

**Guide to
Drug Abuse Warning Network
Trend Tables, 2010 Update**

**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, 2010 UPDATE

Drug Abuse Warning Network (DAWN) Trend Tables provide estimates of drug-related visits to hospital emergency departments (EDs) for different groups of patients, different years, and different geographic locations. Each year DAWN produces an updated set of DAWN Trend Tables that includes data for 2004 through the current year. The *DAWN Trend Tables, 2010 Update*, includes 120 Microsoft Excel workbooks: 10 workbooks contain estimates for the Nation, and the same 10 workbooks are repeated for each of 11 metropolitan areas. Each workbook contains 56 tables (1 table per worksheet). Each table presents data for 2004, 2005, 2006, 2007, 2008, 2009, and 2010. This document is intended to help DAWN users find the workbooks, tables, and estimates of interest to them.¹

General information about DAWN is available at <http://www.samhsa.gov/data/DAWN.aspx>, 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://www.samhsa.gov/data/>.

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**.

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. Each worksheet contains data for 2004 through 2010.²

¹ Links to the DAWN Trend Tables, 2010 Update, for the Nation are located at <http://www.samhsa.gov/data/DAWN.aspx#DAWN 2010 ED Excel Files - National Tables>; links for metropolitan tables are at <http://www.samhsa.gov/data/DAWN.aspx#DAWN 2010 ED Excel Files - Metro Tables>.

² 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 1. DAWN analytic groups

Analytic group	Description
All Visits	<p>This group includes all visits that are reportable to DAWN without regard for the reason for the visit or the specific drugs involved. It includes visits involving all forms of drug misuse or abuse plus visits resulting from adverse reaction, accidental ingestion, suicide attempts, and visits seeking detoxification services. These estimates are useful for looking at overall levels of drug involvement in ED visits.</p>
All Misuse and Abuse	<p>Drug-related ED visits that involve drug misuse or abuse</p> <p>This analytic category includes visits that involve all forms of drug misuse or abuse, as defined by DAWN. This category 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 the subgroups listed below, but it will appear only once in this overall group. Suicide-attempt visits and seeking detox visits will be included in this category if illicit drugs were involved.</p>
Illicits (excluding alcohol)	<p>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, synthetic cannabinoids, amphetamines, methamphetamine, MDMA (Ecstasy), GHB (4-hydroxybutanoic acid), flunitrazepam (Rohypnol®), ketamine, LSD, PCP, and hallucinogens. Visits involving the inhalation of substances for their psychoactive properties (e.g., sniffing model airplane glue) are included.</p>
Nonmedical Use of Pharmaceuticals	<p>This analytic category includes ED 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.</p>
All Alcohol	<p>This analytic category includes ED visits involving alcohol. For adults aged 21 and older, the alcohol was found in combination with other drugs. For patients under the age of 21, the visit may involve alcohol alone or in combination with other drugs.</p>
Underage Drinking	<p>This analytic category includes ED visits that involve alcohol use (alone or with other drugs) for patients under the age of 21. Underage drinking is an important barometer of adolescent drinking patterns and a predictor of more serious substance abuse problems in young adults.</p>
Suicide Attempts	<p>This analytic category includes ED visits that involve drug-related suicide attempts. It includes visits for drug overdoses and for 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.</p>
Seeking Detox	<p>This analytic category includes nonemergency requests made through the ED for admission to detoxification unit, visits to obtain medical clearance before being incarcerated, and acute emergencies where an individual is experiencing withdrawal symptoms and requests detox. These estimates do not include patients who seek or enter the hospital's detox unit through other avenues.</p>
Adverse Reactions	<p>Drug-related ED visits that do NOT involve drug misuse or abuse</p> <p>This analytic category includes ED visits in which an adverse health consequence (e.g., side effects or an allergic reaction) resulted when taking prescription drugs, over-the-counter medications, or dietary supplements as prescribed or recommended.</p>
Accidental Ingestions	<p>This analytic category includes ED visits in which an individual accidentally or unknowingly used or was administered a prescription drug, over-the-counter medication, or dietary supplement. Drug-related accidental ingestion typically involves patients aged 5 and under.</p>

