

APPENDIX C

GLOSSARY OF TERMS

This glossary defines terms used in data collection activities, analyses, and publications associated with the emergency department (ED) component of the Drug Abuse Warning Network (DAWN).

Accidental ingestion:

This category of drug-related ED visits includes those involving the accidental use of a drug, for example, childhood drug poisonings and individuals who take the wrong medication by mistake.

Adverse reaction:

This category of drug-related ED visits represents the consequences of using a prescription or over-the-counter (OTC) pharmaceutical for therapeutic purposes and includes visits related to adverse drug reactions, side effects, drug-drug interactions, and drug-alcohol interactions. Adverse reactions that involve a pharmaceutical with an illicit drug are exceptions that are excluded from this category.

Alcohol only (age less than 21):

This category of drug-related ED visits includes those in which alcohol was the only drug involved and the patient was aged less than 21. Although alcohol is an illegal drug for minors, combining these cases with other cases involving illicit drugs tends to mask rather than highlight their importance for prevention and treatment efforts.

Case description:

A description of how the drug(s) was related to the patient's ED visit. The case description, in conjunction with the presenting chief complaint and diagnoses, is used to determine if the ED visit is reportable to DAWN. It is copied verbatim from the patient's chart when possible.

Case type:

See **Type of case**.

Case type other:

See **Drug misuse and abuse**.

Confidence interval:

A "confidence interval" (CI) is an interval estimate, that is, a range of values around a point estimate that takes sampling error into account. Ninety-five percent is an accepted standard of confidence. Technically, a 95% CI means that if repeated samples were drawn from the same population of hospitals using the same sampling and data collection procedures, the true population value would fall within the confidence interval 95% of the time. Practically, a 95% CI summarizes both the estimate and its margin of error in a straightforward way with a reasonable degree of confidence. Calculation of 95% CIs is discussed in Appendix B.

Diagnosis:

The condition(s) for which the patient was treated as determined by the clinician after study. As many as four diagnoses can be entered for each DAWN case.

Disposition:

The location or facility to which an ED patient was referred, transferred, or released. *Treated and released* includes three categories:

- *Discharged home*—"Home" is used as a broad category to mean discharged to the patient's residence. Home is generally used for people who live locally; however, for students at nearby universities, home means their university; for travelers who get sick on the road, it may mean their hotel or wherever they are staying, and so forth.
- *Released to police/jail*
- *Referred to detox/treatment*—The chart indicates that the patient was referred to a substance abuse treatment or detox program, facility, or provider.

Admitted to this hospital includes five categories of inpatient units:

- *ICU/critical care*
- *Surgery*
- *Chemical dependency/detox*
- *Psychiatric unit*
- *Other inpatient unit*—The inpatient unit was not specified or does not match one of the preceding units.

Other Disposition includes five categories:

- *Transferred*—The patient was transferred to another health care facility.
- *Left against medical advice*—The patient left the treatment setting without a physician's approval.
- *Died*—The patient died after arriving in the ED but before being discharged, admitted, or transferred.
- *Other*—The discharge status is documented in the chart but does not fit into any of the preceding categories.
- *Not documented*—The discharge status was not documented in the medical chart.

Drug:

This refers to a substance that was recorded in a DAWN case report. Substances accepted by DAWN include alcohol, illicit drugs, prescription and over-the-counter pharmaceuticals, dietary supplements, and non-pharmaceutical inhalants. Multiple substances ("drugs") can be reported for each DAWN case. Therefore, the total number of drugs exceeds the total number of DAWN cases reported. (See also **Single-drug case**.)

Drug category:

A generic grouping of pharmaceuticals and other substances reported to DAWN, based on the classification of Multum Information Services. Multum Information Services is a subsidiary of the Cerner Corporation and a developer of clinical drug information systems and a drug knowledge base. More information is available at <http://www.multum.com>. In general, the Multum categories follow the therapeutic uses for prescription and over-the-counter pharmaceuticals.

