.e., with mental illness), it is important to inquire whether the hospital has a director of psychiatry who might be a potential collaborator to collect drug use information. It is useful also to ask directors of other hospital divisions about the effect of substance abuse on their patients.

Remember to make inquiries regarding data bases of private psychiatric hospitals and State psychiatric hospitals. Both State and private psychiatric hospitals sometimes have units dedicated to the dually diagnosed patient or dedicated to the addicted patient population. For State psychiatric hospital data, one should contact the State mental health authority and become familiar with its data system and the people who maintain it. If the private psychiatric hospital data are not in a State data base, this information will be harder to access; one will need to visit each private psychiatric hospital to determine to what extent these hospitals serve drug-using populations. One might want to see if there is a separate association of private psychiatric providers in the area who might be interested in the network data collection project.

If you need statewide or comprehensive regional data that are not supplied by a State agency, the network may consider approaching the State's hospital association or major payers (e.g., Medicaid, Medicare, Blue Cross/Blue Shield). Remember to perform a comprehensive assessment; acute general, private psychiatric, and State psychiatric hospital data must be retrieved. Do not be surprised if each of these data types is on a separate data base, with one system based on fiscal years and others based on calendar years. If there are no centralized data bases, be prepared to inquire at each hospital regarding its data base. Contacting each hospital is a time-consuming and daunting task. However, the knowledge that will be gained during this data collection experience will prove invaluable, because network members will be the only persons who know how the system fits (or does not fit) together.

The next question is: What data elements does the network need to retrieve? The following section will explain how drug use diagnoses are categorized.

Development of the International Classification of Diseases

Diagnostic coding dates back to 17th-century England, where statistical information was gathered through a system known as the London Bills of Mortality. By 1937, this method of tracking information evolved into the International Causes of Death. The World Health Organization (WHO) published a statistical listing in 1948 that could be used to track both morbidity and mortality.

The International Classification of Diseases (ICD) led the way for the current text in international use today, the International Classification of Diseases, 9th Revision (ICD-9-CM). This version precisely delineates the clinical picture of each patient, providing exact information beyond that needed for statistical groupings and analysis of health care trends.

Another classification system is the revised fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) published by the American Psychiatric Association (APA 1994). In DSM-IV, psychoactive substance use means "the persistence of psychoactive substance use for at least 1 month or repeatedly over a long period of continuing use despite the recurrence or persistence of one or more known adverse consequences or taking of recurrent physical risks such as driving while intoxicated." Nearly all of the DSM-IV classifications are identical to ICD-9-CM codes.

Drug-Related ICD-9-CM Diagnoses and Diagnostic Related Groups

Since the enactment of the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA), Diagnostic Related Groups (DRGs) have been used to set limits on Medicare reimbursement. This patient classification scheme can be used to provide surveillance networks with information about the types of drugs used by hospital patients. Since it requires considerable knowledge and expertise to work with these data, networks should, as noted earlier, identify a researcher who knows how to access and analyze the information. This might be someone who is associated with a hospital, health department, or university.

For basic information, it is preferable to use DRGs

Computer systems can usually use either the ICD-9-CM or DRG classification system. For basic information, it is preferable to use DRGs. For more complex questions, running the 51 ICD-9-CM codes would be more appropriate.

The ICD-9 classification system provides principal, secondary, and tertiary diagnostic codes. It will be useful to look at secondary (and perhaps tertiary) codes. For example, drug dependence, psychosis, or nondependent abuse are often diagnosed in conjunction with mental

and emotional disorders. It is frequently difficult to tell which impairment came first. Treatment for a drug problem may be necessary before effective treatment for mental illness can be initiated. There may be as many drug cases that fall into the secondary diagnostic codes as fall into the principal diagnostic codes. The majority of cases where the drug code is not the principal code may have a mental health code (e.g., affective disorder, adjustment reaction) as the principal code. Other conditions that may have a secondary code related to drug or alcohol dependence, psychosis, or nondependent abuse are pregnancy, accidental poisoning, and fractures.

Below are the addiction-related DRG codes matched to ICD-9-CM codes.

DRG 433:   Alcohol/Drug Abuse or Dependence, Left Against Medical Advice

DRG 434:   Alcohol/Drug Abuse Dependence, Detoxification or Other Symptomatic Treatment with Complication Condition

Principal ICD-9-CM codes:
291	Psychosis, alcoholic
292	Psychosis, drug
303.0	Intoxication, acute alcoholic, or alcoholism
303.9	Other and unspecified alcohol dependence
304	Dependence, drug
304.9	Other and unspecified drug dependence
305.0	Abuse, alcohol; nondependent
305.2	Abuse, cannabis; nondependent
305.3	Abuse, hallucinogen; nondependent
305.4	Abuse, barbiturate, similarly acting sedative or hypnotic; nondependent
305.5	Abuse, opioid-mixed; nondependent
305.6	Abuse, cocaine; nondependent
305.7	Abuse, amphetamine; nondependent
305.8	Abuse, antidepressant; nondependent
305.9	Abuse, unspecified drug; nondependent
790.3	Excessive levels of blood alcohol

DRG 435:   Alcohol/Drug Abuse or Dependence, Detoxification or Other Symptomatic Treatment Without Complicating Condition

DRG 436:   Alcohol/Drug Dependence with Rehabilitation Therapy

Principal or secondary ICD-9-CM codes:
291.0	Delirium, alcohol withdrawal
291.1	Syndrome, amnestic, alcohol

291.2	Dementia, alcoholic, other
291.3	Hallucinosis, alcoholic withdrawal
291.8	Psychosis, alcoholic, specified
291.9	Psychosis, alcoholic, unspecified
292	Drug withdrawal syndrome

DRG 436: Alcohol/Drug Dependence with Rehabilitation Therapy

| 303.0 | Intoxication, acute alcoholic, alcoholism |

Secondary ICD-9-CM codes:Non-operating room procedures

94.61	Rehabilitation, alcohol
94.64	Rehabilitation, drug
94.67	Rehabilitation, combination alcohol and drug

DRG 437:   Alcohol/Drug Dependence with Combined Rehabilitation and Detoxification Therapy

Secondary ICD-9-CM codes:
Non-operating room procedures

94.63	Rehabilitation/detoxification, alcohol
94.66	Rehabilitation/detoxification, drug
94.69	Rehabilitation/detoxification, alcohol and drug

In addition to these DRG codes and the 24 ICD-9-CM codes corresponding to them, there are drug-related ICD-9-CM codes that are not matched to DRG codes, including the following:

265.2	Pellagra (alcoholic)
357.5	Alcoholic polyneuropathy
357.6	Polyneuropathy due to other toxic agents (specific illicit drugs can be found in E codes 850-854)
425.5	Alcoholic cardiomyopathy
535.3	Alcoholic gastritis
571.0	Alcoholic fatty liver
571.1	Acute alcoholic hepatitis
571.2	Alcoholic cirrhosis of liver
571.3	Alcoholic liver damage, unspecified
572.3	Portal hypertension
573.3	Hepatitis (unspecified toxic)
648.3	Complications of pregnancy due to drug dependence
648.4	Complications of pregnancy due to alcohol and drugs
655.4	Suspected damage to fetus from alcohol
655.5	Suspected damage to fetus from drugs
760.71	Fetus affected by alcohol (fetal alcohol syndrome)
760.72	Fetus affected by narcotics
760.73	Fetus affected by hallucinogenic agents
760.75	Fetus affected by cocaine
965.00	Poisoning by opium

965.01	Poisoning by heroin
965.09	Poisoning by other drugs
967.0	Poisoning by barbiturates
967.4	Poisoning by methaqualone compounds
967.8	Poisoning by other sedatives and hypnotics
968.5	Poisoning by topical and infiltration anesthetics (e.g., cocaine)
970.0	Poisoning by central nervous system stimulants analeptics
970.1	Poisoning by central nervous system-opiate antagonists
980.0	Toxic effect of alcohol

Limitations of Using Hospital Data

How do hospitals decide which medical conditions are drug related? Typically, the association is made because a condition occurs with unusually high frequency in patients already diagnosed as addicted. Cirrhosis of the liver is one example. However, cirrhosis of the liver is an outcome (a scarring of the liver) that is not a specific disease, and it has a variety of causes besides alcohol use, including viral and other infections and exposure to other drugs and chemicals. Thus, without knowledge of a patient's alcohol consumption, it may be difficult to make a diagnosis of alcoholic cirrhosis. Another example is alcoholic cardiomyopathy (alcohol-related damage to the heart muscle). This diagnosis is made by exclusion if every other known cause of heart muscle damage is ruled out.

Limitations of the ICD-9-CM also handicap efforts to assess the true nature and magnitude of drug-related health consequences. There is no code-specific category for acute alcoholic pancreatitis or drug-related HIV transmission. Therefore, it is impossible to separate drugs or alcohol from other causes of illness; when presenting the information, one can say the utilization data being prepared present a conservative estimate, since the data do not include all drug-related conditions (Dufour and Caces 1993).

Some complexities involved in using ICD-9-CM codes, and ways they are being used, are described in Appendix D by epidemiologists and researchers at the Washington State Department of Health.