Table 2. Workbook names for national estimates

Analytic group	Abbreviated analytic group name	Workbook name for file with national estimates
All Misuse and Abuse	AllMA	Nation_2010_AllMA.xls
Illicits (excluding alcohol)	Illicit	Nation_2010_Illicit.xls
Nonmedical Use of Pharmaceuticals	NMUP	Nation_2010_NMUP.xls
All Alcohol	Alcohol	Nation_2010_Alcohol.xls
Underage Drinking	Underage	Nation_2010_Underage.xls
Suicide Attempts	Suicide	Nation_2010_Suicide.xls
Seeking Detox	Detox	Nation_2010_Detox.xls
Adverse Reactions	Adverse	Nation_2010_Adverse.xls
Accidental Ingestions	Accidental	Nation_2010_Accidental.xls
All Visits	All	Nation_2010_All.xls

1.3 Workbooks containing metropolitan area 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 names of workbooks containing estimates for metropolitan areas and divisions. For example, the workbook containing national estimates for ED visits involving all drug misuse or abuse is named “Nation_2010_AllMA.xls.” The workbook with parallel estimates for Boston is named “Boston_2010_AllMA.xls.” Each of the 11 geographic areas listed in **Table 3** has a set of 10 Excel workbooks, one workbook for each analytic group listed in **Table 2**.

Table 3. Workbook names for metropolitan areas and divisions

Metropolitan Statistical Areas (MSAs) 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
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_5Boros 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 Metropolitan Statistical Area (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 they 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.

1.4 Information organization and format

Workbooks and worksheets

With minor exceptions, each Excel workbook in the DAWN Trend Tables is organized the same way. Each workbook represents one geographic area and one analytic group. Each workbook contains 56 tables (worksheets), with each table representing visits for a single demographic or visit characteristic. Examples of a demographic characteristic are “male patients” or “patients aged 0 to 5.” An example of a visit characteristic is “the patient was discharged home.” **Table 4** lists the tables that appear in each workbook. Unless otherwise noted in **Table 4**, each table in each workbook has the same arrangement of rows and columns.

Table 4. Tables in each workbook of the DAWN Trend Tables

Sheet tab label	Description of visits included in table
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., the workbook named "Nation_2010_Illicit.xls" includes just visits involving illicit drugs). See Table 1 for definitions of analytic groups. All tables in a workbook are limited to visits in the noted analytic group.
Male	Visits involving male patients.
Female	Visits involving female patients.
Gender UNK	Visits for which gender of patient is not documented in ED visit records.
Under 21	Visits involving patients under the age of 21.
21 and older	Visits involving patients aged 21 and older.
0 to 5	Visits involving patients aged 0 to 5.
6 to 11	Visits involving patients aged 6 to 11.
12 to 17	Visits involving patients aged 12 to 17.
18 to 20	Visits involving patients aged 18 to 20.
21 to 24	Visits involving patients aged 21 to 24.
25 to 29	Visits involving patients aged 25 to 29.
30 to 34	Visits involving patients aged 30 to 34.
35 to 44	Visits involving patients aged 35 to 44.
45 to 54	Visits involving patients aged 45 to 54.
55 to 64	Visits involving patients aged 55 to 64.
65 and older	Visits involving patients aged 65 and older.
Age UNK	Visits for which age of patient is not documented in ED visit records.
White	Visits involving patients reported as White and not Hispanic or any other race/ethnicity.
Black	Visits involving patients reported as Black and not Hispanic or any other 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 UNK	Visits for which race/ethnicity of patient is not documented in ED visit records.
No Evidence of Follow-up	Visits involving patients for whom no evidence existed of follow-up care (e.g., treated and released to home or jail).