Additional clarification is provided for the following drug categories:

- *Alcohol alone*—DAWN collects data on alcohol when used alone only if the patient is under age 21.
- *Alcohol-in-combination*—Alcohol-in-combination is the category for alcohol present with another reportable substance. DAWN does not gather data on alcohol used alone if the patient is over age 21. For patients 21 and older, alcohol must be used with another substance to be reported to DAWN. Alcohol-in-combination is reportable for all ages.
- *Amphetamines*—This class of substances has been extracted from the category of central nervous system (CNS) stimulants because of its importance as a major substance of abuse. For purposes of classification, "amphetamines" (plural) includes a class of compounds derived from or related to the drug amphetamine. Although some "designer" drugs fall into the class of amphetamines, we choose to report some of them individually as major substances of abuse (e.g., methamphetamine). This category does not include other CNS stimulants, such as caffeine or methylphenidate.
- *Combinations not tabulated above (NTA)*—This category includes combinations composed of two or more major substances of abuse that are mixed and taken together. For example, "speedball," which usually refers to the combination of heroin and cocaine taken at once, would be classified as a combination NTA, whereas heroin and cocaine used separately would be classified separately in the categories heroin and cocaine. Combinations consisting of a major substance of abuse and another substance are classified in the category of the major substance (e.g., heroin with scopolamine is classified as heroin).
- *Inhalants*—This category includes anesthetic gases and psychoactive non-pharmaceutical substances for which the documented route of administration was inhaled, sniffed, or snorted. Psychoactive non-pharmaceuticals fall into one of the following three categories: (1) **volatile solvents**—adhesives (model airplane glue, rubber cement, household glue), aerosols (spray paint, hairspray, air freshener, deodorant, fabric protector), solvents and gases (nail polish remover, paint thinner, correction fluid and thinner, toxic markers, pure toluene, cigar lighter fluid, gasoline, carburetor cleaner, octane booster), cleaning agents (dry cleaning fluid, spot remover, degreaser), food products (vegetable cooking spray, dessert topping spray such as whipped cream, whippets), and gases (butane, propane, helium); (2) **nitrites**—amyl nitrites ("poppers," "snappers") and butyl nitrites ("rush," "locker room," "bolt," "climax," "video head cleaner"); or (3) **chlorofluorohydrocarbons** (freons). Anesthetic gases (e.g., nitrous oxide, ether, chloroform) are presumed to have been inhaled.

Drug misuse and abuse:

A group defined broadly to include case types related to drug misuse or abuse. Additional clarification is provided for the following case types:

- *Overmedication*—This category was designed to capture non-medical use, overuse, and misuse of prescription and OTC medications that are not documented as drug abuse in the medical chart.
- *Malicious poisoning*—This category was designed to cases of drug use in which the patient was administered a drug by another person for a malicious purpose. Drug-facilitated sexual assault is one type of malicious poisoning, but other types of malicious poisonings such as product tampering would be classified in this category as well.
- Case type *Other*—This category includes all drug-related ED visits that could not be assigned to any of the other seven types. By design, most cases of documented drug abuse will fall into this category, and most cases in this category will involve use of illicit drugs or non-medical use of drugs and other substances.

Drug-related ED visit:

Any ED visit related to recent drug use. This is the definition of a DAWN case effective January 1, 2003. To be a DAWN case, a drug needs only to be implicated in the visit; the drug does not have to have caused the visit. One patient may make repeated visits to an ED or to several EDs, thus producing a number of visits. It is impossible to determine the number of unique patients involved in the reported drug-related ED visits because no direct patient identifiers are collected by DAWN.

Estimate:

A statistical estimate is the value of a parameter (such as the number of drug-related ED visits) for the universe that is derived by applying sampling weights to data from a sample.

Hospital emergency department (ED):

The unit of a hospital established and staffed to provide emergency medical services. To be eligible for DAWN, the hospital must operate its ED(s) 24 hours a day, 7 days a week.

Malicious poisoning:

See **Drug misuse and abuse**.

Metropolitan area:

An area comprising a relatively large core city or cities and the adjacent geographic areas. Conceptually, these areas are integrated economic and social units with a large population nucleus. This DAWN publication utilizes areas defined by the Office of Management and Budget (OMB) in 2003, based on population data from the 2000 decennial Census.