Information Networks Should Request

The information the network asks for depends upon the questions members are attempting to answer. If a network desires general information from hospitals, one should ask for information by DRGs 433–437 for discharges, patient days, and average length of stay for the last 3–5 years to track trends. Depending upon network needs, one may ask that these data be developed either by the jurisdiction of a patient's residence (where the individual lives) or by where a patient received services (jurisdiction of the hospital provider). For more intricate data

inquiries, it is suggested that the data be run by the above ICD-9-CM codes. Many current data bases can perform data runs by socioeconomic factors; demographic factors such as gender, race, and age (specify age groups by children and adolescents younger than 18, adults ages 18–25, 26–34, and 35 and older); ZIP code; principal, secondary, and tertiary diagnosis; source of admission; marital status; payer source; and disposition of patient (where the patient was discharged).

All drug-use data can be run for primary, secondary, and tertiary diagnoses . . .

All drug-use data can be run for primary, secondary, and tertiary diagnoses in order to describe the full impact of substance abuse upon the hospital and community. For comparison purposes, it might be interesting to know what percentage of all discharges are drug-use related; this requires that a broader set of data be developed. Finally, be sure to check the confidentiality laws in the State to ensure that confidential data are not unknowingly revealed.

Hospital Data Needs and Issue Development

The search for data will, hopefully, lead to the hospital data base. Below are some examples of why one would want to query the hospital data base. Network members do not need to have the programming experience to actually run these programs, but must know enough about the issue and data base to develop a written request and draw an example of the printout being requested.

One should develop a data request form so that output can be produced in the same format. Examples are listed below.

Example #1: Request that the patient identifier number be run for drug-related use primary and secondary diagnoses, DRGs 433–437. You will probably only retrieve recidivism data from that particular hospital and cannot track whether an individual receives treatment at any other hospital(s).

Example #2: Request that the following ICD-9-CM codes be run by patient origin (jurisdiction of residence):

648.3	Complicated pregnancy due to drug dependence
648.4	Complicated pregnancy due to alcohol and drugs
655.4	Suspected damage to fetus from alcohol
655.5	Suspected damage to fetus from drugs
760.71	Fetus affected by alcohol (fetal alcohol syndrome)
760.72	Fetus affected by narcotics
760.73	Fetus affected by hallucinogenic agents
760.75	Fetus affected by cocaine

Example #3: Have the programmer run, by age group, the following ICD-9-CM codes:

305.0	Abuse, alcohol; nondependent

305.2	Abuse, cannabis; nondependent
305.3	Abuse, hallucinogen; nondependent
305.4	Abuse, barbiturate, similarly acting sedative or hypnotic; nondependent
305.5	Abuse, opioid-mixed; nondependent
305.6	Abuse, cocaine; nondependent
305.7	Abuse, amphetamine or related sympathomimetic; nondependent
305.8	Abuse, antidepressant; nondependent
305.9	Abuse, other, mixed, or unspecified drug; nondependent

Example #4: Request that each ICD-9-CM code be run by age, residence, and ZIP code.

In each of the above examples, have the programmer run at least 3 years of data so you can make comparisons between previous years' data. The data will probably be received in a Lotus spreadsheet format. The data should be checked to see if the data answer the question being asked, to ensure the data's accuracy, and to see if the data make sense. After some experience working with the data base(s), members can probably ask better questions and begin to challenge the limits of the data base(s). An advanced application of drug use data is geo-coding, a computerized mapping application that plots data against a State, jurisdictional, or subregional map.

Explain the purpose and potential usefulness of the data to the network

Finally, appreciate programmers and let them know why you want the data. Explain the purpose and potential usefulness of the data to the network. Do not overburden the programmer with data requests that are too complicated or relatively unimportant. Give the programmer enough lead time to complete the request. Develop your own graphs and charts from the data received, and thank the programmers each time for their help. If the network wants further data runs, have the data funneled through one person instead of having many individuals inundating the programmer with requests.

Outcomes of a Comprehensive Hospital-Based Drug-Use Report

A 1993 study in Maryland compared the use of the DRGs and the ICD-9-CM codes to analyze hospital-based drug (ab)use discharges. Initially, this report showed that closure of detoxification and rehabilitation drug abuse programs, changes in State Medicaid policies, and increased utilization review and managed care programs decreased the number of hospital discharges between 1990 and 1992 DRGs and ICD-9-CM codes (Gentile 1993). Using the ICD-9-CM drug codes produced 10 percent more drug use discharges when compared with DRGs. However, using primary and secondary ICD-9-CM drug-related discharges showed four times as many admissions compared with only primary DRG diagnoses (45,000 vs. 13,000 discharges). The data

showed that the ICD-9-CM codes will better identify the extent to which alcohol and drug abuse is a problem in each jurisdiction and hospital. It was estimated conservatively that about 45,000 drug users (Maryland residents) are treated in Maryland hospitals annually, or that about 1 in every 12 admissions is drug related.

A significant finding . . . is the importance of mental health data . . .

A significant finding of this and other studies is the importance of mental health data and their relationship to drug use data. Five of the top 10 primary nondrug diagnoses are mental health diagnoses whose secondary diagnosis is drug-related. Recent studies and reports surveying the mental health population found that 50–80 percent of mentally ill individuals also have a drug-use diagnosis. The report points out significant data gaps in obtaining secondary drug-use diagnoses from State psychiatric hospitals and the lack of a systematic method to collect emergency room data.

Law Enforcement Data

There is considerable variability in the way different law enforcement departments collect and report arrest data. Police Departments generally assign someone primary responsibility for the task of collecting, managing, and reporting arrest data. If a Police Department is relatively large, this responsibility is likely to be delegated to a particular division. For example, the Denver, Colorado, Police Department has a Research and Development Division that collects and reports arrest data. The Division produces annual reports that categorize different types of criminal offenses by geographic location, police district, and demographic category (the information is presented in table form). Unfortunately, there is only one category for drug-related offenses, and drug types are not specified.

Other city Police Departments in Colorado collect arrest data differently. For example, the Police Department in Aurora only records the most serious offense when an arrest is made. The specific information about a drug-related arrest is not recorded. If a person is arrested for driving under the influence (DUI) and drugs are found, the arrest report only includes the DUI (the greater of the two offenses). Being arrested for possession of an injection device is not considered a major arrest and would not be recorded in the data base. Similarly, the Police Department in Arvada, another city in Colorado just north of Denver, does not report specific information about drug arrests. (The type of drug involved in the arrest is not reported.) Crimes are reported as specific legal offenses.

Police Departments generally assign someone primary responsibility for the task of collecting, managing, and reporting arrest data

The Police Department in Shreveport, Louisiana, uses a standard format to report the number and types of arrests in the city by year. Exhibit D–1 shows the number of annual drug arrests reported by the Shreveport Police Department from 1989 to the first half of 1997.

The table in exhibit D–2 is an example of how the Shreveport Police Department categorizes specific types of drug arrests for adults and juveniles.

Exhibit D–1: Shreveport Drug Arrests

Year	Drug Arrests	% Change from previous year
1989	662	10
1990	688	4
1991	667	-3
1992	1,076	61
1993	1,114	4
1994	1,136	2
1995	1,399	23
1996	1,501	7
Jan-June 1997	849	NA

SOURCE: Office of Alcohol and Drug Abuse, State of Louisiana, 1997.

Exhibit D–2: Shreveport Drug Arrests—1996

Drug Group Type	Adults and Juveniles			Juvenile Arrest Only*		
	Sale/ manufacture	Possession	Total	Sale/ manufacture	Possession	Total
Schedule II (Cocaine and their derivatives: morphine, heroin, codeine)	274	307	581	12	17	29
Schedule I (Marijuana and other opiates)	109	588	697	6	50	56
Others	0	223	223	0	13	13
Total	**383**	**1,118**	**1,501**	**18**	**80**	**98**

*Persons arrested under the age of 17.
SOURCE: Office of Alcohol and Drug Abuse, State of Louisiana, 1997.

Uniform Crime Reports

All law enforcement agencies are required to report arrest data to State authorities who, in turn, report them to the Federal Bureau of Investigation (FBI) for inclusion in the Uniform Crime Reports (UCR), which include both national and local data. Only six States (Indiana, Michigan, Missouri, New Mexico, Ohio, and Tennessee) and the District of Columbia do not send UCR data to the FBI. Caution should be exercised when using these data, since comparisons between States may be invalid because of variations in reporting procedures, (e.g., what constitutes an "aggravated assault" may differ between Vermont and California because of definitions of the crime in State law).

A few States provide data online. If data are not readily obtainable from the State, one can request local data from the FBI. However, one should expect this process to take several weeks and be prepared to pay a moderate fee. The FBI assists all States in developing State UCRs compatible with the national program. A standardized format has been developed for this purpose. A listing of these UCR programs is provided in Appendix E. These programs report the data that go to the FBI.

The format includes data on arrests for drug trafficking (sale, growing, or manufacturing) and unlawful possession. Four different drug categories are reported: opium or cocaine or their derivatives, including morphine, heroin, and codeine; marijuana; synthetic narcotics, including demerol and methadone; and other dangerous non-narcotic drugs such as barbiturates and benzedrine. Because of the groups (such as combining opium and cocaine) and the variation in reporting "synthetic narcotics" and "other dangerous non-narcotics" (LSD might be included in either category), it is impossible to analyze trends except for marijuana as a proportion of all drug arrests. Alcohol arrests, including driving under the influence, public drunkenness, and liquor law violations, can be very helpful in pointing out at-risk populations and juvenile drinking. However, all of these offenses are influenced by local law enforcement priorities. If there is a campaign against drunk driving, arrests will go up, even though the prevalence of alcohol use may change little. Likewise, if the police crack down on underage drinking during spring break, the arrest rates will go up. In addition, some of the alcohol-related arrests are influenced by whether or not the reporting county is a "wet" or "dry" area.

