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Mortality Data From the Drug Abuse Warning Network, 2002

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HIGHLIGHTS

Mortality Data From the Drug Abuse Warning Network, 2002 provides information on deaths involving drug abuse that were identified and submitted by participating death investigation jurisdictions across the United States. The Office of Applied Studies (OAS) of the Substance Abuse and Mental Health Services Administration (SAMHSA) is responsible for the operation of the Drug Abuse Warning Network (DAWN). Two types of drug abuse deaths are reportable to DAWN: those that were drug-induced (i.e., the drug(s) caused the death) and those that were drug-related (i.e., the drug played a contributory role in the death).

Drug abuse deaths described in this publication do not represent the Nation as a whole, nor do they necessarily represent the total number of deaths in which drug abuse was a causal or contributing factor in any given metropolitan area. Rather, DAWN cases reflect the number of drug abuse deaths reviewed, identified, and reported by participating medical examiners and coroners in selected metropolitan areas. These findings can be used to monitor changes over time.

In 2002, 127 jurisdictions in 38 metropolitan areas submitted data to DAWN. The 38 metropolitan areas range in size from Fargo, ND (population 177,064) to New York, NY (population 9,411,687). Likewise, there was a wide range across metropolitan areas in the number of deaths reviewed by participating medical examiners and coroners. Within metropolitan areas, participating jurisdictions identified between 0 and 894 drug abuse-related deaths in 2002; DAWN-reportable deaths accounted for 0 to 21 percent of all deaths reviewed in these metropolitan areas. To be eligible for inclusion, the area must have submitted data for at least 10 months of the year. Cases pending (i.e., incomplete) at the close of the reporting period are excluded.

A total of 31 metropolitan areas reported at least 30 drug abuse deaths to DAWN for 2002. Full "metropolitan area profiles" are provided for each of these areas. These profiles include a number of tables that together show the number and characteristics of drug abuse deaths reported to DAWN, along with recent trends among participating jurisdictions. These "Highlights" will focus on these 31 metropolitan areas.

Of these 31 metropolitan areas, 29 reported to DAWN in both 2001 and 2002. Twenty had increases in drug abuse deaths over the period, 8 had decreases, and 1 had no change. Some metropolitan areas had substantial changes in the number of drug abuse cases from 2001 to 2002. Areas reporting substantially more cases in 2002 than in 2001 include: New Orleans (a 39% increase, from 212 to 295), Las Vegas (38%, from 273 to 376), Seattle (33%, from 188 to 250), Washington, DC (32%, from 193 to 254), and Buffalo (30%, from 128 to 167). Conversely, Miami reported 32 percent fewer drug abuse deaths in 2002 than in 2001 (from 239 to 162), Salt Lake City reported 30 percent fewer drug abuse deaths (from 98 to 69), San Francisco reported 23 percent fewer (from 274 to 212), and Newark reported 20 percent fewer (from 304 to 244).

Characteristics of Drug Abuse Deaths

In the average metropolitan area, males constituted more than 70 percent of drug abuse-related deaths reported to DAWN, ranging from 61 percent of drug abuse deaths in Birmingham to 78 percent of drug deaths in Newark and New

Orleans. Drug abuse deaths among adolescents and young adults (under the age of 25) were relatively infrequent, less than 10 percent of DAWN cases in 16 metropolitan areas, but more than 15 percent in 3 areas (Birmingham, Louisville, and New Orleans). In contrast, decedents between the ages of 25 and 44 accounted for more than half of the DAWN cases in 11 metropolitan areas and fell below 40 percent in only 2 metropolitan areas (Birmingham and San Diego). Decedents age 45 and older accounted for more than 40 percent of DAWN cases in 17 metropolitan areas, ranging as high as 54 percent in San Diego. During the period covered by this publication, DAWN cases excluded decedents younger than 6 and older than 97.

DAWN collects data on both drug-induced and drug-related deaths. In 25 out of the 31 metropolitan areas, drug-induced (e.g., overdose) deaths accounted for more than half of the drug abuse-related deaths reported to DAWN. However, deaths reported to DAWN are not limited to drug overdoses. Participating jurisdictions are also asked to report deaths in which drug abuse was a contributing factor, but not the direct cause of death. In 6 of the 31 metropolitan areas (Birmingham, Buffalo, Kansas City, Miami, Omaha, and St. Louis), deaths were more commonly classified as drug-related than drug-induced.

In the average metropolitan area, 16 percent of the drug abuse deaths were ruled as suicides, while 57 percent were ruled accidental and 27 percent were due to undetermined or other causes. The proportion of suicide deaths ranged from 6 percent in Baltimore to 43 percent of drug abuse deaths in Boulder. In addition to Boulder, a quarter or more of drug abuse deaths were determined to be suicides in: St. Louis (28%) and Minneapolis-St. Paul (25%).

Drug Combination Patterns

Up to 6 drugs can be mentioned (i.e., reported) in conjunction with a DAWN case; therefore, the total number of drug "mentions" always exceeds the total number of deaths. When multiple drugs are involved in a single case, the cause of death cannot be attributed to any one particular substance in DAWN. To facilitate interpretation of the findings, tables produced for each of the participating metropolitan areas differentiate those deaths involving only one drug (termed "single-drug" deaths) from those involving more ("multiple-drug" deaths). On average, participating areas reported only 25 percent of deaths involving a single drug. All other deaths, ranging from 46 percent in Boulder to more than 90 percent in Long Island and New Orleans, involved 2 or more substances.

The most common drugs reported to DAWN in single-drug deaths were cocaine, heroin/morphine, narcotic analgesics, and marijuana. However, the tendency for deaths to involve multiple drugs is evident even among those involving cocaine, heroin/morphine, and the other narcotic analgesics. In 25 of the 31 metropolitan areas, more than 7 out of 10 deaths involving cocaine also involved other drugs. In 28 of the 31 metropolitan areas, more than 7 out of 10 deaths involving heroin/morphine involved other drugs. In all of the 31 metropolitan areas, at least 7 out of 10 deaths involving a narcotic analgesic involved multiple drugs.

The most common multiple-drug deaths involved 2- and 3-drug combinations of cocaine, heroin/morphine, other narcotic analgesics, and alcohol (which is only reported in combination with other drugs). The most common combinations included alcohol and cocaine; cocaine and heroin/morphine; alcohol and heroin/morphine; alcohol, cocaine, and heroin/morphine; heroin/morphine and other narcotic analgesics; cocaine and narcotic analgesics; and cocaine, heroin/morphine, and other narcotic analgesics.

Major Drugs of Abuse

As in prior years, the typical DAWN case involved between 2 and 4 different drugs. Although hundreds of individual drugs were reported to DAWN, 3 drugs accounted for the vast majority of mentions.

