
DAWN GLOSSARY, 2011 UPDATE

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). The glossary is updated to reflect terms and conventions applicable in the 2011 data collection year.

Accidental ingestion: This category of drug-related ED visits includes those involving the accidental ingestion of a drug, for example, childhood drug poisonings and individuals who take the wrong medication by mistake. It includes a caregiver administering the wrong medicine by mistake. It does not include a patient taking more medicine than directed because the patient forgot to take it earlier. (See **Nonmedical use of pharmaceuticals**, *Overmedication*.)

Adverse reaction: This category of drug-related ED visits represents the use of a prescription or over-the-counter pharmaceutical for therapeutic purposes that results in an ED visit due to adverse drug reactions, side effects, drug-drug interactions, and drug-alcohol interactions. Although adverse reactions are typically limited to pharmaceuticals, a small number of adverse reaction visits involve (a) illicit drugs for which there are legitimate pharmaceutical versions, and (b) pharmaceutical inhalants (such as anesthetic gases).

Alcohol use: DAWN notes whether alcohol was involved in addition to other drug(s) for patients of all ages. Because alcohol is considered an illicit drug for minors, alcohol without the involvement of other drugs is considered a drug-related ED visit for patients under the age of 21. (See **Drug misuse or abuse** and **Underage drinking**.)

Case description: A description of how the drug(s) were related to the patient's ED visit. The case description, in conjunction with other documentation in the ED medical record, is used to determine whether 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 or abuse**.

Confidence interval (CI): An interval estimate, that is, a range of values around a point estimate that takes sampling error into account. A broadly accepted standard of confidence is 95 percent. 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 CI 95 percent of the time. A 95 percent CI is a straightforward way to summarize both the estimate and its margin of error.

Diagnosis: The condition(s) for which the patient was treated as determined by the clinician after evaluation.

Disposition: The location or facility to which an ED patient was referred, transferred, or released.

Treated and released includes three categories:

- *Discharged home*—In this context, "home" refers to the patient's residence at the time of the ED visit. This could be a personal residence; for students residing at nearby universities, home means their university; for travelers, it may mean their hotel or wherever they are staying.
- *Released to police/jail*—Patients that are released to police/jail were usually brought to the ED by the police for treatment of an acute medical problem or for medical clearance before being placed in the jail population.
- *Referred to detox/treatment*—The chart indicates that the patient was referred to a substance abuse treatment or detox program, facility, or provider other than the chemical dependency/detox unit maintained at the hospital.

Admitted to this hospital includes five categories of inpatient units:

- intensive or critical care unit (ICU),
- surgical unit,
- chemical dependency/detox unit,
- psychiatric unit, and
- other inpatient units (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 being admitted to the ED but before being discharged, admitted, or transferred.
- *Other*—The discharge status is documented in the patient's chart but does not fit into any of the preceding categories.
- *Not documented*—The patient's discharge status was not documented in the medical chart.

Drug: A substance that is (a) used as a medication or in the preparation of medication; (b) an illicit substance that causes addiction, habituation, or a marked change in consciousness; or (c) both. Substances reportable to DAWN include alcohol; illicit drugs (e.g., club drugs, cocaine, heroin, marijuana, synthetic cannabinoids, amphetamines/methamphetamine); nonpharmaceutical inhalants; prescription drugs (e.g., drugs for attention deficit hyperactivity disorder, antibiotics, antidepressants, antipsychotics, anticoagulants, beta blockers, birth control pills, hormone replacement, insulin, muscle relaxants, pain relievers, sleeping aids); drugs used in treatment of medical conditions (e.g., respiratory therapy, chemotherapy, radiation therapy); vaccines; dietary

supplements; vitamins; and other over-the-counter pharmaceutical products. DAWN publications use the term "drug" to refer to any of these substances. Multiple substances can be reported for each DAWN case. Therefore, the total number of drugs exceeds the total number of DAWN cases reported.

Drug category: A generic grouping of related pharmaceuticals or other substances reported to DAWN, based on the classification system developed by Multum Information Services, a subsidiary of the Cerner Corporation, and modified for use with DAWN. The Multum *Lexicon* is available at <http://www.multum.com/>. In general, the Multum drug categories reflect the therapeutic uses for prescription and over-the-counter pharmaceuticals.