Table 4. Tables in each workbook of the DAWN Trend Tables (continued)

Sheet tab label	Description of visits included in table
Evidence of Follow-up	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).
Disp_Treated and Released	Combined category for visits involving patients treated and released to home, police/jail, or detox program.
Disp_Home	Visits involving patients treated and released to home; subset of Disp_Treated and Released.
Disp_Police or Jail	Visits involving patients treated and released to the police or sent to jail; subset of Disp_Treated and Released.
Disp_Referred to Detox	Visits involving patients treated and released with a referral to a detox or treatment program; subset of Disp_Treated and Released.
Disp_Admitted	Combined category for visits involving patients admitted to the hospital's intensive care unit (ICU), surgery, detox, or psychiatric or other inpatient unit ("other inpatient" includes "combo" units: e.g., psychiatric/detox unit).
Disp_ICU	Visits involving patients admitted to the ICU; subset of Disp_Admitted.
Disp_Surgery	Visits involving patients admitted for surgery; subset of Disp_Admitted.
Disp_Detox	Visits involving patients admitted to the chemical dependency or detox unit in the hospital; subset of Disp_Admitted.
Disp_Psych	Visits involving patients admitted to the psychiatric unit in the hospital; subset of Disp_Admitted.
Disp_Other Inpatient	Visits involving patients admitted to another inpatient unit in the hospital; subset of Disp_Admitted.
Disp_All Other Disposition	Combined category for visits involving patients who transferred, left without being seen, or died; other dispositions; and unknown dispositions.
Disp_Transferred	Visits involving patients who transferred to another health care facility; subset of Disp_All Other Disposition.
Disp_Left Against Med Advice	Visits involving patients who left against medical advice; subset of Disp_All Other Disposition.
Disp_Died	Visits involving patients who died in the ED; subset of Disp_All Other Disposition.
Disp_Other	Visits involving patients who had other dispositions; subset of Disp_All Other Disposition.
Disp_UNK	Disposition of visit not documented in ED visit records; subset of Disp_All Other Disposition.
One Drug	Visits involving only one drug.
Multi Drug	Visits involving more than one drug.
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.
Two Drugs	Visits involving exactly two drugs.
Three Drugs	Visits involving exactly three drugs.
Four Drugs	Visits involving exactly four drugs.
Five or More Drugs	Visits involving five or more drugs.

Table 4. Tables in each workbook of the DAWN Trend Tables (continued)

Sheet tab label	Description of visits included in table
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.
Drug Frequency	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.
Tox Confirmed Drugs	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.
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.
Psych Drugs	Similar to expanded listing of illicit drugs but provides estimates for psychotherapeutic drugs.
Gen Nerv System Drugs	Similar to expanded listing of illicit drugs but provides estimates for central nervous system drugs.
Respiratory Drugs	Similar to expanded listing of illicit drugs but provides estimates for respiratory drugs.
Cardiovascular Drugs	Similar to expanded listing of illicit drugs but provides estimates for cardiovascular drugs.

Rows

The rows of the tables represent drug categories and drugs. Each drug and each drug category appear on the same row in each table (e.g., the estimates of ED visits involving cocaine appear on row 15 in every table). The classification of drugs used in DAWN is derived from the Multum *Lexicon*, © 2011 Lexi-Comp, Inc., and/or Cerner Multum, Inc. The *Lexicon* was slightly modified to meet DAWN's need to report on illicit drugs using street names.

Columns

The 39 columns in each table provide the following information:

- drug/drug group name;
- weighted annual estimates of ED visits for 2004 through 2010;
- rates of ED visits per 100,000 population for 2004 through 2010;
- relative standard error (RSE) of estimate and rate, expressed as a percentage, of the visit estimates for 2004 through 2010;
- tests for statistically significant differences between visit estimates for select years (e.g., in the *DAWN Trend Tables, 2010 Update*, estimates for 2010 are compared with those for 2004, 2008, and 2009);³ and

³ Because of data limitations in 2004, the 2010 data for visits involving adverse reactions are compared with 2005, not 2004.