All but 3 of the 31 metropolitan areas had either heroin/morphine, cocaine, or alcohol-in-combination as the most frequently reported substance in their DAWN cases. In 19 of the 31 metropolitan areas, heroin/morphine, cocaine, and alcohol (in combination with other drugs) were the 3 most frequently reported drugs in DAWN cases. In 16 of the 19 areas, these 3 drugs accounted for at least one-third of all mentions. They accounted for nearly three-quarters of drug mentions in reported cases in Chicago (74%) and over half of mentions in Boston (56%), Newark (53%), and Baltimore (51%).

From 2001 to 2002, there were some notable changes across the participating metropolitan areas in heroin/morphine, cocaine, and alcohol-in-combination mentions. However, increases and decreases occurred in roughly equal numbers of areas. Fifteen of the 29 metropolitan areas for which trend data were available had decreases in heroin/morphine mentions, while 12 metropolitan areas had increases. Likewise, 15 areas reported a decrease in cocaine involvement in drug abuse deaths, while the other 14 reported increases. For alcohol, 16 of the 29 areas reported decreases in alcohol-in-combination from 2001 to 2002, and 12 areas reported increases.

Marijuana was reported in a number of cases, but at a much lower frequency than alcohol, cocaine, or heroin/morphine. Marijuana ranked among the 10 most common drugs in 14 metropolitan areas, including Detroit (111 mentions), New Orleans (56), and New York (55). Marijuana ranked among the top 3 drugs in 3 areas: Kansas City (77), Louisville (33), and Omaha (19). Importantly, some jurisdictions do not conduct toxicology tests for the presence of marijuana and do not report marijuana to DAWN. The full extent of the under-reporting of marijuana to DAWN is unknown. When reported at all, marijuana is very often reported in combination with other substances. In metropolitan areas that reported any marijuana in drug abuse deaths, an average of 77 percent of those deaths involved marijuana and at least one other substance.

Methamphetamine ranked among the 10 most common drugs in 11 areas, and deaths involving methamphetamine continue to be geographically concentrated in the West and Midwest. Metropolitan areas reporting the largest numbers were Phoenix (132 mentions), San Diego (81), Las Vegas (72), Dallas (46), and San Francisco (38). Eight metropolitan areas reported no methamphetamine mentions, and another 7 areas reported fewer than 5. Philadelphia (17) was the only metropolitan area in the East that reported more than a few methamphetamine mentions, although this drug was not among the top 10 drugs in Philadelphia. Among the 23 metropolitan areas reporting any methamphetamine mentions, the drug was reported with at least one other drug in an average of 88 percent of cases.

Phencyclidine (PCP) ranked among the top 10 drugs only in Washington, DC, where it was reported in 27 deaths in 2002.

Club Drugs

The DAWN metropolitan area profiles include information on "club drugs" as a group, combining all mentions of methylenedioxymethamphetamine (MDMA or Ecstasy), Ketamine, gamma hydroxy butyrate (GHB) and its precursor gamma butyrolactone (GBL), and flunitrazepam (Rohypnol). As in prior years, these substances accounted for very few deaths in any of the DAWN metropolitan areas. Seven metropolitan areas reported no deaths involving these drugs,

and only 7 metropolitan areas reported more than 5 mentions of club drugs. The areas with the highest numbers in 2002 were New York (19 mentions), Miami (9), Chicago (7), New Orleans (7), Philadelphia (9), Boston (6), and San Diego (6). Club drugs were rarely reported alone.

Abuse of Prescription and Over-the-Counter Substances

Participating jurisdictions reported a number of prescription and over-the-counter (OTC) drugs involved in drug abuse deaths; most were benzodiazepines or narcotic analgesics.

Benzodiazepines

- A benzodiazepine, identified as diazepam, alprazolam, or unnamed, ranked among the top 10 drugs in drug abuse deaths in 26 of the 31 metropolitan areas.
- Diazepam ranked among the top 10 drugs in 20 areas, including Detroit (112 mentions), Philadelphia (85), San Diego (53), St. Louis (45), Phoenix (43), and Dallas (42).
- Alprazolam ranked among the top 10 drugs in 7 areas, including Las Vegas (34 mentions), Chicago (26), and Long Island (26).
- Unnamed benzodiazepines were the most frequently reported drug in New Orleans (123 mentions), and ranked among the top 10 drugs in 9 other areas, including Philadelphia (88), Atlanta (34), and Boston (34).

Narcotic Analgesics

- A narcotic analgesic ranked in the top 3 most frequently reported drugs in New York (393 mentions), New Orleans (95), Atlanta (68), Buffalo (68), San Francisco (57), Minneapolis-St. Paul (38), Birmingham (36), and Salt Lake City (13).
- Unnamed narcotic analgesics were the most frequently mentioned drug in Buffalo (68 mentions), and ranked among the top 10 drugs in 13 other areas, including New York (393) and Atlanta (68).
- Methadone ranked in the top 10 drugs mentioned in 24 areas, notably New York (169 mentions), New Orleans (95), Philadelphia (80), Baltimore (74), Detroit (61), Las Vegas (61), and Chicago (53). Methadone ranked in the top 3 drugs only in New Orleans (95) and Birmingham (36).
- Codeine ranked in the top 10 drugs mentioned in 19 areas, notably Detroit (146 mentions), Philadelphia (120), Baltimore (89), Phoenix (80), and Newark (68).
- Oxycodone ranked among the 10 most common drugs in 17 areas, including Philadelphia (93 mentions), Boston (49), Las Vegas (42), Baltimore (33), and Seattle (29).
- Hydrocodone ranked among the 10 most common drugs in 14 areas, including Detroit (80 mentions), New Orleans (80), Las Vegas (60), Dallas (50), and San Diego (31).
- Propoxyphene ranked among the top 10 drugs in 4 areas, including Phoenix (23 mentions) and Milwaukee (14).
- Fentanyl ranked among the top 10 drugs in Buffalo (22 mentions) and Salt Lake City (6).

INTRODUCTION

This publication presents information on deaths related to drug abuse based on data collected through the Drug Abuse Warning Network (DAWN) for calendar year 2002. DAWN is an ongoing, national surveillance system that collects data on drug abuse deaths from participating medical examiners and coroners. DAWN also collects data on drug-related visits to emergency departments from a national sample of hospitals. The Office of Applied Studies (OAS) of the Substance Abuse and Mental Health Services Administration (SAMHSA) has been responsible for DAWN operations since 1992.

Except for a few modifications to the emergency department sample in the mid-1980s, DAWN has changed little since its inception by the Drug Enforcement Administration (DEA) in the early 1970s. In late 1997, OAS began a comprehensive assessment of DAWN's design in response to concerns about uses and limitations of DAWN findings. An independent evaluation of DAWN was undertaken in 1999, and recommendations for an alternative design were delivered in 2001. This assessment has motivated many recent changes to the content and operation of the DAWN system, as well as to the findings and information available from DAWN, and many more changes are expected over the coming years.