Additional clarification is provided for the following drug categories, because these are unique to DAWN:

- *Alcohol alone*—DAWN treats alcohol as an illicit drug for minors. Therefore, DAWN collects data on ED visits involving alcohol and no other drugs if the patient is under the age of 21.
- *Alcohol-in-combination*—DAWN records whether alcohol was involved in all drug-related ED visits for patients of all ages.

Drug misuse or abuse: A group of ED visits defined broadly to include all visits associated with illicit drugs, alcohol use in combination with other drugs, alcohol use alone among those younger than 21 years, and nonmedical use of pharmaceuticals. (See also **Alcohol use, Illicit drug use, Nonmedical use of pharmaceuticals, and Underage drinking.**)

Drug-related ED visit: This category includes any ED visit related to recent drug use. To be a DAWN case, the ED visit must have involved a drug, either as the direct cause of the visit or as a contributing factor. (See also **Single-drug case.**) One patient may make repeated visits to an ED or to several EDs, thus producing a number of visits. The number of unique patients involved in the reported drug-related ED visits cannot be estimated because no direct patient identifiers are collected by DAWN.

There are some circumstances in which ED visits are not reviewed for DAWN. These include persons who left before being seen by a physician, visits for suture removal, and direct admission to the hospital through the ED for women in labor.

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 and other adjustments to data from a sample. Estimates of drug-related ED visits are calculated by applying weights and adjustments to the data provided by the sampled hospitals participating in DAWN. The sampling weights reflect the probability of selection; separate adjustment factors account for nonresponse, data quality, and the known total of ED visits delivered by the universe of eligible hospitals as identified by the American Hospital Association (AHA) Annual Survey Database (ASDB) for the relevant time period.

GHB: Gammahydroxybutyric acid, a hallucinogen and depressant frequently combined with alcohol and other beverages. Also used by bodybuilders to aid in fat reduction and muscle building. For further information, see <http://www.drugabuse.gov/infofacts/infofactsindex.html>.

Hospital emergency department (ED): An emergency department (ED) (also known as an emergency room) is a medical treatment facility, specializing in acute care of patients who present without prior appointment, either by their own means or by ambulance. EDs are usually found in hospitals or other primary care centers. Only EDs in hospitals that meet DAWN's eligibility criteria may participate in DAWN. For information on drug-related ED visits, DAWN relies exclusively on medical records maintained by EDs. No patients, ED staff, or other records are consulted. DAWN is based on a sample of hospitals; in the cases where there are multiple EDs in a hospital, records from all the EDs are reviewed to identify drug-related cases. (See **Universe.**)

Illicit drug use: This category of drug-related ED visits includes all visits related to the use of illicit or illegal drugs. Illicit drugs include

- cocaine,
- heroin,
- marijuana,
- synthetic cannabinoids,
- amphetamines/methamphetamine,
- MDMA,
- GHB,
- flunitrazepam (Rohypnol®),
- ketamine,
- LSD,
- PCP,
- other hallucinogens,
- nonpharmaceutical inhalants,
- combinations of illicit drugs, and
- alcohol when used by patients under the age of 21.

Additional clarification is provided for the following drug categories:

- *Synthetic cannabinoids*—This drug category was introduced in 2010 to reflect the emergence of synthetic cannabinoids in drug-related ED visits. Synthetic cannabinoids are substances that are designed to be chemically similar to the psychoactive ingredient in marijuana, delta-9-tetrahydrocannabinol (THC). (See also **Synthetic cannabinoids.**)
- *Amphetamines/methamphetamine*—This drug category includes amphetamines, methamphetamine, and piperazines. These drugs are often combined for analysis because medical records and toxicology tests often fail to distinguish among them, referring to them simply as "amphetamines." The category excludes central nervous system stimulant medications, such as amphetamine-dextroamphetamine and methylphenidate (drugs to treat attention deficit hyperactivity disorder), and products containing caffeine.