Recorded offenses are maintained by the municipality and county in which they occur. Procedures for handling juveniles vary among departments more than do procedures for handling adult offenders. Juvenile offenders are often handled informally so the records on these arrests are incomplete. In addition, some printouts and publications from the State Uniform Crime Report program will group youth as younger than 18 while other reports from the same agency will group them as younger than 17, so use caution when summarizing these statistics.

In addition, the UCR reports provide information on the race and ethnicity of persons arrested. The race categories are White, Black, American Indian or Alaskan Native, and Asian or Pacific Islander. The ethnic categories are Hispanic and Not Hispanic. However, agencies differ in the way that these data are compiled. Generating distribution tables based on both race and ethnicity may be problematic. Check with the UCR agency to see how it gathers information on race and ethnicity.

From the UCR it is possible to obtain annual data on the number of arrests for trafficking and possession of drugs by county and by every law enforcement agency that reports within the county. The individual agency can be very helpful, for example, if the network is looking at drug and alcohol arrests by college students and the college police have reported such arrests.

Caution, however, must be exercised because duplicate reporting can occur. One should assume that all arrests made by a local law enforcement agency have been sent to the UCR, so do not add local statistics to the arrests reported by the UCR. Check with the UCR agency to see if State police arrests are reported in the UCR or are reported separately, and inquire about arrests made by Federal agencies and whether or not they are reported in the UCR.

Examples of the type of arrest data available from the UCR, as reported by the Texas Commission on Alcohol and Drug Abuse, are shown in exhibits D–3 and D–4.

Appendix F includes two UCR tables compiled by the State of Maryland. One includes demographic variables for arrested persons older than 17 years of age. The other includes similar data on adolescents younger than 18.

EXHIBIT D–3: Drug Arrests By County, Texas—1994

County	Traffic All Drugs	Traffic Marijuana	Possession All Drugs	Possession Marijuana
Bexar	2,651	99	5,512	2,940
Brazolia	298	78	481	353
Dallas	2,104	457	9,621	3,627
Fort Bend	104	30	838	531
Galveston	114	20	1,245	492
Harris	695	75	11,171	4,283
Jefferson	564	119	2,506	1,147
Midland	123	103	327	197
Smith	145	26	289	191
Tarrant	795	81	4,743	2,229
Traves	404	26	3,115	1,105

SOURCE: Texas Commission on Alcohol and Drug Abuse, 1996. Includes counties that have at least 100 arrests in 1994 for drug trafficking.

Exhibit D–4: Drug Arrests By Race/Ethnicity, Texas

Classification of Drug Offenses	White	African-American	Hispanic	American Indian, Native Alaskan, Asian
Trafficking, Sale, and Manufacturing				
Opium/cocaine or derivatives	1,384	4,237	1,858	9
Marijuana	1,050	394	655	3
Synthetic narcotics	320	256	307	1
Non-narcotic drugs	170	128	54	1
Possession				
Opium/cocaine or derivatives	5,828	12,478	6,029	41
Marijuana	13,637	6,451	10,605	33
Synthetic narcotics	1,094	335	346	3
Non-narcotic drugs	1,363	1,203	821	7

SOURCE: Texas Commission on Alcohol and Drug Abuse, 1996.

A substantial amount of criminal justice system data can be accessed through the Internet

A substantial amount of criminal justice system data can be accessed through the Internet. For example, the Bureau of Justice Statistics (BJS), a component of the Office of Justice Programs in the U.S. Department of Justice, is the primary national source for criminal justice statistics. BJS collects, analyzes, publishes, and disseminates information on crime, criminal offenders, victims of crime, and the operation of justice systems at all levels of government.

The BJS clearinghouse, called the National Criminal Justice Reference Service (NCJRS), provides a variety of services to the public through a toll-free number. One can request copies of BJS reports and mailing list information, criminal justice statistics, custom literature searches of the NCJRS Data Base, referrals to other sources of crime data, and data assistance from information specialists at the clearinghouse. Internet users can obtain documents online either by ordering them through e-mail or actually reading or downloading them. Such documents tend to contain mostly national data, with very little local data. The Internet address is http://www.ncjrs.org.

In 1978, BJS established the National Archive of Criminal Justice Data (NACJD) to facilitate and encourage research in the field of criminal justice through the sharing of data resources. NACJD seeks to provide (1) computer-readable data for the quantitative study of crime and the criminal justice system through the development of a central data archive that disseminates computer-readable data, as well as (2) technical assistance in selecting data collections and the computer hardware and software for analyzing data efficiently and effectively. NACJD currently holds more than 500 data collections relating to

criminal justice. One can obtain the raw data upon which the clearing-house reports are based by calling the archive. In addition, NACJD's Web site allows browsing and downloading access to most of the archive's data and documentation at no charge. A sampling of variables one can search under includes year; State and county Federal Information Processing Standards (FIPs) codes[numerical codes given for States] ; county population; drug abuse violations, drug abuse possession, and drug abuse sale/manufacture by opium, cocaine, marijuana, synthetics, and other; driving under the influence; liquor law violations; and drunkenness. NACJD's internet address is http://www.icpsr.umich.edu/NACJD/home.html. One can ask questions of NACJD staff via the internet by writing nacjd@icpsr.umich.edu. The mailing address is NACJD/ICPSR, Institute for Social Research, P.O. Box 1248, Ann Arbor, MI, 48106.

ICPSR provides access to the world's largest archive of computer-readable social science data

The NACJD is but one of many sources of data available through the Inter-University Consortium for Political and Social Research (ICPSR), located in the Institute for Social Research at the University of Michigan. ICPSR provides access to the world's largest archive of computer-readable social science data. Numerous discrete files are currently on deposit with ICPSR, and detailed descriptions of the data holdings are available. ICPSR's data holdings may be searched online by students and researchers at member institutions. (An online list is available of the more than 325 member colleges and universities in the United States and Canada, as well as the several hundred institutions served by members in Europe, Oceania, Asia, and Latin America.) Data holdings cover a broad spectrum of academic disciplines, including sociology, public health, criminal justice, and the law. A few relevant subject headings include Census Enumerations: Historical and Contemporary Population Characteristics, Health Care and Health Facilities, and Social Institutions and Behavior (including Minorities and Race Relations, Crime and the Criminal Justice System, Vital Statistics, Family and Gender). A large number of local data sets also can be obtained through ICPSR's holdings.

Data from Crime Laboratories

In most States, crime laboratories have been established to coordinate lab results and other sources of information about illicit drugs and to report on the quantities, price, and purity of drugs seized and arrestee urinalysis results. These laboratories are generally operated by the State police department or police departments in large cities. In a large State, obtain the report from the State laboratory that serves the network's area and also see if there is a metropolitan laboratory used by the city.

State and county crime laboratories can be identified in each State by contacting the State UCR (see Appendix E) or the State Statistical Analysis Center (see Appendix C).

Based on information collected and analyzed, State laboratories often report on drug availability, trafficking, and trends. Looking at the number of drug analyses by drug type and by year will show changes in availability of various drugs. While the formal reports may be by general drug types (marijuana, cocaine, stimulants, opiates, etc.), the labs are often able to identify new types or combinations of drugs and how many samples and dosage units of a specific substance have been analyzed. For example, the State crime lab on the Lower Texas border with Mexico reported that the number of flunitrazepam (Rohypnol) pills examined each year increased from 194 pills in 1992 to 25,966 in 1995.

In another example, the Criminal Intelligence Division of the Maryland State Police, the State crime laboratory, produces quarterly and annual reports based on lab results and data/information collected. Exhibits E–1 through E–7 provide examples of data tables included in the 1995 report. Exhibits E–1 through E–4 show data on cocaine hydro-chloride (HCL).

Exhibit E–1: Maryland State Police Arrests for Cocaine (HCL)

Race/Ethnicity	1993		1994	
	Male	Female	Male	Female
Black	107	25	104	13
White	99	37	89	35
Hispanic	1	---	3	---
Asian	---	---	1	---
Total	207	62	197	48
Age	1993		1994	
17 and under	7		4	
18 to 25	77		66	
26 to 30	73		45	
31 to 35	48		54	
36 and over	57		72	
Total	262		241	

SOURCE: Criminal Intelligence Division of the Maryland State Police (CIDMSP), 1996.

Exhibit E–2: Maryland State Police Arrests for Crack Cocaine

Race/Ethnicity	1993		1994	
	Male	**Female**	**Male**	**Female**
Black	115	18	127	14
White	45	16	43	19
Hispanic	1	---	---	---
Asian	---	---	---	---
Total	161	34	170	33
Age	**1993**		**1994**	
17 and under	12		15	
18 to 25	68		63	
26 to 30	33		43	
31 to 35	36		25	
36 and over	46		44	
Total	195		190	

SOURCE: Criminal Intelligence Division of the Maryland State Police (CIDMSP), 1996.