This is the third annual publication of *Mortality Data From the Drug Abuse Warning Network,* which was redesigned and renamed beginning with the publication of 2000 findings. It replaced the publication series entitled *DAWN Annual Medical Examiner Data.* Data on drug abuse deaths are collected from a variety of jurisdictions, including medical examiners, coroners, and other death investigation systems. While the data may originate from different sources, all of the information is about mortality related to drug abuse.

DAWN relies on a detailed "drug vocabulary" to categorize the thousands of substances that are reported each year. The drug vocabulary is, quite literally, the language—the codes and terminology—that DAWN uses to record and classify drugs and other substances involved in emergency department visits and deaths. Beginning with mortality data from the year 2000, we implemented substantial changes to the existing vocabulary to ensure that reported substances are accurately and consistently classified. The overhaul and replacement of the DAWN drug vocabulary has been described in detail elsewhere.[1]

The next section includes a description of the sources and methods used in collecting data for DAWN and highlights certain limitations of the data. This is followed by an overview of the publication layout, including a detailed description of each table and its proper interpretation. Subsequent chapters provide DAWN mortality findings for each participating metropolitan area and for selected counties.

[1] See Substance Abuse and Mental Health Services Administration, Office of Applied Studies. *Emergency Department Trends From DAWN, Preliminary Estimates January–June 2001 with Revised Estimates 1994–2000,* DAWN Series D-20, DHHS Publication No. (SMA) 02-3634, Rockville, MD, 2001. The classification of drugs currently in use by DAWN is derived from the Multum *Lexicon*, Copyright © 2003, Multum Information Services, Inc. The classification has been modified to meet DAWN's unique requirements (2003). The Multum Licensing Agreement governing use of the *Lexicon* is provided in an appendix to the *ED Trends* report and can be found on the Internet at http://www.multum.com/.

Data Collection Procedures

DAWN is an ongoing drug abuse data collection system. The major objectives of the system include the following:

- Identify substances associated with drug abuse deaths that are reported by participating jurisdictions;
- Monitor drug abuse patterns and trends and detect new drugs of abuse and new drug combinations;
- Assess adverse health outcomes associated with drug abuse; and
- Provide information for national, state, and local drug abuse policy and program planning.

Case Criteria – Medical Examiner/Coroner Cases

To be reported to DAWN, a case must involve a decedent between the ages of 6 and 97 and must meet all of the following criteria:

- The death was drug-induced (i.e., one or more drugs directly caused the death) or drug-related (i.e., drug abuse was a contributing factor in the death);
- The death was caused by or related to drug abuse—that is, the use of an illegal drug or the nonmedical use of a legal drug; and
- The decedent used the substance due to dependence, to commit suicide, or to achieve psychic effects.

Nonmedical uses of legal drugs include the use of prescription drugs in a manner inconsistent with acceptable medical practice, or the use of OTC drugs contrary to approved labeling or indications for specific physiological conditions (e.g., diabetes, heart disease).

Deaths involving the following circumstances are not reportable to DAWN:

- Drug abuse that is unrelated to the death (e.g., a history of drug abuse when no drugs were detected in the decedent's system);
- Ingestion or inhalation of a substance with no intent to abuse it;
- Adverse reactions to prescription or OTC medications taken as prescribed or labeled;
- Noncompliance cases in which an individual took less or accidentally took more medication than prescribed or directed by label instructions;
- Drug consumption to conceal substances from law enforcement and avoid arrest; and
- Drug-related deaths by homicide.

These criteria mean that DAWN does not include any deaths in which the decedent had not personally used a drug. For example, an individual who dies in a drive-by shooting associated with drug-related activity or a pedestrian who is struck and killed by a driver under the influence of methamphetamine might be considered "drug-related deaths" in terms of broader policy issues. However, those cases are not reportable to DAWN unless the decedents themselves had been abusing a reportable substance at the time of their deaths.

For each case that is determined to meet the reportability criteria described above, the facility's designated DAWN reporter completes an electronic or paper form to document the following:

- Date of death;
- Demographic characteristics (gender, age, race/ethnicity) of the decedent;
- Cause of death (i.e., whether the death was drug-induced or drug-related);
- For drug-related cases, whether the drug abuse combined with a physiological condition or external physical event or caused a medical disorder that resulted in death; and whether the relationship of the drug abuse to the death was confirmed or presumed (see Appendix B, Glossary of Terms);
- Manner of death (accidental, suicide, undetermined, natural);
- Whether alcohol was involved (in the presence of at least one other drug);
- Specific drug(s) involved; and
- Route of administration for each drug (oral, injection, inhalation, smoked, snorted, other, unknown).

Report forms for each case are then transmitted to the central data collection office for processing.[2] The DAWN ME case report form is included in Appendix A.

A number of quality control procedures are used to ensure that DAWN data are as accurate and methodologically consistent as possible. These procedures include the following:

- Training personnel responsible for collecting the data in participating facilities;
- Providing printed and on-line manuals and other materials that specify data collection methods, definitions, and requirements;
- Monitoring reporting practices and problem resolution by a staff of traveling field liaisons;
- Manual editing of paper data collection forms, and automated error-checks for electronic data collection forms, with follow-up to resolve problems; and
- Periodic "reabstracting" studies at participating facilities to assess the accuracy and completeness of reporting.

Data Limitations

DAWN data are gathered from medical examiners, coroners, and other death investigation jurisdictions. Not all deaths are reviewed by these facilities. In fact, it has been estimated that only about 20 percent of all deaths are reviewed by a medical examiner or coroner.[3] However, given state and local statutes establishing jurisdiction over death investigations, it is likely that most drug abuse deaths are reviewed by jurisdictions eligible for inclusion in DAWN.

Participation in DAWN is voluntary, and there are minor variations in the number of participants from year to year. Participating death investigation jurisdictions are not the result of a statistical sample. **Therefore, counts of drug abuse deaths do not represent the Nation as a whole, nor do they represent any metropolitan area with less than full participation.** This limitation has led to misuse of the DAWN mortality findings in the past. Previous DAWN publications contained this warning, yet they also provided aggregated totals for the entire DAWN system. Those totals were often misinterpreted as national estimates. Likewise, metropolitan area totals were also misinterpreted as being representative of the entire metropolitan statistical area (MSA) or as being comparable from one MSA to another.

[2] Full conversion to electronic reporting, which speeds data processing and improves accuracy, is expected within the next year.

[3] More information on death investigation statutes and procedures is available from the Centers for Disease Control and Prevention's Medical Examiner and Coroner Information Sharing Project homepage, at http://www.cdc.gov/epo/dphsi/mecisp/index.htm.

