

**Guide to
Drug Abuse Warning Network
Trend Tables, 2009**

**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Substance Abuse and Mental Health Services Administration
Center for Behavioral Health Statistics and Quality**

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1. MAJOR FEATURES OF DAWN TREND TABLES

Drug Abuse Warning Network (DAWN) Trend Tables present estimates of the number of drug-related ED visits for different groups of patients and different geographic locations. In 2009 DAWN produced 130 Microsoft Excel workbooks; 10 workbooks contain estimates for the Nation, and the same 10 workbooks are repeated for each of 12 metropolitan areas. Each workbook contains 56 spreadsheets. Each spreadsheet contains estimates for 2004 through 2009 for about 500 drugs. This document is intended to help DAWN data users find the exact workbooks and tables that they are interested in.

The most current *DAWN Trend Tables* are located at <https://dawninfo.samhsa.gov/data/>. General information about DAWN is available at <https://dawninfo.samhsa.gov/>, including detail on the DAWN data program and the methodologies used to collect, process, and report data. Information on other sources of data on substance abuse and mental health from the Center for Behavioral Health Statistics and Quality is located at <http://oas.samhsa.gov/>.

1.1 Analytic groups

DAWN analytic groups represent different groupings of visits that were developed to meet the data needs of a range of audiences. The DAWN analytic groups and their definitions are provided in Table 1.

Table 1. DAWN analytic groups

Analytic group	Description
All visits	This analytic category includes all visits that are reportable to DAWN without regard for the reason for the visit or the specific drugs involved. It includes all forms of drug misuse or abuse plus visits resulting from adverse reaction, accidental ingestion, suicide attempts, and patients seeking detoxification. This grouping is useful for looking at overall levels of drug involvement in ED visits.
Drug misuse or abuse	—
Overall drug misuse or abuse	This analytic category includes visits that involve all forms of drug abuse or misuse as defined by DAWN. This is the combination of visits from the following four analytic groups: illicit drug visits, nonmedical use of pharmaceuticals, alcohol-related visits, and underage drinking. A visit may appear in more than one of those subgroups, but it will appear only once in this overall group. Suicide attempt visits and seeking detox visits are included in this category if illicit drugs were involved.
Illicit drugs	This analytic category includes visits that involve the use of drugs that have limited or no therapeutic value and are generally illegal if taken without a prescription. These substances include cocaine, heroin, marijuana, methamphetamine, MDMA (Ecstasy), GHB (4-hydroxybutanoic acid), flunitrazepam (Rohypnol), ketamine, LSD, PCP, and hallucinogens. Visits involving the inhalation of substances for their psychotherapeutic properties (e.g., sniffing model airplane glue) are included.
Nonmedical use of pharmaceuticals	This analytic category includes visits that involve nonmedical use of pharmaceuticals: patients who took a higher than prescribed or recommended dose of their own medication, patients who took a pharmaceutical prescribed for another person, malicious poisoning of the patient by another individual, and documented substance abuse involving pharmaceuticals.

Table 1. DAWN analytic groups (continued)

Analytic group	Description
All alcohol	This analytic category includes visits for patients of all ages when alcohol is used in combination with other drugs, plus visits involving alcohol use with no other drugs for patients under the age of 21.
Underage drinking	This analytic category includes ED visits that involve alcohol use (alone or with other drugs) for patients under the age of 21.
Drug-related suicide attempts	This analytic category includes ED visits that involve drug-related suicide attempts. It includes visits for drug overdoses, as well as suicide attempts by other means (e.g., using a firearm) if drugs were involved or related to the suicide attempt. Inclusion in this analytic category has no restrictions on the type of drug used.
Seeking detox services	This analytic category includes various situations such as nonemergency requests for admission for detoxification services, visits to obtain medical clearance before entry to a detox program, and acute emergencies in which an individual is in distress (i.e., displaying active withdrawal symptoms) and is seeking detox. These estimates do not include patients who seek or enter the hospital's detox unit through other avenues.
Other	—
Adverse reactions to pharmaceuticals	This analytic category includes ED visits in which an adverse health consequence (such as side effects or an allergic reaction) resulted when taking prescription drugs, over-the-counter medications, or dietary supplements as prescribed or recommended.
Accidental ingestion of drugs	This analytic category includes ED visits in which an individual accidentally or unknowingly used a prescription drug, over-the-counter medication, or dietary supplement. Drug-related accidental ingestion typically involves patients aged 5 and under.