- *Inhalants*—This category includes (a) anesthetic gases, and (b) any nonpharmaceutical substance that has psychoactive effects when inhaled, sniffed, or snorted. Excluded from the inhalant category are carbon monoxide and nonpharmaceutical inhalants, if the exposure was accidental (e.g., inhaling paint fumes while painting a closet).
 - (a) *Anesthetic gases*—Anesthetic gases are presumed to have been inhaled. Included in this category are, for example, nitrous oxide, ether, and chloroform.
 - (b) *Nonpharmaceuticals*—The route of administration for psychoactive nonpharmaceuticals is not assumed and must be documented in ED records specifically as inhalation. Psychoactive nonpharmaceuticals, when inhaled, fall into three main categories: volatile solvents, nitrites, and chlorofluorohydrocarbons. Examples of substances in each of these three categories include the following:
 - **Volatile solvents**—This category of inhalants includes 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, 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 or "whippets"); and gases (butane, propane, helium).
 - **Nitrites**—This category of inhalants includes amyl nitrites ("poppers," "snappers") and butyl nitrites ("rush," "locker room," "bolt," "climax," video head cleaner).
 - **Chlorofluorohydrocarbons**—Freons are an example of this category of inhalants.
- *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).

LSD: d-lysergic acid diethylamide, a hallucinogen usually taken orally. For further information, see <http://www.drugabuse.gov/infofacts/infofactsindex.html>.

Malicious poisoning: See **Nonmedical use of pharmaceuticals**.

MDMA: Methylenedioxyamphetamine, a hallucinogen with stimulant effects, usually taken orally. For further information, see <http://www.drugabuse.gov/infofacts/infofactsindex.html>.

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 center. Unless otherwise noted, DAWN metropolitan areas correspond to Metropolitan Statistical Areas (MSAs) established by the Office of Management and Budget (OMB) based on the 2000 decennial census and updated in 2003. DAWN also prepares estimates for subsections of three of the large MSAs that correspond to MSA Divisions; in a fourth MSA, subsections were established by local users of DAWN data.

Nonmedical use of pharmaceuticals: Nonmedical use of pharmaceuticals includes taking more than the prescribed dose of a prescription pharmaceutical or more than the recommended dose of an over-the-counter pharmaceutical or supplement; taking a pharmaceutical prescribed for another individual; deliberate poisoning with a pharmaceutical by another person; and documented misuse or abuse of a prescription drug, an over-the-counter pharmaceutical, or a dietary supplement. Nonmedical use of pharmaceuticals may involve pharmaceuticals alone or pharmaceuticals in combination with illicit drugs or alcohol. Nonmedical use of pharmaceuticals includes prescription and over-the-counter pharmaceuticals in ED visits that are of the following types of cases:

- *Overmedication*—Patient took too much of his/her prescription medication or over-the-counter medication/dietary supplement.
- *Malicious poisoning*—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*—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).

(See also **Drug misuse or abuse** and **Type of case**.)

Not otherwise specified (NOS): This is the catchall category for substances that are not specifically named but are known to be reportable to DAWN. Terms are classified into an NOS category only when assignment to a more specific category is not possible based on the information in the source documentation (ED patient charts).

Not tabulated above (NTA): This designation is used when drugs or drug categories are not explicitly listed in a table. Low-incidence drugs (or drug categories) falling under a broader drug classification may be summarized into a single row under that classification and labeled as NTA.

Overmedication: See **Nonmedical use of pharmaceuticals**.

Oversampling: Without oversampling, one would expect a sample to resemble the population from which it was drawn. Oversampling implies the deliberate selection of a much higher proportion of certain types of sampling units than would normally be obtained in a simple, random sample. The deliberate selection of certain types of sample units is done to improve the precision of estimates of the properties of these types of sampling units. This is a form of stratified sampling. (See also **Sampling, Sample frame**, and **Sampling unit**.) In DAWN, selected metropolitan areas are oversampled so that estimates can be produced for those areas.

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 0.05, it means that there is no more than a 5 percent probability that the difference observed could be due to chance alone.

PCP: Phencyclidine, a hallucinogenic white crystalline powder that is readily soluble in water or alcohol or may be snorted or smoked. For further information, see <http://www.drugabuse.gov/infofacts/infofactsindex.html>.

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 percent are regarded as too imprecise to be published. ED table cells where such estimates would have appeared contain the asterisk symbol (*). (See also **Relative standard error**.)