Exhibit E–3: Maryland State Police Statewide Cocaine (HCL) Prices—1993-94

User Quantities	1993	1994
1/4 gram	$27	$21
½ gram	$48	$38
1 gram	$89	$72
Dealer Quantities	**1993**	**1994**
1/8 ounce (3.5 grams)	$240	$258
1/4 ounce (7 grams)	$420	$409
½ ounce	$775	$657
1 ounce	$1,300	$1,155
2 ounces (57 grams)	$2,445	$2,150
4 ounces (113 grams)	$4,350	$4,140

SOURCE: Criminal Intelligence Division of the Maryland State Police (CIDMSP), 1996.

Exhibit E–4: Maryland State Police Statewide Crack Cocaine Prices—1993-94

User Quantities	1993	1994
$10 crack	.10 grams	.11 grams
$20 crack	.17 grams	.19 grams
$40 crack	.29 grams	.34 grams
$50 crack	.37 grams	.40 grams
Dealer Quantities	**1993**	**1994**
1 gram	$105	$119
2 grams	$155	$172
1/4 ounce (7 grams)	$410	$435
½ ounce (14 grams)	$765	$775
1 ounces (28 grams)	$1,295	$1,125

SOURCE: Criminal Intelligence Division of the Maryland State Police (CIDMSP), 1996.

The price of cocaine (HCL) is determined for 2-gram and 1-gram amounts. Most users do not buy more than 1 gram of cocaine at a time. The average purity is based on all samples seized, regardless of the amount seized or how the cocaine was obtained. Contrary to popular belief, there is no relationship between the amount seized and purity. The dividing line between user and dealer seizures is 2 grams. Larger quantities are bought by dealers who repackage the cocaine into smaller amounts for resale.

Maryland's Criminal Intelligence Division concluded that between 1993 and 1994, drug prices decreased for both user and dealer quantities of cocaine (HCL). The only apparent increase was observed in the 1/8-ounce amount; this "finding" can be explained primarily by the small sample size.

When drug users buy marijuana or cocaine, both the price and the amount received can be negotiated. A slightly larger or smaller amount has a commensurate change in price. This has not been true for purchases of crack cocaine. At the street level, the price of crack is fixed, for example, at $3–$5 per vial, and the buyer accepts whatever the dealer offers. Therefore, changes in availability are measured by the average amount paid for purchases of crack.

The average purity is based on all samples seized. As with cocaine (HCL), there is no relationship between amount and purity, which is expected because crack is a purified form of cocaine. There is no dividing line between user and dealer quantities of crack. Users typically smoke the crack immediately after purchase. Therefore, it is unusual to find user amounts of crack during routine investigations.

During 1994, crack users received more crack for their money, reflecting a decrease in price. Dealer prices for crack cocaine appear to have increased; however, this is more a reflection of the way purchases break down by county. In rural counties, midsize purchases of crack are generally more expensive than in urban areas, so that rural figures inflate the average statewide price for the drug.

According to Maryland's Criminal Intelligence Division, the price for heroin is determined based on a 1-gram purchase of low-purity heroin. The price is not determined for street-level purchases of high-quality heroin, since they are rare. As a general rule, high-quality heroin is four to five times more expensive than a comparable amount of low-purity heroin shown in exhibit E-5. Between purchases and seizures, there is a sufficient sample each month to determine purity for both high and low categories. The vast majority of purchases and seizures are for small quantities or are larger amounts repackaged for street-level sale, so combining uncut and cut heroin is not an issue.

Because heroin is typically purchased at the street level in $10 and $20 bags, it is more useful to determine how much of the drug is received for the amount paid at each level (exhibit E-6).

Exhibit E–5: Maryland State Police Statewide Low-Purity Heroin Prices—1993-94

Amount	1993	1994
½ gram	$43	$35
1 gram	$85	$67
2 grams	$170	$107
1/4 ounce	$340	$310
½ ounce	$655	$595
1 ounce	$1,300	NA

SOURCE: Criminal Intelligence Division of the Maryland State Police (CIDMSP), 1996.

Exhibit E–6: Maryland State Police Price of Heroin and Amount of Purchase

Price	1993	1994
$10	0.19 grams	0.17 grams
$20	0.27 grams	0.31 grams

SOURCE: Criminal Intelligence Division of the Maryland State Police (CIDMSP), 1996.

It was reported that an oversupply of heroin has enabled dealers to sell higher purities at the street level. The higher purities permit alternative use methods such as snorting, thus helping to create a new population of heroin users. Casual drug users are more likely to take drugs by inhalation or smoking rather than by injection. Therefore, smokable or snortable heroin can be used by the same methods as cocaine. Also, using heroin in smokable or inhalable form eases the anxiety of users who want to avoid contracting AIDS and other blood-borne diseases through injection. The marketing of heroin is gaining ground in Maryland, as evidenced by the increased number of addicts appearing in heroin abuse programs from 1990 to 1994 who became addicted through smoking or inhaling.

In 1994, 40 percent of the 15,324 heroin abusers who entered drug treatment in Maryland reported that inhalation was the route of administration, compared with 28 percent in 1992.

In Maryland, marijuana price is determined for 1/8-ounce and 1/4-ounce purchases; 75 percent of the purchases statewide are made for these amounts. The purity, or in the case of marijuana, potency, is not included because of insufficient data. The dividing line between user and dealer amounts is 16 grams, or slightly more than 2 ounces, because a natural break occurs in the data at this point, and intelligence information suggests that this is the dividing line between the user and dealer levels (exhibit E-7).

The Maryland State Crime Laboratory reports data on a variety of other drugs. This information can be found in Appendices F–1 and F–2.

Exhibit E–7: Maryland State Police Statewide Marijuana Prices—1991-94

Amount	1991	1992	1993	1994
1/8 ounce	$42	$37	$38	$34
1/4 ounce	$61	$63	$61	$59
1/2 ounce	$101	$115	$106	$108
1 ounce	$167	$205	$190	$158
2 ounces	NA	$380	$355	$227
4 ounces	NA	$730	$680	$515

SOURCE: Criminal Intelligence Division of the Maryland State Police (CIDMSP), 1996.

Drug Trafficking Reports

The regional offices of the Drug Enforcement Administration (DEA) prepare quarterly intelligence reports that provide information on drug trafficking patterns. Some of these reports are available to the public, and the intelligence analysts are a good source of information on who the wholesalers are as compared with the street traffickers for the different drugs.

Each division office also has a diversion control unit that concentrates on the diversion of legal prescription drugs. This group can provide information on which prescription drugs are being diverted and the patterns of diversion. In addition, the State Pharmacy Board and State Medical Board usually have investigators who can provide additional information on the diversion of prescription drugs.

Appendix G provides a listing of the DEA division offices.

State drug trafficking reports also can be obtained by contacting State and local narcotics officers. These intelligence drug trafficking reports can help network members understand when, how, and from where illicit drugs are transported into the State. These reports provide information about drug availability cost and trends. In many instances, the reports can be obtained by contacting the State police or criminal justice agency.

Appendix H provides an example of drug trafficking information included in the 1995 Drug Prospectus Report produced by the Criminal Intelligence Division of the Maryland State Police Department.

Domestic Monitor Program

. . . the DMP provides information on where the buy was made, the brand name, the purity, and the price per milligram pure

The Domestic Monitor Program (DMP) of the DEA reports on sources, kinds, cost, and purity of retail-level heroin. This information is based on actual undercover heroin purchases made by the DEA on the streets in selected cities. The buys provide information on whether the heroin was Asian, Mexican, Colombian, or undetermined, and what adulterants and diluents were present. In addition, the DMP indicates where the buy was made, the brand name, the purity, and the price per milligram pure. Because the validity of this information is dependent on the number of buys made by the DEA, it is important to determine the specific number of buys. One or two buys would provide inconclusive evidence. Information on the DMP can be obtained from the local DEA field offices

Price and Purity Data

The Domestic Unit of the Strategic Intelligence Section, Drug Enforcement Administration, compiles data on the price and purity of illicit drugs from DEA field division reports. Data are based on illegal drugs confiscated at the local level. These data are used to assess illegal drug availability. A depressed price and an elevated purity might

signal an increased availability of a certain drug. Increased price and declining purity might indicate decreased availability of that drug.

Data on price and purity of illegal drugs should be analyzed over a long term and in conjunction with other available information on drug trafficking and drug abuse patterns.

Exhbit E–8 shows the average price for marijuana confiscated during April–June 1996. Exhibit E–9 includes national price and potency data for marijuana, from 1993 through the first half of 1996.

Illegal Drug Price/Purity Reports can be obtained from local DEA field officers or from the Intelligence Production Unit (IPU), Intelligence Division, DEA Headquarters.