1.2 Workbooks containing national estimates

Workbook names have three parts: a prefix that describes the geographic coverage of the workbook, a middle term that reflects the latest year of the data, and a suffix that describes the analytic group. Table 2 lists the workbook names for the 10 workbooks containing estimates for the Nation. Note that data for all years are contained in each file. Therefore, for example, each spreadsheet in the *2009 DAWN Trend Tables* contains data for 2004 through 2009.¹

¹ Major changes to DAWN were instituted in 2004 as the result of a redesign that altered most of DAWN's core features. Changes were made in the design of the hospital sample, the drug-related cases eligible for DAWN, the data items submitted on these cases, and the protocol for case finding and quality assurance. These improvements created a permanent disruption in trends. As a result, the base year for comparison to later years is 2004.

Table 2. Workbook names for national estimates

Analytic group	Workbook name for file with national estimates
All visits	Nation_20xx_All.xls
Overall drug misuse or abuse	Nation_20xx_AllIMA.xls
Illicit drugs	Nation_20xx_Illicit.xls
All alcohol	Nation_20xx_Alcohol.xls
Underage drinking	Nation_20xx_Underage.xls
Nonmedical use of pharmaceuticals	Nation_20xx_NMUP.xls
Drug-related suicide attempts	Nation_20xx_Suicide.xls
Seeking detox services	Nation_20xx_Detox.xls
Adverse reactions to pharmaceuticals	Nation_20xx_Adverse.xls
Accidental ingestion of drugs	Nation_20xx_Accidental.xls

1.3 Workbooks containing metropolitan area estimates

In addition to providing national estimates, DAWN prepares estimates each year for DAWN metropolitan areas that have sufficient participation to support estimates with acceptable reliability and precision.

Table 3 lists the prefixes used to name workbooks containing estimates for metropolitan areas and divisions. For example, for 2009 the workbook containing national estimates for ED visits involving all misuse or abuse is named "Nation_2009_AllIMA.xls." The workbook with parallel estimates for Boston is named "Boston_2009_AllIMA.xls."

Table 3. Prefixes for workbook names for metropolitan areas and divisions

Metropolitan areas and divisions (1)	Workbook name
Boston-Cambridge-Quincy, MA-NH	Boston_20XX_{analytic group}.xls
Chicago-Naperville-Joliet, IL-IN-WI	Chicago_20XX_{analytic group}.xls
Denver-Aurora, CO	Denver_20XX_{analytic group}.xls
Detroit-Warren-Livonia, MI	Detroit_20XX_{analytic group}.xls
Houston-Baytown-Sugar Land, TX	Houston_20XX_{analytic group}.xls
Miami—Dade County Division (2)	Miami_Dade Div_20XX_{analytic group}.xls
Miami—Fort Lauderdale Divisions (3)	Miami_FortLauderdale Div_20XX_{analytic group}.xls
Minneapolis-St. Paul-Bloomington, MN-WI	Minneapolis_20XX_{analytic group}.xls
New York—5 Boroughs Division (4)	NewYork_5Boroughs Div_20XX_{analytic group}.xls
Phoenix-Mesa-Scottsdale, AZ	Phoenix_20XX_{analytic group}.xls
San Francisco—San Francisco Division	SanFrancisco_SF Div_20XX_{analytic group}.xls
Seattle-Tacoma-Bellevue, WA	Seattle_20XX_{analytic group}.xls

(1) Unless otherwise noted, DAWN defines metropolitan areas using the MSA and Division definitions issued by the Office of Management and Budget (OMB) in June 2003 (available at <http://www.whitehouse.gov/omb/bulletins/b03-04.html>). For consistency, DAWN uses these names and definitions even if the names or composition were subsequently changed by OMB.