Not otherwise specified (NOS):

Catch-all category for substances that are not specifically named. Terms are classified into an NOS category only when assignment to a more specific category is not possible based on information in the source documentation (ED patient charts).

Not tabulated above (NTA):

Designation used when categories are not presented in complete detail; smaller units are combined in the NTA category.

Overmedication:

See **Drug misuse and abuse**.

***p*-value:**

A measure of the probability (*p*) that the difference between two estimates could have occurred by chance, if the estimates being compared were really the same. The larger the *p*-value, the more likely the difference could have occurred by chance. For example, if the difference between two DAWN estimates has a *p*-value of 0.01, it means that there is a 1% probability that the difference observed could be due to chance alone.

Population:

See **Universe**.

Precision:

The extent to which an estimate agrees with its mean value in repeated sampling. The precision of an estimate is measured inversely by its standard error (SE) or relative standard error (RSE). In DAWN publications, estimates with RSEs greater than 50% are regarded as too imprecise to be published. ED table cells where such estimates would have appeared contain the symbol "..." (3 dots). (See also **Relative standard error**.)

Race/ethnicity:

The Office of Management and Budget (OMB) is responsible for standard protocols for the collection of data on race and ethnicity by federal systems, including DAWN. In October 1997, OMB issued a revised standard protocol, which permitted separate reporting of race and Hispanic ethnicity, the ability to capture more than one race for an individual, modifications in nomenclature (e.g., "Black" was changed to "Black or African American"), division of certain categories ("Asian or Pacific Islander" was split into two categories, "Asian" and "Native Hawaiian or Other Pacific Islander"), and elimination of the "Other" category. For data collections, such as DAWN, where self-identification of the individual is not feasible, the revised OMB protocol also permitted a combined format, whereby race and Hispanic ethnicity would be recorded in a single data item, which could still record multiple entries for race and/or Hispanic ethnicity.

Since January 2003, DAWN has collected data on race/ethnicity using the combined format. The race/ethnicity categories on the DAWN data collection forms are as follows:

- *White*—A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.
- *Black or African American*—A person having origins in any of the black racial groups of Africa.
- *Hispanic or Latino*—A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.

- *Asian*—A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.
- *American Indian or Alaska Native*—A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.
- *Native Hawaiian or Other Pacific Islander*—A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.
- *Not documented*—Used when documentation of race is not available from source records.

Despite the increased detail allowed by these categories and the provision for multiple entries, the actual race/ethnicity data reported to DAWN is quite limited because race and ethnicity are often not documented with this level of specificity in patient/decedent records. As a result, the classification used to tabulate DAWN data has a more limited set of categories, as follows:

- *White*—Anyone meeting the definition of white (above). Those who are identified as white and Hispanic are classified as Hispanic.
- *Black*—Anyone meeting the definition of black or African American (above). Those who are identified as black or African American and Hispanic are classified as Hispanic.
- *Hispanic*—Anyone whose ethnicity is Hispanic or Latino (above) is placed in the category Hispanic, regardless of race.
- *Race/ethnicity NTA*—This includes those categories that are too small to report independently including: 2 or more races, American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander.
- *Unknown*—Race/ethnicity is unknown. Those who are identified only as Hispanic are classified as Hispanic.

Relative standard error (RSE):

A measure of an estimate's relative precision. The RSE of an estimate is equal to the estimate's standard error (SE) divided by the estimate itself. For example, an estimate of 2,000 cocaine visits with an SE of 200 visits has an RSE of 10%. The larger the RSE, the less precise the estimate. Estimates with an RSE of 50% or more are not published by DAWN. (See also **Precision** and **Standard error**.)

Sampling:

Sampling is the process of selecting a proper subset of elements from the full population so that the subset can be used to make inference to the population as a whole. A probability sample is one in which each element has a known and positive chance (probability) of selection. A simple random sample is one in which each member has the same chance of selection. In DAWN, a sample of hospitals is selected in order to make inference to all hospitals; DAWN uses simple random sampling within strata.