The format of this publication (initiated with the 2000 publication) seeks to avoid these problems of interpretation by aggregating data only at the metropolitan area level and by clearly showing the degree of participation within each MSA. *Mortality Data From DAWN, 2002* does not include any system-wide summaries, either in the text or in tables. Each metropolitan area is presented separately, with participating and nonparticipating jurisdictions listed. This is intended to discourage aggregation of data across MSAs and direct comparison between MSAs. Population data are provided so that consumers may understand the context of any comparisons they choose to make, either within or across MSAs (e.g., 2 counties that reported the same number of drug abuse deaths may have vastly different populations).

DAWN collects detailed information about only those drug abuse episodes that have resulted in a death and, subsequently, have been identified and reported as drug-induced or drug-related by a participating facility. Although standard instruction manuals and training are provided to each DAWN reporter, the specific methods and procedures used to identify drug abuse deaths and the associated drugs may vary from facility to facility. For example, some jurisdictions may report cases involving circumstantial evidence; others may report only drug abuse deaths confirmed through toxicological analyses.

Cases reported to DAWN may have multiple drug mentions. Up to 6 different substances can be recorded for each reportable case, and the typical case in recent years has involved between 2 and 4 drugs. Alcohol is reported in a separate field, but only when at least one other reportable drug is recorded. DAWN does not capture information on deaths in which alcohol is the only substance involved. In addition, it is likely that some number of abused substances go undetected and, thus, unreported.

DAWN data are extracted from source records—death investigation case files—which may vary in the specificity with which particular drugs are documented. A drug may be documented by brand (trade) name, by generic name, by chemical name, by street name, as a metabolite, or as a nonspecific term. The level of specificity sometimes depends on the testing protocols followed in death investigations. Drug data submitted to DAWN contain the terms used in the source record at whatever level of detail is available. After receipt of the data, drugs are recoded into generic categories and duplicate entries are eliminated. Because of the variation in the raw drug data from source records, DAWN data on individual brands are deemed unreliable and are not published.

Each DAWN case represents an individual decedent. However, because multiple drugs can be, and typically are, reported, the total number of drug mentions will always exceed the total number of cases reported to DAWN. In addition, DAWN cases include both drug-induced and drug-related deaths. As a result, readers should not assume that any given substance was, by itself, the cause of death. To address this issue, several tables provide separate entries for single-drug deaths (deaths in which only one drug was involved), drug-induced deaths, and various drug combinations.

The measure of total deaths certified (i.e., including both drug abuse deaths and deaths in which drug abuse is not a factor) may vary between death investigation jurisdictions of similar size due to differences in the scope and coverage of the jurisdiction, a backlog of incomplete cases at the time the data collection period closes, and/or because of local variations in death investigation procedures. Therefore, these numbers may not be comparable across jurisdictions.

In some instances, deaths related to drug abuse are reported to DAWN some time after the death occurred. Reporting delays are common because death investigations are often lengthy and involved. Reporters may have to await the results of autopsies and laboratory tests to determine that a death involved drug abuse. This publication was prepared with data for deaths that occurred in 2002 and were submitted by the end of June 2003.

How to Use This Publication

Mortality Data From DAWN, 2002 provides information on drug-induced and drug-related deaths identified and submitted by participating death investigation jurisdictions across the United States. In 2002, 127 jurisdictions in 38 metropolitan areas submitted reportable data to DAWN. In this publication, summary profiles of the drug abuse deaths are displayed for each of these metropolitan areas, and for selected large counties within those areas.

MSA definitions used in DAWN are consistent with those established by the Office of Management and Budget (OMB) and used in tabulating data from the decennial Census. Death investigation jurisdictions tend to be consistent with county borders, whereas MSAs often comprise multiple counties and, therefore, multiple death investigation jurisdictions. We use the term "jurisdiction" synonymously with "county" to reflect the fact that data are requested and reported at the county level, regardless of the actual jurisdiction boundaries. (See Appendix B, Glossary of Terms.)

Table 1 lists the MSAs represented in DAWN, the total number of death investigation jurisdictions (counties) in each MSA, the number and percentage of counties for which data were reported to DAWN for at least 10 months in 2002, and the proportion of the MSA's total population that is covered by DAWN-participating jurisdictions (counties). Information on jurisdiction coverage is provided to emphasize the fact that most of the metropolitan areas are not fully represented in DAWN. Information about population coverage is important because it shows that, although jurisdiction coverage is incomplete in most areas, the most populous counties are often represented. For example, Table 1 shows that although only 4 (20%) of the 20 counties in the Atlanta MSA participated in DAWN in 2002, those 4 counties are home to 64 percent of the metropolitan area's total population. An awareness of the extent of DAWN's coverage within a given MSA should provide the reader a better perspective on what DAWN represents.

The following changes in participation and reporting from 2001 are notable:

- **New York.** The New York metropolitan area reported data for at least 10 months in 2002 and the New York, NY PMSA is included in this publication. (New York was excluded from the 2001 publication due to incomplete data.) An Area Spotlight for each New York jurisdiction reporting drug abuse deaths is also included for 2002.
- **Dallas.** Rockwall County, TX reported data for at least 10 months in 2002 and is included in the Dallas, TX PMSA in this publication.
- **New Orleans.** St. Bernard Parish, LA reported data for at least 10 months in 2002 and is included in the New Orleans, LA MSA in this publication. An Area Spotlight for Orleans Parish in the New Orleans, LA MSA has been added to this publication.
- **Los Angeles.** Incomplete data were received for the Los Angeles metropolitan area for 2002. Instead of reporting data that we know to be incomplete and potentially misleading, Los Angeles has been omitted from this publication.
- **Oklahoma City.** Data were received for the entire State of Oklahoma for 1998, 1999, 2000, and 2001, but these data were incorrectly attributed to the Oklahoma City, OK MSA. In 2002, data for Oklahoma City were submitted. Instead of reporting data that we know to be inconsistent, Oklahoma City has been omitted from this publication.
- **Providence.** Incomplete data were received for the Providence, RI metropolitan area for 2002. Instead of reporting data that we know to be incomplete and potentially misleading, Providence has been omitted from this publication.
- **San Antonio.** Bexar County reported data for fewer than 10 months in 2002 so the San Antonio, TX MSA has been omitted from this publication.

- **Wilmington.** New Castle County and Cecil County, DE did not report data in 2002 so the Wilmington, DE PMSA has been omitted from this publication.
- **Casper.** Natrona County, WY did not report data in 2002 so the Casper, WY MSA has been excluded from this publication.
- The following counties have been excluded from this publication because they reported for fewer than 10 months in 2002: Henry County, GA and Paulding County, GA (Atlanta MSA); Madison County, MO (St. Louis MSA); Nassau County, NY (Long Island PMSA); and Chester County, PA (Philadelphia PMSA). Other counties in these metropolitan areas reported drug abuse deaths for 2002 and are included in this publication.
- Cases pending (i.e., incomplete) when the 2002 data collection period closed are not included in this publication. Most jurisdictions had no pending cases, but 99 pending cases from 26 jurisdictions in 17 metropolitan areas were excluded. The 17 areas with pending cases were: Dallas (31); Miami (12); New Orleans (10); Detroit and San Francisco (9); Philadelphia (5); Salt Lake City and St. Louis (4); Chicago, Denver, and Minneapolis-St. Paul (3); and Baltimore, Long Island, Milwaukee, Norfolk, Phoenix, and Portland (1).