Exhibit E–8: Quarterly Price Data in Dollars for Marijuana—April-June 1996

Division	Primary Source	Pound Commercial	Pound Sinsemilla	Ounce Commercial	Ounce Sinsemilla
National Range	COL/JAM/MEX/-THAI/US	200-4,000	1,000-8,000	40-400	100-600
Atlanta	MEX/US	1,200-1,600	1,800-2,000	90-180	230
Boston	COL/MEX/US	300-4,000	1,000-6,000	75-160	100-600
Chicago	COL/MEX/US	850-2,000	2,500-6,500	75-160	420-480
Dallas	MEX/US	500-3,000	NA	60-80	NA
Denver	MEX/US	500-1,800	1,500-3,500	NA	NA
Detroit	JAM/MEX/THAI/US	800-4,000	1,500-3,000	80-250	150-200
Houston	MEX/US	350-900	NA	NA	NA
Los Angeles	COL/MEX/THAI/US	200-1,000	5,000-6,000	250	NA
Miami	COL/JAM/US	700-1,700	2,000-3,000	NA	NA
Newark	JAM/MEX/US	900-4,000	2,400-3,000	90-400	NA
New Orleans	MEX/US	700-1,500	1,600-5000	100-400	200-600
New York	MEX/US	300-2,000	2,400-3,500	NA	NA
Philadelphia	JAM//MEX/US	1,500-3,200	1,400-3,200	100-250	NA
Phoenix	MEX/US	650-750	NA	75-100	NA
San Diego	COL/MEX/US	400-800	2,000-4,000	50-100	200-400
San Francisco	MEX/THAI/US	350-1,000	1,500-6,000	40-100	200-600
San Juan	JAM/MEX/US	900-2,500	1700	250-400	NA
Seattle	MEX/THAI/US	600-3,000	2,000-8,000	NA	NA
St. Louis	MEX/US	900-2,000	1,500-4,000	NA	NA
Washington, D.C.	JAM/MEX/US	850-2,200	1,100-5,000	100-250	150-500

SOURCE: Drug Enforcement Administration, 1997.

Exhibit E–9: Annual Price and Potency Data in Dollars for Marijuana, National Range

Type	Quantity	1993	1994	1995	1996 (Jan-June)
Commercial Grade	Pound	300-5,000	285-4,000	300-4,000	200-4,000
	Ounce	24-450	40-450	40-400	40-400
Potency (THC)		4.18%	4.06%	3.51%	5.02%
Sinsemilla	Pound	1,000-9,500	900-9,500	800-8,000	700-8,000
	Ounce	75-100	100-1,000	100-900	60-600
Potency (THC)		5.45%	7.29%	7.25%	10.48%

SOURCE: Drug Enforcement Administraiton, 1997.

Arrestee Drug Abuse Monitoring Program

The National Institute of Justice's (NIJ) Arrestee Drug Abuse Monitoring Program (ADAM) is a survey of arrestees in metropolitan areas across the United States. It is projected that there will be 75 ADAM sites by the year 2000. ADAM is an expansion and enhancement of the Drug Use Forecasting (DUF) program, which was established by NIJ in 1987.

In each site, quarterly interviews and bioassays are obtained from a sample of arrestees. Response rates usually reach 90 percent for the interviews, with approximately 80 percent of those interviewed agreeing to provide urine samples. All urine specimens are sent to a central laboratory for analysis, and they are analyzed for 10 drugs: cocaine, opiates, marijuana, phencyclidine (PCP), methadone, benzodiazepines, methaqualone, propoxyphene, barbiturates, and amphetamines. All positive results for amphetamines are confirmed by gas chromatography to eliminate positives that may have been caused by over-the-counter drugs. For most drugs, the urine test can detect use in the previous 2–3 days, although marijuana and PCP can sometimes be detected several weeks after use.

In 1996, program sites were located in 23 major metropolitan areas and data were collected data from 19,835 adult male booked arrestees. Data also were collected from 7,532 adult female booked arrestees at 21 of these sites, and from 4,145 juvenile male and 645 juvenile female detainees at 12 sites and 7 sites, respectively.

Current ADAM sites include Atlanta, Birmingham, Chicago, Cleveland, Dallas, Denver, Detroit, Ft. Lauderdale, Houston, Indianapolis, Kansas City, Los Angeles, Manhattan, New Orleans, Omaha, Philadelphia, Phoenix, Portland, St. Louis, San Antonio, San Diego, San Jose, and Washington, D.C.

Data from ADAM is used to examine drug abuse patterns and trends in arrestee populations and to compare differences across sites. Outreach data collection will provide vital insights into the leading and trailing edges of drug epidemics and into the links between drugs and crime beyond our central cities.

To obtain information, contact the ADAM Program, National Institute of Justice, 633 Indiana Avenue NW, Room 880, Washington, D.C. 20531.

Some States participating in CSAT's Treatment Needs Assessment contract have funded additonal arrestee sites through a series referred to as the SANTA program. Contact the State Alcohol and Drug Abuse agency for information on local ADAM or SANTA studies.

Surveys

Surveys are one of the primary sources of epidemiologic data on incidence and prevalence, patterns and trends, and correlates and consequences of drug use and abuse. Network members should be knowledgeable about three ongoing national surveys of drug use and the most up-to-date results of these surveys. These surveys provide regional and national data on drug use prevalence and trends. The data typically show differences in drug use among specific groups, (e.g., by gender, age, and race/ethnicity). A comparison of local versus national data could, theoretically, yield a number of different but useful findings. For example, in a given year, there may be little difference between the local and national prevalence rates and patterns of drug use. Such a scenario would substantiate the validity of the local data.

Network members should be knowledgeable about three ongoing national surveys . . .

Conversely, a comparison of local and national data may show divergent patterns overall or for a particular drug or population group. For example, the national data may reflect the emergence of a new drug or an increased prevalence of a popular drug, such as marijuana, that has not yet become apparent at the local level. Such a divergence could serve as an "alert." Has the trend been missed in local data gathering, or is it a pattern that may emerge in the future? How should local efforts be designed to determine whether the specific drug is or will become a substance of abuse in a confined geographic area?

Knowledge of national surveys can be useful in planning surveys at the State and local levels. The methods and questionnaires used in the national surveys have been tested for utility and for reliability and validity. Sampling strategies, as well as procedures for training data collectors, should be accessible and useful. The instruments are in the public domain and can be used without cost by any interested party.

National Surveys

The National Household Survey on Drug Abuse (NHSDA) provides information on prevalence and trends in the use of illicit drugs, alcohol, and tobacco among members of the household population aged 12 and older in the United States. Information on lifetime ("ever used"), past-year, and past-30-day use is collected on the following drugs: any illicit drug, marijuana, cocaine hydrochloride, crack cocaine, hallucinogens, any psychotherapeutics (nonmedical use of sedatives, tranquilizers, stimulants, and/or analgesics), alcohol, cigarettes, smokeless tobacco, phencyclidine hydrochloride (PCP), anabolic steroid use, inhalants, and heroin. The survey is based on a multistage area probability sample design.

National Household Survey reports can be obtained by contacting SAMHSA, Office of Applied Studies, Rockwall II Building, 5600 Fishers Lane, Rockville, Maryland 20857, or from the following Web site: http://www.samhsa.gov.

The Monitoring the Future Study (MTF) reports on the prevalence of drug use and related attitudes among secondary school students (8th, 10th, and 12th grades). Data have been collected since 1975 from 125 to 140 public and private schools to provide a representative cross-section of students throughout the coterminous United States. A followup mail survey is structured to collect data from college students 1–4 years after high school. Information on lifetime, past-year, and past -30-day use is collected on the following drugs: any illicit drug, marijuana, stimulants, cocaine, crack cocaine, hallucinogens, lysergic acid diethylamide (LSD), hallucinogens other than LSD, inhalants, barbiturates, other opiates, tranquilizers, methylenedioxymethamphetamine (MDMA or "ecstasy"), crystal methamphetamine ("ice"), steroids, and heroin.

The reports describing the results of the MTF can be viewed at Web site www.isr.umich.edu/src/mtf.

The Youth Behavior Risk Survey (YBRS), developed by the Centers for Disease Control and Prevention, monitors risk behaviors among public school youth in grades 9 through 12. Use of alcohol, tobacco, and other drugs, as well as dietary behaviors, physical inactivity, and risky sexual behaviors are the priority risk behaviors surveyed. Illicit drugs covered include marijuana, cocaine, crack, inhalants, heroin, PCP, LSD, MDMA, methamphetamine, crystal methamphetamine, and peyote (mushrooms). Use of licit drugs (e.g., steroids) without a doctor's prescription also are covered.

Selected summaries of the YRSB surveys can be viewed at http://www.cdc.gov/nccdphp/dash/problem.htm.

State Surveys

In recent years, CSAT funded every State to undertake a family of surveys to estimate the need for treatment. Every State has conducted a telephone survey of adults, which has produced both prevalence and abuse/dependence numbers at the sub-State planning level.

In addition, CSAP funded some States to conduct surveys to estimated prevention needs. Many of these are surveys of students. Each State received enough funds to undertake other surveys and to estimate the need for services.

Contact the State Alcohol and Drug Abuse Agency for further information about the surveys conducted.

Some States, as noted, also conduct school surveys. An example is the annual surveys conducted by the Texas Commission on Alcohol and Drug Abuse, in collaboration with the Public Policy Resources Institute, Texas A&M University. Also, a number of States participate in the national YBRS.

Among the States that have conducted household surveys on drug use is Louisiana, where the State Office of Alcohol and Drug Abuse funded a survey of 5,115 Louisiana adult residents in 1996. The NHSDA contractor collaborated with Louisiana State University School of Medicine in the effort.