Sampling frame:

A list of units from which the ED sample is drawn. All members of the sampling frame have a probability of being selected. A sampling frame is constructed such that there is no duplication and each unit is identifiable. Ideally, the sampling frame and the universe are the same. The sampling frame for the DAWN hospital ED sample is derived from the American Hospital Association (AHA) Annual Survey of Hospitals.

Sampling unit:

A member of a sample selected from a sampling frame. For the DAWN sample, the units are hospitals, and data are collected for all drug-related ED visits at the responding hospitals selected for the sample.

Sampling weights:

Numeric coefficients used to derive population estimates from a sample.

Seeking detox:

This category of drug-related ED visits captures patient seeking substance abuse treatment, drug rehabilitation, or medical clearance for admission to a drug treatment or detoxification unit. They are classified separately because they often reflect administrative practices that vary across hospitals and may vary over time within the same hospital. Seeking detox visits tend to be concentrated in those facilities that operate specialized inpatient units providing substance abuse treatment or detoxification services, and the largest numbers are found in facilities that require medical clearance for entry into such treatment to be granted in their EDs.

Single-drug case:

A single-drug case is one in which only one drug was involved. Because multiple substances may be recorded for each DAWN case (see **Drug**), readers should be cautious in interpreting the relationship between a given drug and the number of associated visits or deaths. For example, if the source record for a patient/decedent documented marijuana use, this does not mean that marijuana was the only drug involved in the visit/death or that the marijuana caused the visit/death. One should always consider whether and how many other drugs were used in combination. Even then, attributing a causal relationship between the visit/death and a particular drug may not be possible. DAWN only captures single-drug visits/deaths involving alcohol if the decedent was younger than age 21.

Standard error (SE):

A measure of the sampling variability or precision of an estimate. The SE of an estimate is expressed in the same units as the estimate itself. For example, an estimate of 10,000 visits with an SE of 500 indicates that the SE is 500 visits.

Statistically significant:

A difference between two estimates is said to be statistically significant if the value of the statistic used to test the difference is larger or smaller than would be expected by chance alone. For DAWN ED estimates, a difference is considered statistically significant if the *p*-value is less than 0.05. (See also *p-value*.)

Strata (plural), stratum (singular):

Subgroups of a universe within which separate ED samples are drawn. Stratification is used to increase the precision of estimates for a given sample size, or, conversely, to reduce the sample size required to achieve the desired level of precision. The DAWN ED sample is stratified into metropolitan area cells plus an additional cell for the remainder of the United States. To ensure thorough coverage within metropolitan areas, the universe of hospitals in each is allocated into substrata identified by (A) two types of hospital ownership (public, private) and (B) up to four size categories (measured in terms of annual ED visits), creating up to eight substrata in each metropolitan area stratum. Hospitals in the stratum that covers the rest of the United States are stratified first by Census region, then by state, type of ownership, and size (also measured in terms of ED visits). A systematic sample is selected from each of the geographic strata.

Suicide attempt:

This category of drug-related ED visits captures suicide attempts (e.g., "attempted suicide," "tried to kill self") documented in the medical record in which drug use was involved, including non-medical use of prescription or OTC pharmaceuticals. Suicidal gestures, thoughts, or ideation, including attempts to "harm" self, are assigned to another case type.

Type of case:

A classification used to group similar DAWN cases from the diverse set of all drug-related ED visits. Each case is coded into one and only one category, the first that applies from the following hierarchy: suicide attempt, seeking detox, alcohol only (age < 21), adverse reaction, overmedication, malicious poisoning, accidental ingestion, and other. The rules for assignment of DAWN cases to types of cases are defined in the DAWN ED Decision Tree.

Universe:

The entire set of units for which generalizations are drawn. The universe for the DAWN ED sample is all non-Federal, short-stay, general medical and surgical hospitals in the United States that operate one or more emergency departments 24 hours a day, 7 days a week. Specialty hospitals, hospital units of institutions, long-term care facilities, pediatric hospitals, hospitals operating part-time EDs, and hospitals operated by the Veterans Health Administration and the Indian Health Services are excluded. The universe of EDs is identified from the American Hospital Association's Annual Survey Database.