Table 1. Overview of Participation in DAWN, 2002

Metropolitan area	Total jurisdictions (counties)	Participating jurisdictions (counties)		% MSA population in participating jurisdictions
		N	% of total	
Atlanta, GA	20	4	20%	64%
Baltimore, MD	7	7	100%	100%
Birmingham, AL	4	1	25%	71%
Boston, MA	7	5	71%	75%
Boulder, CO	1	1	100%	100%
Buffalo, NY	2	2	100%	100%
Chicago, IL	9	5	56%	91%
Cleveland, OH	6	1	17%	61%
Dallas, TX	8	6	75%	96%
Denver, CO	5	5	100%	100%
Detroit, MI	6	4	67%	95%
Fargo, ND	2	2	100%	100%
Indianapolis, IN	9	2	22%	60%
Jackson, MS	3	1	33%	27%
Kansas City, MO/KS	11	2	18%	45%
Las Vegas, NV	3	1	33%	88%
Long Island, NY	2	1	50%	52%
Louisville, KY	7	1	14%	67%
Manchester-Nashua, NH	3	1	33%	49%
Miami, FL	1	1	100%	100%
Middlesex-Somerset, NJ	3	1	33%	26%
Milwaukee, WI	4	2	50%	86%
Minneapolis-St. Paul, MN	13	9	69%	83%
New Orleans, LA	8	5	63%	93%
New York, NY	8	6	75%	87%
Newark, NJ	5	3	60%	88%
Norfolk, VA	15	3	20%	48%
Omaha, NE	5	3	60%	85%
Philadelphia, PA	9	7	78%	90%
Phoenix, AZ	2	1	50%	94%
Portland, OR	6	3	50%	75%
St. Louis, MO	13	8	62%	86%
Salt Lake City, UT	3	2	67%	85%
San Diego, CA	1	1	100%	100%
San Francisco, CA	3	3	100%	100%
Seattle, WA	3	2	67%	97%
Sioux Falls, SD	2	1	50%	85%
Washington, DC	25	14	56%	91%
TOTAL	244	127		

Metropolitan Area Profiles

This publication includes metropolitan area profiles of drug abuse deaths for 31 areas. **Figure 1** depicts the general layout of each 2-page profile, with the 8 component tables and graphs labeled A through H. Each is described in this section. The Glossary in **Appendix B** provides definitions of terms used in this overview and in the tables.

Table A

Each metropolitan area profile begins with a map displaying the boundaries of the MSA and its component counties. Those jurisdictions within the metropolitan area that did not provide complete data in 2002 are shaded. Also provided is information on the area's total population and the proportion of the population residing in DAWN-reporting counties.[4] This information is consistent with that shown in Table 1. Table A then lists each of the component jurisdictions for the MSA, which are numbered to correspond to their location on the area map. For ease of reference, nonparticipating areas are shaded. Jurisdictions marked with an asterisk (*) are highlighted in separate Area Spotlights.

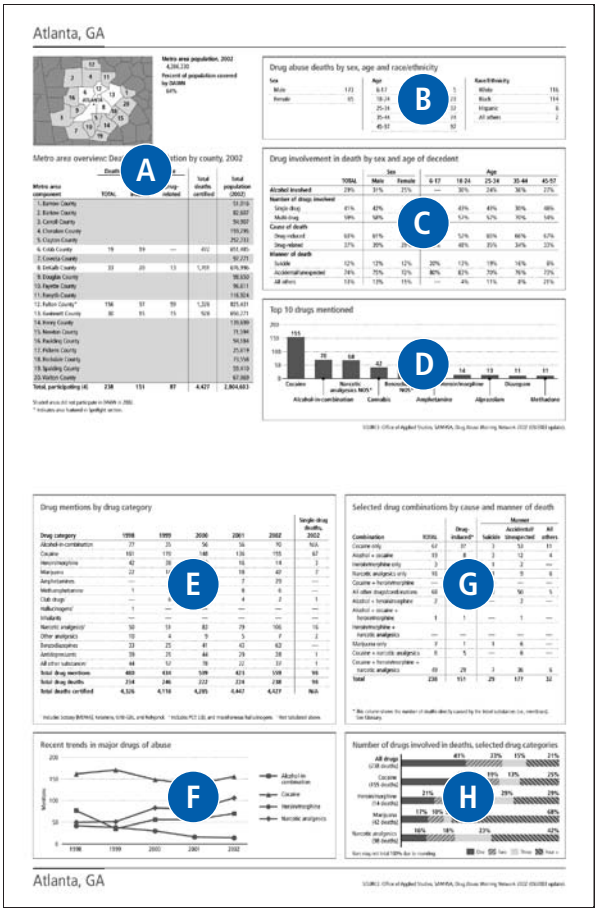

Figure 1. Sample metropolitan area profile layout

An overview of the MSA's data is displayed in the remaining columns in Table A. From left to right, the table lists the total number of drug abuse deaths reported in 2002 for each participating jurisdiction and the number of those deaths that were drug-induced and drug-related. The next column shows the total number of deaths processed and certified by that jurisdiction in 2002—the figures in this column reflect all deaths certified, not only the drug abuse deaths. As noted above, counts of total deaths certified may not be comparable across jurisdictions. Finally, the last column provides population data for each county for 2002. Population data are also shown for nonparticipating jurisdictions, so that readers can assess the extent of DAWN's coverage of the MSA.

The final line of Table A provides a summary of the data for the metropolitan area. The summary includes only the DAWN-participating areas. All subsequent tables are based on aggregated data for the participating jurisdictions in the metro area. The denominator for total drug abuse deaths is the figure at the bottom of the "Total" column in Table A.

Table B

Table B presents summary demographic data on all drug abuse deaths reported to DAWN by participating jurisdictions in the metropolitan area in 2002. The number of drug abuse deaths by sex, age, and race/ethnicity are shown. Readers should note that DAWN does not collect data on decedents under age 6 or over age 97.

[4] In *Mortality Data From the Drug Abuse Warning Network, 2001,* incorrect population estimates were published for the following areas: Louisville, Miami, Milwaukee, Minneapolis-St. Paul, Salt Lake City, and San Antonio. Related numbers (i.e., percent of population covered by DAWN and total population as reported in Table 1) in the same publication were correct.