Louisiana also recently completed an interesting survey that covered not only drug use among youth, but also compulsive gambling. The survey included 12,066 youth in grades 6–12 in both public and nonpublic schools. Included in the questions were lifetime use, past-month, and more regular use of alcohol, tobacco, marijuana, and other illicit drugs (e.g., cocaine/crack, heroin, other narcotics, tranquilizers, hallucinogens, amphetamines, and barbituates), including use of someone else's prescribed drug. The survey, funded in 1995 by the Louisiana Economic and Development and Gaming Corporation, was conducted by Louisiana State University in coordination with school superintendents and the Louisiana State Office of Alcohol and Drug Abuse.

Local Surveys

In many instances, local school districts have used their Safe and Drug Free Schools grant funds to determine the prevalence of drug use and abuse among their students. In some instances, these surveys are in cooperation with statewide efforts, while in other instances, they were done by survey firms that specialize in studying students. The Parents Research Institute for Drug Education (PRIDE), Parents for a Drug Free America, and the American Alcohol and Drug Survey are examples of these private survey efforts.

Local jurisdictions sometimes conduct household surveys on drug abuse

Local jurisdictions sometimes conduct household surveys on drug abuse. For example, Louisiana State University, Baton Rouge, surveyed residents in East Baton Rouge Parish using computer-assisted telephone interviewing following a random-digit dialing sampling technique. In addition, drug and alcohol program administrators, treatment practitioners, and law enforcement personnel were surveyed to gain insight into the nature of the substance abuse problem from those intimately involved in its control, to assess treatment services, and to determine the characteristics of clientele who are processed by treatment and law enforcement agencies.

Local jurisdictions also may survey arrestees to determine the prevalence of drug use in the population. Cities may find support to conduct an ADAM-type study, as was done in Bernalillo County, New Mexico, or they may be a participating ADAM site.

At all such local levels, it will be useful to check whether a survey is compatible with a national or State survey. Using the questionnaire(s) or selected items from the questionnaire(s) will enhance comparability between national and State or local findings. It may be possible to get the State agency to oversample in the area at a minimal cost (compared with running an independent survey). Contact the State Alcohol and Drug Abuse Agency for further information.

HIV/AIDS Data

CDC distributes scientific publications on all aspects of HIV and AIDS, including copies of AIDS-related articles from the *Morbidity and Mortality Weekly Report (MMWR)* series.

CDC NAC ONLINE, a computerized network, offers a direct link to Clearinghouse information and a means for communicating electronically with others who are providing HIV services. Data can be accessed with a personal computer and modem or by telephone. Some of this information is available through http://www.cdc.gov.

Each State health department should have a HIV/AIDS unit that collects much of the information that is subsequently submitted to CDC. The State data will be more current and can include additional data elements. Available infomation typically includes mode of transmission, age, race, and sex data. The data are reported cumulatively from the date that reporting started and also for the current year. The cumulative data include all the data, which will show the full impact of AIDS; however, shifts in modes of transmission will be clearer if the network compares the noncumulative data for 2 successive years. As an example, for modes of transmission in Texas the cumulative percentage of homosexual or bisexual men is 65 percent, compared with 54 percent for 1995. The cumulative percentage of injection drug users is 12 percent, compared with 16 percent for 1995; the cumulative percentage for heterosexual contact is 5 percent compared with 8 percent for

1995. The percentage of men having sex with men and injecting drugs is 9 percent cumulatively and 8 percent for 1995. More importantly, the racial/ethnic distribution changed over time. Cumulatively, 59 percent are Anglo, 24 percent are African-American, and 17 percent are Hispanic; for 1995, 47 percent are Anglo, 32 percent are African-American, and 20 percent are Hispanic.

Check the validity of data with State health department personnel. In some instances, cases of HIV are underreported, while AIDS data are considered more accurate. In addition, to protect the confidentiality of some persons, data may not be reported for small rural counties where only two or three persons have AIDS.

Further, the HIV/AIDS unit will be aware of other local research and data, and, since it administers the Ryan White planning funds, it can direct the network to the local Ryan White Council and the data and plans generated at the State and local levels.

Telephone Hotline Data

Telephone drug hotlines, which are set up to provide information and referral sources, can be a useful source of information about drugs and drug abusers. Typically, hotlines are organized to provide information and counseling services to individuals concerned about or experiencing problems after using drugs. In quantifying the information collected from callers in a systematic way, it is possible to detect potential changes in use of particular drugs and the emergence of new drugs. Although one should keep in mind that hotline information is not based on a scientifically selected sample and is not catalogued for analysis, the counselors can provide valuable insight in explaining new trends and "fads."

Generally, hotline counselors fill out forms to record information about each telephone contact, including types of problems the caller has experienced, drugs involved, services needed, and assistance/information provided. The information is often recorded on a standardized form by trained staff so it can be aggregated and analyzed systematically and efficiently.

An example of this is the Alcohol and Drug 24-hour Helpline in Washington State, which established a computer data base to record and quantify information collected from callers (Forbes 1991). Through this data base, Helpline staff are able to report periodic increases and decreases in the number of callers who report use of different drugs and the emergence of new substances of abuse. They also are able to monitor use patterns by type of callers and by geographic area. For example, in 1991, LSD use, which was typically reported in only one county, began to be reported in other counties, alerting staff to a potential public health concern. Exhibit F shows a summary of calls reported by the Helpline in 1990 by type of drug and pregnancy status.

Exhibit F–1: Reported Alcohol/Drug Helpline Data, Washington State—1990

Total Calls	32,769
Drugs Mentioned	4,451
Alcohol	140
Amphetamines	20
Barbiturates	747
Cannabis	1,214
Cocaine	64
Narcotics	398
Heroin	45
Other illicit drugs	366
Prescription drugs	58
Tranquilizers	18
Inhalants	46
Nicotine	322
Other	1,013
Pregnant	28
Alcohol	21
Cocaine	10
Marijuana	12
Heroin	6

SOURCE: Forbes, 1991.

Other Useful Data Sources

A number of other data sources can provide useful information for epidemiologic networks. The following are briefly described in this section.

Census Data

Census data, collected and reported by the U.S. Bureau of the Census every 10 years, help characterize populations within particular geographic areas and are therefore useful as a planning resource. The Bureau of the Census established census tracts as units for the study of small metropolitan sections. Census tracts average about 4,000 people. Block numbering areas (BNAs) serve a similar purpose for counties that do not have census tracts. Block groups (BGs), subdivisions of census tracks and BNAs, are the smallest areas for which data are furnished. BG data are provided on microfiche, computer tape, and other products. The Bureau of the Census publishes extensive data for census tracts and BNAs in the report series, *Population and Housing Characteristics for Census Tracts and Block Numbering Areas*. In addition, the Bureau provides 1990 summarized census data for 5-digit ZIP codes throughout the country on computer tape and compact disk-read-only memory (CD-ROM).

Census statistics can be obtained for many different kinds of geographic areas:

Regions
Divisions
States
Metropolitan statistical areas (MSAs)
Urbanized areas (UAs)
Congressional districts
ZIP codes
American Indian and Alaskan Native areas
Counties
Cities and villages
Census tracts and block numbering areas
Block groups
Blocks

Census tracts and block numbering areas are the most widely used geographic areas as planning resources.

These data provide the following information about the people who live in particular boundaries:

Demographics
-gender
-age
-race/ethnicity

Socioeconomic status
-median family income
-percentage of families living below the poverty level
-percentage of families on public assistance

Crime
-homicide rate per 100,000 population
-robbery rate per 100,000
-breaking and entering rate per 100,000
-larceny rate per 100,000
-major crime rate per 100,000
-percentage of juveniles referred to juvenile court
-percentage of juvenile offenses per juvenile

Health
-death rate per 1,000
-infant mortality rate per 1,000

Housing
-percentage of units without central heating
-percentage of units with 1.01 or more persons per room
-percentage of rental units with rent less than $40

Census data have been used in the mental health field to establish rough measures of relative need, identify at-risk populations, and evaluate patterns of service utilization (Bell et al. 1982). Surveillance networks can use census data to learn more about populations in areas where particular types of drug use are prevalent or drug use and trafficking are high.

The U.S. Bureau of the Census also offers a variety of online services to Internet users, including data access tools, from the agency's Home Page. For example, using DataMap, one can view and print profiles of States and counties; 1990 Census Lookup allows the user to create extract files from the 1990 summaries (and includes detailed examples with proper procedures); and the Data Extraction System allows users to create custom data extracts from surveys, including the Current Population Survey and others. Census CD-ROM products can be ordered at the following address: Department of Commerce, P.O. Box 277943, Atlanta, GA 30384–7943. Credit card orders can be made by telephone by calling: (301) 457–4100.

Under the Search option on the Home Page, one can type in key words to access relevant online documents; search for information on localities by place names, ZIP codes, and other identifiers; search for information by pointing and clicking on areas of interest on a map (only available if you have a graphical interface with your Internet subscription); or even perform a staff search of Bureau of the Census employees. Lastly, under the Ask the Experts option on the home page, one can send general questions and comments via e-mail; access phone numbers organized by subject for more specific information; get on relevant mailing lists; and contact regional offices, Census State Data Centers, National Census Information Centers, and other sources of information. One can log onto the Bureau of the Census home page through http://www.census.gov.