(2) Miami-Miami Beach-Kendall, FL Division.

(3) Fort Lauderdale-Pompano Beach-Deerfield Beach, FL and West Palm Beach-Boca Raton-Boynton Beach, FL Divisions.

(4) Bronx, Kings, New York, Queens, and Richmond Counties, NY.

NOTE: MSA, Metropolitan Statistical Area.

For the 2009 data year, each of the 12 geographic areas listed in Table 3 has a set of 10 Excel workbooks, one for each analytic group listed in Table 2.

1.4 Table format

Each Excel workbook is formatted the same way. A workbook contains 56 data tables (spreadsheets), each representing a single demographic or visit characteristic. Examples of a demographic characteristic are “males” or “age 0–5.” An example of a visit characteristic is “the patient was discharged home.”

The rows of the tables represent drug categories and drugs. Each drug and drug category appears on the same row in each table (e.g., the estimate of ED visits involving cocaine is always reported on row 15).

The 28 columns in each table provide the following information:

- weighted estimates of ED visits for 2004 through 20xx;
- relative standard error (expressed as a percentage) of the estimates for 2004 through 20xx;
- lower and upper 95 percent confidence intervals for each estimate;
- rates of ED visits per 100,000 population for 2004 through 20xx; and
- tests for statistically significant differences between estimates—for example, in the *2009 DAWN Trend Tables*, the comparisons are (1) 2004 and 2009,² (2) 2007 and 2009, and (3) 2008 and 2009.

Unless otherwise noted, each table has the same arrangement of rows and columns. Table 4 lists the tables that appear in each workbook.

1.5 Special note on age categories

The age categories used for reporting ED visits in the *DAWN Trend Tables* reflect critical junctures in drug use. For example, patients aged 0 to 5 are reported on separately because they are typically the accidental ingestion patients. Patients aged 12 to 17 are considered to be in their formative years, and understanding the nature of their drug use is important for prevention efforts. Patients under the age of 21 are reported on separately to facilitate study of topics such as underage drinking. Patients aged 18 to 20 are reported on separately from those aged 21 to 24 to isolate drug-taking behaviors before and after the critical age of 21. Older patients are grouped in wider categories because the concern is primarily on treatment that is not as age sensitive. As a consequence, the age categories are not evenly sized—for example, the age group 30 to 34 covers 5 years, whereas the age group 35 to 44 covers 10 years. The size of an age group is an important consideration when comparing estimates of ED visits for different age categories.

² Because of data limitations in 2004, the current year's data for visits involving adverse reactions are compared with 2005, not 2004.