Beginning in January 2000, the race and ethnicity categories collected on DAWN report forms changed to match a new standard protocol.[5] The new protocol permitted separate reporting of race and Hispanic ethnicity; the ability to capture more than one race for an individual; a few modifications in nomenclature (e.g., "Black" was changed to "Black or African American"); division of certain categories ("Asian or Pacific Islander" was split into 2 categories, "Asian" and "Native Hawaiian or Other Pacific Islander"); and elimination of the "Other" category. Despite the increased detail allowed by the new protocol, the actual race/ethnicity data reported to DAWN changed very little. As a result, we have retained the classification used previously to tabulate DAWN data. The one exception is that the less commonly used categories are now collapsed into a category termed "All others," representing those not otherwise tabulated.

Table C

Table C provides an overview of the distribution of drug abuse deaths by type and demographic category. Drug involvement is described using the following categories:

- **Alcohol involved.** This row shows the proportion of all reported drug abuse deaths in which alcohol was involved. Recall that alcohol is only reportable to DAWN in the presence of another drug, so it is incorrect to conclude that alcohol was the direct or sole cause of death.
- **Number of drugs involved.** Users of the DAWN data have asked for a clearer representation of the number of drugs involved in a case. This row shows the proportion of all drug abuse deaths that involved only one drug ("single-drug") as well as the proportion involving multiple drugs ("multi-drug").
- **Cause of death.** This row indicates the number of deaths that were drug-induced (i.e., directly caused by drug abuse) and drug-related (i.e., drug abuse was a contributing factor). The total number of drug-induced and drug-related deaths is consistent with the figures shown in the last row of Table A.
- **Manner of death**. This row classifies drug abuse deaths into three categories: suicide, accidental/unexpected, and all others. The "All others" category includes cases in which manner of death was recorded as natural or unknown, or for which data were missing.

Table D

This bar chart shows the 10 most common drugs mentioned in cases reported to DAWN, and the number of mentions, across the participating jurisdictions in the metropolitan area. Therefore, the specific drugs appearing in this chart vary from one MSA to the next.

As noted previously, the level of specificity with which drug data are reported to DAWN varies based on the documentation in the source record. For example, cocaine may be reported to DAWN as the metabolite "benzoylecgonine," the street term "crack," or simply "cocaine." Each of these terms would be accepted into the DAWN database, but all such mentions would be recoded to "cocaine" for this publication. If a particular DAWN case report contained both "benzoylecgonine" and "cocaine," we would convert the 2 mentions into a single mention of "cocaine," using a process known as de-duplication.

[5] See Office of Management and Budget, *Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity*, Federal Register, 62 FR 58782, October 30, 1997.

Even more variability is possible for prescription and OTC medications reported to DAWN. For example, the prescription drug meperidine might be reported to DAWN as the brand "Darvon," the metabolite "norpropoxyphene," or the chemical term "propoxyphene hydrochloride." For this publication, all such mentions would be recoded to "meperidine" and de-duplicated.

DAWN also receives case reports containing only nonspecific drug terms such as "opiate," "tricyclic antidepressant," "benzodiazepine," or "herbal." Because it is impossible to assign such nonspecific terms to a specific drug, categories such as "narcotic analgesics-NOS," "tricyclic antidepressants-NOS," "benzodiazepines-NOS," and "herbal products-NOS" (where "NOS" means "not otherwise specified") were created and appear in Table D. The reader should understand that terms are classified into an "NOS" category only when assignment to a more specific category is not possible. For example, the 4 NOS categories noted here would never include specific terms such as "morphine," "doxepin," "diazepam," or "echinacea," respectively.

The specific substances reported in multi-drug deaths may also vary by the extent to which each substance contributed as a cause of death. Not every reported substance in multiple-mention cases is, by itself, necessarily a cause of the death or even a contributor to the death (e.g., caffeine, nicotine), and we have no means to quantify the extent of such incidental reporting. On the other hand, substances that contributed to a drug abuse death may occasionally go unreported or undetected.

Table E

Table E presents the number of drug mentions reported each year from 1998 through 2002 for participating jurisdictions within the MSA. Drugs are classified into 14 categories, using a list specifically designed for this publication. Single-drug deaths for the latest year are also shown.

Drug categories. Table E uses 14 drug categories. Some categories include only a single, specific drug (e.g., cocaine), while others include a number of different substances sharing similar properties. For categories that include only one drug (i.e., alcohol-in-combination, cocaine, heroin/morphine, marijuana, and methamphetamine), the number of mentions is equivalent to the number of deaths involving that drug. For the remainder of the categories, which are collections of multiple drugs, the number of mentions typically exceeds the number of deaths.

The 14 categories are as follows:

- **Alcohol-in-combination.** Recall that alcohol is only reportable to DAWN if at least one other reportable substance was also reported. Therefore, the number of single-drug deaths for alcohol-in-combination will always be "not applicable."
- **Cocaine.** This category includes both crack and powder cocaine.
- **Heroin/morphine.** Although heroin may be the ingested drug, it metabolizes to morphine so that, depending on the toxicology testing protocols used, heroin and morphine may not be distinguishable in a given decedent. For this reason, both heroin and morphine are reported in a single category. If a case is reported to have involved both heroin and morphine, those drug mentions are "de-duplicated" and count as only one heroin/morphine mention.
- **Marijuana.** This category includes marijuana and hashish.
- **Amphetamines.** This category includes amphetamines and dextroamphetamines. It does not include other central nervous system stimulants, such as caffeine or methylphenidate.

- **Methamphetamine.** This category includes methamphetamine and substances reported as "speed."
- **Club drugs.** This category is included because of the recent interest in the group of substances commonly known as "designer" or "club drugs." Because of their small numbers, these substances have been aggregated into a single category for presentation in this table. For this publication, "club drugs" include methylenedioxymethamphetamine (MDMA or "Ecstasy"); Ketamine; gamma hydroxy butyrate (GHB) and its precursor gamma butyrolactone (GBL); and flunitrazepam (Rohypnol). Readers should note that in other settings, the definition of "club drugs" may include LSD, methamphetamine, or other substances, so caution should be exercised in comparing the data in Table E to data obtained from other sources.
- **Hallucinogens.** This is a general category that includes LSD, PCP, and miscellaneous hallucinogens.
- **Inhalants.** This broad category includes anesthetic gases and any psychoactive nonpharmaceutical substance for which the documented route of administration was inhalation.
- **Narcotic analgesics.** This category includes all legal and illegal narcotic analgesics and narcotic analgesic combinations, except for heroin/morphine, which was classified separately above. Analysts interested in tracking trends in narcotic-related deaths should sum the "narcotic analgesics" category with the heroin/morphine category.
- **Other analgesics.** This category includes analgesics other than those classified above. These include antimigraine agents, Cox-2 inhibitors, nonsteroidal anti-inflammatory agents, salicylates, analgesic combinations, and miscellaneous analgesics. Analysts interested in tracking trends in deaths related to the abuse of analgesics should sum this category with the heroin/morphine and narcotic analgesics categories.
- **Benzodiazepines.** This category includes all benzodiazepines except flunitrazepam, which is classified as a club drug.
- **Antidepressants.** This category includes all types of antidepressants, including monoamine oxidase inhibitors (MAOIs), selective serotonin reuptake inhibitors (SSRIs), and tricyclic antidepressants.
- **All other substances.** This row contains all other substances reported to DAWN but not tabulated in the preceding rows. The sum of "all other substances" and the preceding 13 categories yields the "total drug mentions" shown in the next row of the table.