In addition, the State Census Data Center can provide information on updated census estimates by county for the intervening years between the census. In some instances, this center makes the estimate, while in other instances, another State agency makes the official State and county population estimates for these years.

University Researchers

Often there are local university faculty, especially in health, social science, and science departments, who are interested in alcohol and drug abuse issues or have expertise in research methods that can be used by epidemiologic networks. The network and these faculty members, who may be conducting very relevant research, may be unaware of each other's efforts. In addition to the faculty's research interests, they often have students looking for projects, and these students can be very useful in collecting information and analyzing data, especially since they have access to powerful computers and

statistical software programs that the network members may not have. To find these interested faculty, contact academic departments in public health, pharmacy, sociology, anthropology, social work, psychology, criminal justice, nursing, health sciences, and education. Research centers for special ethnic studies also may house researchers who are interested in substance abuse issues.

Community-Level Sources

It is not easy to identify sources of information at the community level, find out what types of information are available from these sources, and establish procedures to obtain relevant information initially and, perhaps, periodically. It must be kept in mind that information about drug abuse is likely to be confidential. The people responsible for collecting and reporting information about drugs are usually very busy and are likely to have reservations about sharing information.

. . . calls can be made to identify potential data sources

If a network does not already have connections with community data sources through its members, there are two ways to start the process of identifying sources, and both can be done concurrently. The first way is to get local telephone numbers of criminal justice, health, and treatment agencies so that calls can be made to identify potential data sources. The mayor's office, chamber of commerce, or a similar source may have a directory of human resource organizations. Or one might simply use the local telephone directory. Community or local telephone books generally specify, in the front, pages for telephone numbers of local police and sheriff departments. The regular telephone directories may list police and sheriff departments under Government Listings and hospital and treatment programs in yellow pages or the business section (by name). Support staff at network-backed agencies may be helpful in this task.

The second way to start identifying potential information sources at the community level is to start at the top and work down. In attempting to identify sources of arrest data, begin by calling individuals at the State Alcohol and Drug Abuse Agency who can identify and provide a list of the substance abuse treatment programs that are located within or serve particular communities. Also, call the State Police Department and the UCR office to find out who their contacts are at the local level. In trying to identify individuals and departments within hospitals, contact representatives of the State health department to find out what and whom they know.

Establishing and Developing Relationships with Information Sources

Public Versus Private Information Sources

. . . most public organizations . . . including Police Departments, are obligated to release data/information

It should be kept in mind that most public organizations, including police departments, are obligated to release data/information. For example, arrest data collected by Police Departments fall under the category of public information as long as individuals are not identified. Most of these data are collected and reported to another level of authority; for example, city and county Police Departments report to regional Drug Enforcement Administration offices and to State Police Departments. Private hospitals, on the other hand, are not obligated to give information to outside sources other than those to which they are accountable for documenting services provided and costs associated with providing services.

Preparation/Making Contact

Prior to contacting representatives of agencies and departments about the availability of data/information, one must be well prepared. First, it is important to specify whom you represent, the reason for pursuing the information, and how the information will be used and reported. Second, it must be made very clear that this is a public health project and that you do not want the names and identities of individuals who used drugs, but rather, data that have been aggregated and quantified. It might be appropriate to invite individuals who have access to data/information to attend or participate in a network meeting. It is always a good practice to follow up a telephone contact with a letter reiterating whom you represent, confirming your understanding about the availability of data and how it might be obtained and, perhaps, formally inviting the individual to the meeting. It is also helpful to send each individual information about the network and, if available, a copy of a network meeting report or summary or outline of the project being planned.

Developing Relationships

. . . once relationships are established it is relatively easy to tap these resources on a regular basis

It is important to maintain good relationships with community agency representatives who have access to current and potential data sources. As indicated earlier, it is difficult to identify sources of information at the community level, but once relationships are established it is relatively easy to tap these resources on a regular basis.

Several steps can be taken to develop working relationships with data sources, including inviting representatives to a network meeting; meeting with representatives so they get to know you personally (invite them to your office or visit them); and sending them information, including any documents developed by the network.

Key Informants

At a particular point in time, scientifically based indicator data may not be available on a particular question of interest. The issue may be under study or not yet identified, or, indicator data on the issue may be outdated.

There are a number of informal sources that epidemiology networks can consider tapping when indicator data are unavailable or incomplete. Such informal sources, in fact, can provide useful information even when members have solid, scientifically based indicator data. The types of informal sources described here can be used by networks to add an in-depth understanding to indicator data and serve as interim indicators until more scientific findings are available.

. . . informal sources . . . can add an in-depth understanding to indicator data . . .

In assessing information from different sources, it is useful to know what the different indicators represent. Why do the numbers change from one period to another? Are there factors that the indicator data are not showing? The answer to this last question is almost always yes, given that indicator data are based on a finite population, different time frames, and different sets of measures.

Consider, for example, that

- Police Departments change their tactics from time to time in the kinds of crimes and geographic areas they target;
- lower income people are more likely than other populations to use emergency rooms for general medical care, while higher income people tend to use private health care facilities; and
- the types of clients treated by drug abuse treatment programs vary by type of facility, and these patterns may change because of changes in health insurance regulations and government funding policies.

It is therefore important to obtain background information on the sources of indicator data to understand what the numbers mean. One of the first steps is to ask those who represent the sources from which the indicator data are produced to explain how the indicators reflect certain policies and certain populations. Ideally, a member of the network would be in a position to explain what the numbers mean or who can provide an explanation.

. . . some members may be in a position to find such answers . . .

If members do not yet know the reasons or possible reasons for changes, some members may be in a position to find such answers in the days following a network meeting. For example, if the treatment data show that there was a significant increase in primary marijuana users admitted into drug abuse treatment programs during the prior 6 months, it might be useful to contact treatment providers to get their views. If one or more network members volunteered to get this information, they could prepare a brief supplementary report and communicate the information to the other members.

The question of why indicator data change over time may be partially answered when background information about the sources such of data are obtained. For example, an increase in heroin arrests may reflect special efforts made by the Police Department to "crack down" on heroin dealers during a particular period of time. The changes also may reflect something that is happening in the world of drug users.

Surveillance networks generally do not have the time or resources to conduct studies to answer questions on why patterns of drug use are changing. That does not mean that the answers cannot be obtained. Members of the work group may already know or suspect some of the reasons for the changes. It is often surprising to discover what network members already know, especially those who come into direct contact with drug abuse clients. Some members, however, may be reluctant to talk about what they know because they consider the information unscientific.

. . . investigate the reason for changes like a reporter approaches a news story

Another method is to investigate the reason for changes like a reporter approaches a news story. Member(s) could explore the who, what, when, where, why, and how. One or more members of the work group might assume this role. Still another method would be for a member to assume a role similar to that of a CDC field epidemiologist who investigates why, how, and where a disease is spreading. If time and resources permit, members could go out to the community and talk to people close to or directly involved with the drug scene. In gathering this type of information, it might be possible to identify some of the possible causes for the changes and determine whether these changes are likely to be part of a trend.

At a minimum, network members can make phone calls to key people in the field who know the drug scene (e.g., directors of treatment, social service, health clinic, and recreation programs; clinical staff; and outreach workers). In many instances, outreach workers may be in the best position to know why new drug use patterns and trends are emerging.

Another reason for using informal sources of information is to address the question: How can network members broaden their perspective and identify new drug abuse patterns and trends before they emerge through indicator data? One approach is for the network to establish linkages with people who are knowledgeable about the community or particular populations in the community. (This approach, of course, is useful even when indicator data are available.)

Who are These People?
Network members can never be sure (especially when beginning a local group) who might be in a position to contribute new information. Therefore, it is useful for a network to establish a list of such people

over time. The people on this list may be referred to as key informants, individuals who can be contacted to obtain a better understanding of what is going on in a community. This list might include the following types of persons:

- a school counselor who deals with problematic drug cases;
- a telephone hotline supervisor;
- an individual who runs a corner convenience store;
- an outreach worker who operates out of a church basement;
- a bartender at a bar or restaurant that drug abusers are known to frequent;
- an ex-drug addict who still knows what is going on in the user community; and
- a local newspaper reporter who covers the drug beat.

The key is to identify key informants who can be consulted regularly . . .

The key is to identify key informants who can be consulted regularly to find out if any new drug patterns are emerging or if any new populations of drug users are being seen. Over time, the network members will learn who the best sources are for particular types of information.

Short-Term Ethnography Studies

So far, some specific techniques to obtain information have been outlined, techniques that group members might use to provide context for the indicator data. At some point, though, a work group might decide that more detailed information is needed about some pattern of drug use or what seems to be an emerging trend, something more systematic than current knowledge, telephone calls, or conversations with knowledgeable people can provide.

. . . ethnographic methods can be used to address questions that arise from epidemiologic data . . .

One method that can be used is ethnography. Formerly the province of anthropologists and sociologists, ethnography is now entering the mainstream of social research. There are numerous reasons for using this methodology. The reason most pertinent to a network is that ethnographic methods can be used to address questions that arise from epidemiologic data: who, what, when, where, why, and how. In a time of dramatic and continual change, when organizations and institutions are unsure of the nature of the world and their role in it, ethnography has become a useful way to find some answers, because it focuses on learning about the behaviors of people. It goes beyond objective analytic description to include an analysis of the knowledge and beliefs that underlie behaviors.