Table 4. Tables in each workbook

Table title	Description of visits included in table
Table of contents	The Table of Contents lists each table that appears in the workbook. By clicking the table name, the user is taken automatically to that sheet in the workbook. A link to return to the Table of Contents is provided at the top and bottom of every spreadsheet.
Table notes	The table notes that appear in this spreadsheet apply to each table in the workbook. Also included here is the suggested citation to use when reproducing a table.
ED visits by drug	All ED visits included in the analytic group (e.g., all visits involving illicit drugs).
Gender—Male	Visits involving male patients.
Gender—Female	Visits involving female patients.
Gender—Unknown	Visits for which gender of patient is not documented in ED visit records.
Age—Under 21	Visits involving patients under the age of 21.
Age—21 and older	Visits involving patients aged 21 and older.
Age—0 to 5	Visits involving patients aged 0 to 5.
Age—6 to 11	Visits involving patients aged 6 to 11.
Age—12 to 17	Visits involving patients aged 12 to 17.
Age—18 to 20	Visits involving patients aged 18 to 20.
Age—21 to 24	Visits involving patients aged 21 to 24.
Age—25 to 29	Visits involving patients aged 25 to 29.
Age—30 to 34	Visits involving patients aged 30 to 34.
Age—35 to 44	Visits involving patients aged 35 to 44.
Age—45 to 54	Visits involving patients aged 45 to 54.
Age—55 to 64	Visits involving patients aged 55 to 64.
Age—65 and older	Visits involving patients aged 65 and older.
Age—Unknown	Visits for which age of patient is not documented in ED visit records.
Race/ethnicity—White	Visits involving patients reported as White and not Hispanic or any other race/ethnicity.
Race/ethnicity—Black	Visits involving patients reported as Black and not Hispanic or any other race/ethnicity.
Race/ethnicity—Hispanic	Visits involving patients reported as Hispanic regardless of any other reported race/ethnicities.
Race/ethnicity—All other	Visits involving patients reported as one or more race/ethnicities other than White, Black, or Hispanic.
Race/ethnicity—Unknown	Visits for which race/ethnicity of patient is not documented in ED visit records.
Patient disposition—Evidence of follow-up treatment	Visits involving patients for whom evidence existed of some type of follow-up care (e.g., referral to a detox program, admission to the hospital, transfer to another facility).
Patient disposition—No evidence of follow-up treatment	Visits involving patients for whom no evidence existed of follow-up care (e.g., treated and released to home or jail).
Patient treated and released	Combined category for visits involving patients treated and released to home, police/jail, or detox program.
Treated and released—Home	Visits involving patients treated and released to home.

Table 4. Tables in each workbook (continued)

Table title	Description of visits included in table
Treated and released— Police or jail	Visits involving patients treated and released to the police or sent to jail.
Treated and released— Detox or treatment program	Visits involving patients treated and released with a referral to a detox or treatment program.
Patient admitted to this hospital	Combined category for visits involving patients admitted to the hospital's intensive care unit (ICU), surgery, detox, or psychiatric or other inpatient unit.
Admitted—Intensive care unit	Visits involving patients admitted to the ICU.
Admitted—Surgery	Visits involving patients admitted for surgery.
Admitted—Chemical dependency or detox unit	Visits involving patients admitted to the chemical dependency or detox unit in the hospital.
Admitted—Psychiatric unit	Visits involving patients admitted to the psychiatric unit in the hospital.
Admitted—Other inpatient unit	Visits involving patients admitted to another inpatient unit in the hospital.
All other dispositions	Combined category for visits involving patients who transferred, left without being seen, or died; other dispositions; and unknown dispositions.
Other disposition—Patient transferred to another health care facility	Visits involving patients who transferred to another health care facility.
Other disposition—Patient left against medical advice	Visits involving patients who left against medical advice.
Other disposition—Patient died in ED	Visits involving patients who died in the ED.
Other disposition—Other	Visits involving patients who had other dispositions.
Other disposition— Unknown	Disposition of visit not documented in ED visit records.
Number of drugs per ED visit—One drug	Visits involving only one drug.
Multiple drugs visits	Visits involving more than one drug.
ED visits involving drugs with alcohol	Visits involving alcohol. For adults, the alcohol must have been used in combination with another drug to be reportable to DAWN. For patients under the age of 21, the alcohol may have been used either alone, with no other drug involvement, or with other drugs.
Number of drugs per ED visit—Two drugs	Visits involving exactly two drugs.
Number of drugs per ED visit—Three drugs	Visits involving exactly three drugs.
Number of drugs per ED visit—Four drugs	Visits involving exactly four drugs.
Number of drugs per ED visit—Five or more drugs	Visits involving five or more drugs.
Drug combinations	This table reports ED visits for major and mutually exclusive drug combination groups. That is, each visit is counted in one and only one drug combination group. The rows in this table do not conform to the standard template, but the columns do.