Readers should note that the total number of deaths in any given drug category (with the exception of alcohol-in-combination, cocaine, and heroin/morphine) is usually quite small, even in metropolitan areas with a relatively large number of drug abuse deaths. The presentation of these data, despite their low frequency, represents a deliberate effort to provide useful information about the relative occurrence of deaths due to the abuse of different types of substances. The publication *Emergency Department Trends From DAWN* provides more detailed information about which specific drugs fall into particular categories.

Single-drug deaths. For each drug category listed, the far right-hand column of Table E shows the number of deaths in 2002 that involved only the listed drug and no others. Since the previous columns in Table E are expressed in mentions, not deaths, comparisons of single-drug deaths should be limited to those categories where the number of mentions is equivalent to the number of deaths (i.e., for cocaine, heroin/morphine, marijuana, and methamphetamine). In other rows, the grouping of drugs into categories may result in more mentions than deaths. In most instances, the number of deaths involving only a single drug will be lower than the total number of deaths in which that drug was reported. Even in single-drug deaths, however, readers should not assume that the drug was necessarily the direct and sole cause of death.

Data gaps. Because DAWN mortality data are actual counts rather than statistical estimates, trends over time can be affected by data gaps (due to facility nonresponse) as well as by the introduction of new jurisdictions. In this

publication, trend data for 8 metropolitan areas are affected by such factors, and Table E has been modified accordingly for each area. In order to show comparable data for the 5-year period, the following adaptations to Table E have been made:

- **Atlanta.** Table E includes data from the 4 counties that provided data in 2002. Henry County, which did not provide data for 2002, and Paulding County, which did not provide data for 2001 or 2002, have been excluded.
- **Dallas.** Table E includes data from 5 of 6 counties that provided data in 2002. Rockwall County, which did not provide data for 2001, has been excluded.
- **Kansas City.** Table E includes data from Jackson and Wyandotte Counties for 1998, 1999, 2001, and 2002. Wyandotte County did not provide data for 2000. Jackson County, which provided data for all 5 years, is shown in an Area Spotlight.
- **Long Island.** Table E includes data from Suffolk County. Nassau County, which did not provide data for 2002, has been excluded.
- **Milwaukee.** Table E includes only Waukesha County. Milwaukee County, which began participating in DAWN in 2000, is shown in an Area Spotlight.
- **New Orleans.** Table E includes data from 4 of 5 counties that provided data in 2002. St. Bernard Parish, which did not provide data for 2001, has been excluded.
- **New York.** Table E includes data for 1998, 1999, 2000, and 2002. Data for 2001 were incomplete and not published. Total deaths certified for years prior to 2001 were discovered to be incorrect and have been removed.
- **Philadelphia.** Table E includes data from 6 of 7 counties that provided data in 2002. Bucks County, which did not provide data for 1998, and Chester County, which did not provide data for 2002, have been excluded.

Table F

Table F is a line graph showing recent trends in 4 major drugs of abuse: alcohol-in combination, cocaine, heroin/morphine, and narcotic analgesics. The data in this graph match the data in Table E for these 4 categories. Thus, for the 8 MSAs affected by data gaps in Table E (Atlanta, Dallas, Kansas City, Long Island, Milwaukee, New Orleans, New York, and Philadelphia), the line graph in Table F has less than the full complement of data represented, as described above.

Table G

This table shows selected drug combinations by cause and manner of death as reported by all participating jurisdictions in the metropolitan area in 2002. (That is, the "Total" figure in Table G equals the total number of drug abuse deaths shown in Table A.)

Information on drug combinations is provided to demonstrate that drug abuse deaths often involve multiple substances. The 11 categories shown in this table include some of the most common 1-drug, 2-drug, and 3-drug combinations reported to DAWN by all participating jurisdictions in 2002. The same 11 categories are reported for every metropolitan area, although the relative frequency of any given combination will vary from MSA to MSA[JB47].

Each death is assigned to one and only one category in Table G. A case is tallied under the listed drug combination if the decedent had used all and only those substances. For example, a decedent who had used alcohol and cocaine would be included in the totals for the "Alcohol + Cocaine" row, but not in the "Cocaine only" row. A decedent who had used alcohol, cocaine, and heroin/morphine would be included in the totals for "Alcohol + Cocaine +

Heroin/morphine," but not in the "Alcohol + Cocaine" row. A decedent who had used alcohol, cocaine, heroin, and methamphetamine would be included in the "All other drugs/combinations" row, because that specific 4-drug combination is not shown in the preceding rows.

For each drug or combination, information on the cause and manner of death is provided. The column labeled "Drug-induced" shows the number of all deaths involving the listed drug combination that were determined to be drug-induced, or directly caused by the abuse of those drugs. The difference between "Total" and "Drug-induced" deaths for any given combination is the number of "Drug-related" deaths (i.e., deaths in which the abuse of the listed substance(s) was a contributory but not a causal factor). As before, this information is provided so that readers can differentiate "overdose" deaths from deaths in which drug abuse played a less central role.

The remaining columns in Table G show the distribution of deaths for each listed drug or drug combination across the three "manner of death" categories used previously. Specifically, the table shows the number of deaths in each category that were classified as "Suicide," "Accidental/unexpected," or "All others." The "All others" category includes cases in which the manner of death was reported as natural or undetermined, or for which manner of death was missing. Together, the 3 manner of death categories equal the total number of deaths in each drug combination category.