At any point during the research, questions are continuously raised based on previous findings. Hypotheses are constantly being developed and tested. Two considerations guide sampling in ethnographic research. First, because of the emphasis on ongoing, high-rapport relationships to elicit needed information, purposive sampling is

generally selected rather than random sampling. Second, significant differences and dimensions within one or more populations are identified only after the ethnographic research is under way, so more appropriate samples emerge over time. Samples are constructed as the research develops; the choices of study subjects are made as the population variation becomes clear. Ethnographers keep a record of the samples as they develop, so that comparison of the ethnographic sample with already available population descriptions can be made later to assess the representativeness of the sample.

The two primary methods used by ethnographers are:

- *participant observation* (listening and observing behaviors in the natural settings of individuals being studied); and
- *formal and informal interviews*.

Ethnographers take time to observe and understand, firsthand, the *world* of the people they are studying. There is often a difference between what people say and what they do and the nature of this difference is very important. One way ethnographers learn what people do is to go out into the community to see how they live, work, and play. To learn why people behave in certain ways, it is important to learn about their culture, values, and traditions.

When ethnographers interview, they listen rather than just ask questions. They probe, validate previous information, and when appropriate, introduce new topics.

The following routine information is collected by ethnographers in their studies of drug abusers:

- drugs used;
- combinations of substances used;
- frequency of use;
- modes of administration;
- social setting in which drugs are used;
- ages and circumstances for initiation to drugs;
- reasons for using drugs;
- drug effects;
- adverse reactions to drugs; and
- consequences of drug use over time.

Field observations and interviews are generally recorded. The tape recordings are transcribed and the data (contained in the transcripts) are coded and sorted by topics. Once sorted, data are reviewed and analyzed for *patterns*. *Patterns* are associated with aggregate statistics on age, ethnicity, gender, and particular types of drugs used and behaviors.

In ethnography, theory emerges out of the data, because the concepts and relationships are uncovered during ethnographic research. The new concepts and relationships are referred to as "grounded theory" because the theory grows from the ethnographic data gathered during a study. In ethnography, control is vested in the persons and situations studied, as the ethnographer learns about the people, their culture and lifestyles, and the world within which they live.

The national CEWG has used ethnography in a number of ways. One model that might be of particular interest to surveillance networks is based on *short-term* studies. This type of ethnographic research, while not a full-scale ethnography, is designed so that an experienced ethnographer in a particular city, who is already working with drug users, can address questions and issues of interest to work group members. Generally, these ethnographic projects can be conducted over a short period of time at relatively little expense and, ideally, should be designed and supervised by ethnographers who have formal training and are already conducting studies in the area.

Short-term ethnographic studies were conducted in 12 of the CEWG cities between 1994 and 1996. Five of these studies are briefly described in Appendix I.

. . . ethnographic projects can be conducted over a short period of time at relatively little expense . . .

Ethnographers often work as faculty in university anthropology or sociology departments, two disciplines with strong traditions of training in the area. Ethnographers now work in other disciplines as well. For example, the field of speech communication discovered "the ethnography of communication" 30 years ago, and now has specialists who have trained in ethnography as well. Since the 1950s, ethnography has been part of public health training in some areas. Many ethnographers now work outside university settings.

In selecting an ethnographer, it is important to review the person's training, type of degree, publications, professional organization, and affiliation. Also, read the individual's recently published ethnographic research, especially if it involves the field of drug abuse.

Spend some time with the ethnographer discussing issues and research topics of greatest interest. Give the ethnographer an overview of why the network wants to pursue the study. Are there particular questions that need to be answered? Spend some time with the ethnographer as the study progresses to see what sorts of information are being collected and to see if adjustments need to be made by adding additional questions or by refocusing some of the questions.

When ethnographers interview, they tend to introduce topics and then listen rather than ask questions. There is often a difference between what people say and what they do, and the nature of these differences is important in ethnography. Ethnographers also use documents, archives, memoranda, newsletters, and the like.

Ethnographers can obtain a variety of data from a variety of sources, and systematically assess the constant and variable patterns that range across the data. In addition to obsevation and interviews, archives, memoranda, newsletters and other documents can be used for analysis. Short-term ethnographic studies conducted by the national CEWG were very successful because they were conducted by experienced ethnographers already at work in the communities.

Reporting

Networks will find it useful to have a somewhat standardized format for reporting findings. This will be useful for several reasons. First, as the network evolves over time and produces several reports, a standardized format will make it easier to review data from each reporting period to generate trends across different time periods. Second, for networks that will have a series of papers from different geographic areas or jurisdictions, following a standardized format will make it easier to summarize data across all the areas; it also will aid readers in making their own comparisions across reporting sites. Third, it is likely your network will distribute its reports to busy policymakers, practitioners, and other interested parties. A standard format, together with a clear table of contents in the report, will facilitate their review of the data, especially as they become accustomed to the format after reading several reports over time.

. . . following a standardized format will make it easier to summarize data across all the areas . . .

It is important to recognize that your network is not likely to have all the sources of data described in earlier sections as it begins its surveillance work. Yet, much can be learned in initial efforts. An example is the Lousiana State Epidemiology Work Group, which held its third meeting in December 1997. The effort involved seven parishes. Parish representatives reported treatment data obtained from the State Office of Alcohol and Drug Abuse, as well as parish-specific data from a statewide adult household survey on drug use and a statewide school survey on drug use. Some parishes also obtained drug-related data from hospital emergency departments, coroners' offices, law enforcement agencies, and special surveys. The parish reports were prepared in a standard format. Each paper contained an abstract of key findings. The Introduction is used to describe the area and sources of data. Actual findings are presented in the section on "Drug Abuse Patterns and Trends," supplemented by tabular data at the conclusion of the reports. An example of the Rapides Parish report is provided in Appendix J.

Because Louisiana SEWG parish reports followed a standard format, summarizing key findings did not require an exessive amount of time. The major finding was that cocaine (both HCL and crack) represented the major illicit drug problem in all seven parishes. For example, cocaine/crack accounted for one-half to three-fourths of all treatment admissions for primary abuse of an illicit drug.

The Community Epidemiology Work Group has used a similar format over the years; however, the CEWG format for reporting drug use patterns and trends is more specific and presents findings by drug of abuse (see Appendix B). The city reports are included in NIDA's report series entitled *Epidemiologic Trends in Drug Abuse*, Volume II. Recent reports can be viewed on the CEWG Home Page or the NIDA Home Page cited on page 2.

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GLOSSARY

AIDS —— Acquired Immunodeficiency
Syndrome

ARD —— AIDS-Related Diseases

BG —— Block Group

BJS —— Bureau of Justice Statistics

BNA —— Block Numbering Area

CDC —— Centers for Disease Control and
Prevention

CDS —— Client Data System

CEWG — Community Epidemiology Work
Group

CIDMSP – Criminal Intelligence Division of
Maryland State Police

CODAP – Client Oriented Data Acquistion
Process

CSAP —— Center for Substance Abuse
Prevention

CSAT —— Center for Substance Abuse
Treatment

DAWN — Drug Abuse Warning Network

DEA —— Drug Enforcement Administration

DHHS — Department of Health and Human
Services

DMP —— Domestic Monitor Program

DRG —— Diagnostic Related Group

DSM-IV – Diagnostic and Statistical Manual of
Mental Disorders

DUF —— Drug Use Forecasting System

DUI —— Driving Under the Influence

ED —— Emergency Department

FBI —— Federal Bureau of Investigation

FIPS —— Federal Information Processing
Standards

GAO —— General Accounting Office

HIV —— Human Immunodeficiency Virus

ICD —— International Classification of
Diseases

ICD-9-CM International Classification of
Diseases, 9th Revision

ICPSR —— Inter-University Consortium for
Political and Social Research

IDU —— Injection Drug Users

IEWG —— International Epidemiology Work
Group

IVDA —— Intravenous Drug Abuse

ME/C —— Medical Examiners and Coroners

MECISP – Medical Examiner and Coroner
Information Sharing Program

MMWR – Morbidity and Mortality Weekly
Report

MSA —— Metropolitan Statistical Area

MTF —— Monitoring the Future Study

NACJD — National Archive of Criminal Justice
Data

NCHS—— National Center for Health Statistics

NCJRS — National Criminal Justice Reference
Service

NDATUS National Drug and Alcohol Treatment
Unit Survey

NHAMCS National Hospital Ambulatory Medi-
cal Care Survey

NIAAA — National Institute on Alcoholism and
Alcohol Abuse

NIDA —— National Institute on Drug Abuse

OAS —— Office of Applied Studies

OTC —— Over the Counter

PRIDE — Parents Research Institute for Drug
Education

SAMHSA Substance Abuse and Mental Health
Services Administration

SEWG—— State Epidemiology Work Group

SIDS —— Sudden Infant Death Syndrome

STD —— Sexually Transmitted Disease

TCADA – Texas Commission on Alcohol and
Drug Abuse

TEDS —— Treatment Episode Data Set

TEFRA — Tax Equity and Fiscal Responsibility
Act

UA —— Urbanized Area

UCR —— Uniform Crime Reports

UFDS —— Uniform Facility Data Set

WHO —— World Health Organization

NIDA

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