- lower and upper 95 percent confidence intervals (CIs) for visit estimates for 2004 through 2010.

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 5 and under are reported separately to facilitate study of visits involving accidental ingestion. 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 separately to facilitate study of topics such as underage drinking. Patients aged 18 to 20 are reported 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 where age differences are not as critical to intervention and treatment. 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. VALUES REPORTED IN DAWN TREND TABLES

The following values appear in the cells 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, going from left to right across the table. The section headings below match the overarching headings that appear in row 6 of the standard table format.

2.1 Weighted annual estimates

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.

Estimates of the number of visits are reported to the fifth decimal place, though they are formatted to appear as whole numbers. An asterisk (*) appears if a value is suppressed (see Section 2.6). All estimate fields are populated with a value or an asterisk; blanks do not appear and are not valid.

2.2 Rates per 100,000 population

All rates in the DAWN Trend Tables are visits per 100,000 persons. Standardized measures are helpful when comparing levels of drug-related ED visits for different drug groups or years; e.g., there were 552.9 ED visits per 100,000 population involving drug misuse or abuse in 2004 compared with 743.7 in 2010. These rates are based on the whole population. Rates are also important when comparing age and sex groups; e.g., there were 853.1 ED visits per 100,000 males in 2010 compared to 636.9 visits for females. Rates for age and sex groups are based on the population for the specific age or sex group; e.g., there were 12.3 visits per 100,000 persons aged 18 to 20 and 45.6 visits per 100,000 male persons.

Rates are reported to the ninth decimal place, though they are formatted to display only the first decimal (e.g., 123.4). Rates based on suppressed estimates are likewise suppressed, with an asterisk (*) appearing instead of a value (see Section 2.6). 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. Three dots (...) appear in the rate fields in the race/ethnicity tables. All rate fields are populated with a value, asterisk, or three dots; blanks do not appear and are not valid.

2.3 Relative standard 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). The precision of an estimate or rate is inversely related to its RSE. That is, the greater the RSE, the lower the precision.

RSEs are reported to the ninth decimal place, though they are formatted to display only the first decimal (e.g., 12.3). The RSE values reported are percentages (e.g., 12.3 = 12.3%). Because it is reported as a percentage, an RSE measure applies to both the estimate and the rate. RSEs based on suppressed estimates are likewise suppressed, with an asterisk (*) appearing instead of a value (see Section 2.6). All RSE fields are populated with a value or an asterisk; blanks do not appear and are not valid.

2.4 Percent change ($p < 0.05$)

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

- most current year to first year,
- most current year to year before last, and
- most current year to last year.

In the *DAWN Trend Tables, 2010 Update*, 2010 estimates are compared with those for 2004 (first year), 2008 (year before last), and 2009 (last year). The underlying formula is of the form: ((estimate for earlier year – estimate for later year) / estimate for earlier year).

The resulting values are reported to the seventh decimal place, though they are formatted to display a whole number that represents a percentage difference (e.g., 12 = 12% increase in the number of visits). Declines in percentage difference appear as negative numbers (e.g., -12 = 12% decrease in the number of visits). The tables report percentage differences between years only if they are statistically significant at the $p < 0.05$ level; otherwise, a blank appears. A blank also appears if either estimate in the percentage difference formula is suppressed (see Section 2.6). Percent change measures for rates are not provided.

2.5 Lower and upper 95 percent confidence limit on weighted annual estimate

The 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 2010 was 2,301,050 visits. 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 (2,301,050 visits) will fall between the lower boundaries (1,987,721 visits) and upper boundaries (2,614,380 visits) 95 percent of the time.

The confidence limit estimates are reported to the eighth decimal place, though they are formatted to appear as whole numbers. An asterisk (*) appears if a value is suppressed (see Section 2.6). All CI fields are populated with a value or an asterisk; blanks do not appear and are not valid.

2.6 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 a suppressed estimate or any value based on a suppressed estimate (i.e., rate, RSE, percent change, lower CI, upper CI).