Table 4. Tables in each workbook (continued)

Table title	Description of visits included in table
Frequency of drugs reported	This table reports counts of drugs, not ED visits. Each ED visit can involve up to 22 drugs. The estimates in this table reflect how often each drug was involved in ED visits. The rows and columns conform to the standard format.
Drugs confirmed by toxicology testing	This table reports counts of drugs, not ED visits. Each ED visit can involve up to 22 drugs. The estimates in this table reflect how often each drug involved was confirmed through toxicology testing. The rows and columns conform to the standard format.
Expanded listing of illicit drugs	This table reports ED visits for more detailed drugs and drug categories than are found in the standard format. The rows in this table do not conform to the standard template, but the columns do.
Expanded listing of psychotherapeutic drugs	Similar to expanded listing of illicit drugs but provides estimates for psychotherapeutic drugs.
Expanded listing of central nervous system drugs	Similar to expanded listing of illicit drugs but provides estimates for central nervous system drugs.
Expanded listing of respiratory drugs	Similar to expanded listing of illicit drugs but provides estimates for respiratory drugs.
Expanded listing of cardiovascular drugs	Similar to expanded listing of illicit drugs but provides estimates for cardiovascular drugs.

2. VALUES REPORTED IN DAWN TREND TABLES

The following values appear in the columns of the *DAWN Trend Tables*. The order in which values are listed here corresponds to the order in which they appear in the standard table format.

2.1 Estimates of ED visits

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 primary sampling weights reflect the probability of selection, whereas separate adjustment factors are included to account for nonresponse, data quality, and the known total of ED visits delivered by the universe of eligible hospitals as reported by the most current American Hospital Association survey.

2.2 Rates of ED visits per 100,000 population

Standardized measures are helpful when comparing levels of drug-related ED visits for different age groups and genders. *DAWN Trend Tables* report rates of ED visits per 100,000 persons by age and gender. Rates are based on population data from the U.S. Census Bureau. If an estimate is suppressed, the rate will also be suppressed.

DAWN does not produce population-based rates for race/ethnicity categories because race/ethnicity information in ED records is often missing or is very limited.

2.3 Sampling error

Because DAWN relies on a sample of hospitals, each estimate produced from the DAWN ED data is subject to sampling variability, the variation in the estimate that would be observed naturally if different samples were drawn from the same population using the same procedures. The sampling variability of an estimate in this publication is measured by its relative standard error (RSE), which is reported as a percentage. The precision of an estimate is inversely related to its RSE. That is, the greater the RSE, the lower the precision (see Section 2.5).

2.4 Confidence intervals

DAWN Trend Tables include the lower and upper boundaries of the confidence intervals (CIs) for all estimates at the 95 percent confidence level. For example, the estimate of the number of ED visits involving any type of drug misuse or abuse in 2009 was 2,070,439. A 95 percent CI means that, if repeated samples were drawn from the same population of hospitals using the same sampling and data collection procedures, the number of ED visits reported (2,070,439) will fall between the lower (1,779,183) and upper (2,361,695) boundaries 95 percent of the time.

2.5 Suppression

DAWN estimates with RSE values greater than 50 percent or estimates based on fewer than 30 ED visits (weighted or unweighted) are considered too imprecise for publication and are not

shown. An asterisk (*) is displayed in the place of these suppressed estimates. Ratios (percentages or rates per 100,000 population) based on suppressed estimates are likewise suppressed.

2.6 Comparisons across years

DAWN Trend Tables assess between-year changes by comparing estimates as follows:

- most current year to first year (for example, 2009 to 2004);
- most current year to year before last (for example, 2009 to 2007); and
- most current year to last year (for example, 2009 to 2008).

In the *2009 DAWN Trend Tables*, for example, 2009 estimates are compared with those for 2004 (first year), 2007 (year before last), and 2008 (last year). The tables report percentage differences between years only if they are statistically significant at the $p < 0.05$ level.