Race/ethnicity: Race/ethnicity data in DAWN are collected retrospectively from the medical record. This approach involves a single question listing six race/ethnicity groups (plus not documented) and allows for multiple responses.¹ For published reports, DAWN collapses the reported race/ethnicity information into four mutually exclusive categories, plus an unknown category, as follows:

- *White*—A person having origins in any of the original peoples of Europe, the Middle East, or North Africa. Those who are identified as White and Hispanic are classified as Hispanic.
- *Black*—A person having origins in any of the Black racial groups of Africa. Those who are identified as Black or African American and Hispanic are classified as Hispanic.
- *Hispanic*—A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race. Those who are identified as Hispanic are classified as Hispanic, regardless of any other race/ethnicity designations.
- *Race/ethnicity not tabulated above*—A person who is an American Indian, Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, or a person of two or more race/ethnicities.
- *Unknown*—Race/ethnicity is unknown.

Race/ethnicity is missing from ED patient records about 10 to 20 percent of the time, although this varies widely by hospital. In some cases, the race information is ambiguous (e.g., "European"), and detail about multiple races/ethnicities is often missing. Rates of ED visits per 100,000 are not calculated for race/ethnicity categories because of these data limitations.

¹ See Office of Management and Budget, Revisions to the standards for the classification of Federal data on race and ethnicity, 62 Fed. Reg. 58,782 (October 30, 1997).

Rate: A measure of the incidence of drug-related ED visits per 100,000 population. A rate can be calculated for the total population or for any subset defined by characteristics such as age and sex.

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 0.1 and is multiplied by 100 to change it to a percentage. This resulting RSE percent value is 10 percent. The larger the RSE, the less precise the estimate. Estimates with an RSE of 50 percent or greater are not published by DAWN. (See also **Precision**.)

Sample frame: A list of units from which a sample is drawn. In DAWN, the hospital is the unit used for the ED sample. All members of the sampling frame have a known 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 Database (ASDB). (See also **Universe**.)

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 to make inference to all hospitals; DAWN uses simple random sampling within strata.

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 drug-related ED visits at the responding hospitals selected for the sample.

Sampling weights: Numeric coefficients used to derive population estimates from a sample by adjusting for deviations from the original sample design due to unequal probability sampling, variable nonresponse, and other potential sources of bias.

Seeking detox: This category of drug-related ED visits reflects patients 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: An ED visit in which only one drug was involved. The single drug may be the direct cause of the visit or a contributing factor as determined by the medical evaluation done in the ED. Because DAWN considers alcohol to be an illicit drug for minors, DAWN includes visits where alcohol is the single drug if the patient is younger than 21 years of age.

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 the number of ED visits annually). This allocation creates 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, 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 type of drug-related ED visit captures suicide attempts that are documented in the medical record and in which a drug was involved. Suicidal gestures, thoughts, or ideation, including attempts to harm oneself, are not included in this category.

Synthetic cannabinoids: Synthetic cannabinoids are substances that are designed to be chemically similar to the psychoactive ingredient in marijuana, delta-9-tetrahydrocannabinol (THC). They were initially developed over 40 years ago as therapeutic agents but more recently have been packaged as herbal smoking mixtures or "herbal incense" and marketed with claims that their effects mimic those of marijuana. Leading brands were sold under the names "Spice" and "K2," but many other brand names appeared over time; these are specified in the DAWN Drug Reference Vocabulary. A comprehensive national ban was enacted in July 2012. For further information, see <http://www.drugabuse.gov/publications/drugfacts/spice-synthetic-marijuana>. (See also **Illicit drug use**.)

Type of case: A classification used to define similar DAWN cases for analysis. Each case must be assigned a type and may not be assigned more than one type. Cases are classified into one of the following eight categories: suicide attempt, seeking detox, alcohol only (age younger than 21), adverse reaction, overmedication, malicious poisoning, accidental ingestion, and other. The case is coded into the first group that meets the inclusion criteria for that group.

Underage drinking: An ED visit where the patient is under the age of 21 and alcohol is involved. Because DAWN considers alcohol to be an illicit drug for minors, DAWN includes visits where alcohol is the only drug involved and visits where alcohol is present with other drugs.

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 EDs 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 Service are excluded. The universe of EDs is identified from the American Hospital Association (AHA) Annual Survey Database (ASDB).