Readers should note that for Table G and Table H, the use of the term "combination" refers to cases in which multiple drugs were reported. Facilities are not asked to report (and likely could not determine) whether the reported substances were in fact used in combination (i.e., simultaneously). Some street drugs are themselves combinations of multiple substances and are reported as such only when this can be determined from the case file (e.g., the street term "speedball" refers to a combination of heroin and cocaine). Several prescription and OTC substances are also combinations (compounds) of multiple substances (e.g., acetaminophen with codeine) and are classified as such when reported. Classification of multi-drug compounds in the DAWN drug reference vocabulary is described in detail elsewhere.[6]

Table H

Table H uses a horizontal stacked bar chart to represent graphically the number of drugs involved in all drug abuse deaths, as well as in deaths involving cocaine, heroin/morphine, marijuana, and narcotic analgesics. This chart provides somewhat different information than Table G. This information is provided to illustrate the fact that most drug abuse deaths reported to DAWN involve multiple substances. The chart should be interpreted as follows:

- **All Drug Deaths.** The top-most horizontal bar shows the number of substances involved in all drug abuse deaths reported by the participating jurisdictions in the metropolitan area. The bar shows the proportion of all drug abuse deaths in the MSA that involved 1 drug, 2 drugs, 3 drugs, and 4 or more drugs. So, for example, the bar may show that 15 percent of all drug abuse deaths in the MSA involved only 1 drug, 30 percent involved 2 drugs, 35 percent involved 3 drugs, and 20 percent involved 4 or more drugs. The denominator for this bar is the total number of drug abuse deaths shown in Table A and is identified in parentheses under the label "All drug deaths" in Table H. The proportion of deaths involving only 1 drug is consistent with the number of "single-drug deaths" reported in Table C; likewise, the combined proportion of deaths involving 2 drugs, 3 drugs, and 4 or more drugs is consistent with the number of "multi-drug deaths" reported in Table C.

[6] See Substance Abuse and Mental Health Services Administration, Office of Applied Studies. *Emergency Department Trends From the Drug Abuse Warning Network, Final Estimates 1995–2002.* DAWN Series D-24, DHHS Publication No. (SMA) 03-3780, Rockville, MD, 2002.

- **Cocaine.** This bar shows the distribution of the number of drugs reported in all deaths that involved cocaine. The bar is coded to show first the proportion of deaths that involved cocaine only. The remaining segments of the bar show the number of deaths involving 2 drugs (i.e., cocaine plus one other drug), 3 drugs (i.e., cocaine plus 2 other drugs), and 4 or more drugs (i.e., cocaine plus 3 or more other drugs). The denominator for this bar is the total number of cocaine deaths shown in Table E (except where Table E excludes specific counties), and is indicated in parentheses next to the bar.
- **Heroin/morphine.** Interpretation of this bar is the same as described for cocaine. As described above, readers should note that if both heroin and morphine were reported in the same death, they have been reclassified as a single heroin/morphine mention.
- **Marijuana.** Interpretation of this bar is the same as described for cocaine. However, readers should note that there are two common patterns with marijuana that will affect the data displayed in this chart. First, marijuana is rarely the only drug involved in a drug abuse death. Thus, in many MSAs, the proportion of marijuana-involved cases labeled as "One drug" (i.e., marijuana only) will be zero or nearly zero. Second, many medical examiners and coroners do not run toxicology tests to detect the presence of marijuana. As a result, some facilities report no marijuana mentions to DAWN. This does not mean that marijuana is never involved in a drug abuse death in those jurisdictions—it means only that those data are unavailable. For these areas, there may be no bar for marijuana shown on the graph in Table H. This illuminates a limitation in our ability to interpret single-drug deaths—other drugs may actually have been involved in the "single-drug" deaths, but went unreported to DAWN.
- **Narcotic analgesics.** This category is shown in Table H because of increasing interest in narcotics other than heroin, and because there is a sufficient number of these cases to warrant further description for most metropolitan areas. As noted above, this category does not include heroin/morphine. Readers should note that unlike cocaine, heroin/morphine, and marijuana, there can be more than one narcotic analgesic reported in the same death. Therefore, the number of deaths involving narcotic analgesics in Table H will not match the number of mentions of narcotic analgesics in Table E.

Abbreviated Profiles for Areas with Few Cases

Abbreviated profiles are provided for metropolitan areas with too few cases to produce all 8 tables described above. In order to publish a full 2-page profile for a given metropolitan area, all participating jurisdictions in the MSA must have reported a combined total of at least 30 drug abuse deaths in the reporting year. In 2002, 7 areas reported fewer than 30 drug abuse deaths.

For these MSAs, we provide only Table A. This allows us to show the specific counties included in the metropolitan area, the population of each, the identities of those component jurisdictions that participated in DAWN in 2002, and the number of drug abuse deaths reported by each participating jurisdiction. If the number of participating jurisdictions or reported deaths increases in future years such that total drug abuse deaths exceed 30, then full 2-page metropolitan area profiles will be provided for these areas. Likewise, if any other metropolitan area drops below the 30-case threshold in future years, only Table A will be published for that MSA.

Area Spotlights

Area spotlights focus on key counties and/or cities within the participating metropolitan areas. As a general rule, spotlight reports are provided for the county representing the population center of a metropolitan area and/or the county containing the city for which the MSA is named. Spotlight reports are not produced for population centers when fewer than 30 drug abuse deaths are reported. The following examples and exceptions apply:

- **Atlanta.** We spotlight Fulton County in the Atlanta metropolitan area because it is both the major population center and contains the city of Atlanta. This is the pattern followed for most participating MSAs.
- **Boston.** We spotlight both Middlesex County (the most populous county in the Boston MSA) and Suffolk County (the county containing the city of Boston). This approach applies similarly to Minneapolis–St. Paul and St. Louis.
- **Milwaukee.** As noted above, data for Milwaukee County are not reflected in Tables E and F of the Milwaukee Metropolitan Area Profile. Instead, a separate spotlight on Milwaukee County is provided.

In a few metropolitan areas, we spotlight multiple counties when their large populations and/or local interest warrant separate listings. These include the following:

- **New Orleans.** We spotlight both Jefferson Parish and Orleans Parish.
- **Philadelphia.** We spotlight both Philadelphia County and Camden County, NJ.
- **Washington, DC.** We spotlight the District of Columbia and 2 of the most populous counties in suburban Maryland (Montgomery County and Prince George's County).

For some metropolitan areas, no spotlight reports need to be produced because the metropolitan area contains only one county or had only one county participating in DAWN. This occurred in the following areas:

- The Boulder, Miami, and San Diego metropolitan areas each contain only one county. Because deaths are reported to DAWN at the county level, there are no sub-areas that can be presented separately for these MSAs.
- Six metropolitan areas contain multiple counties, only one of which participated in DAWN in 2002. Thus, there are no additional areas that warrant separate spotlight summaries in these MSAs: Birmingham, Cleveland, Las Vegas, Long Island, Louisville, and Phoenix.

Content of Area Spotlight Reports

Spotlights provide data in essentially the same format as the full metropolitan area profiles. However, spotlights contain only Tables A through E as described above. Interpretation of these tables is the same as noted above, with the following exceptions:

- Table A provides a map showing the location of the spotlighted area relative to the rest of the MSA, and it provides summary counts of drug abuse deaths, total certified deaths, and county population for 2002.
- Table D shows the 10 most common drugs reported by the spotlighted area in 2002. These may differ from the 10 substances reported in Table D of the Metropolitan Area Profile.
- Table E includes trends only for the spotlighted jurisdiction. If the area did not provide data for all years displayed in the table, cells will display dashes (—) for the missing years.