

# Metro

BRIEF



Miami

## Drug-Related Emergency Department Visits in Metropolitan Areas

Center for Behavioral Health Statistics and Quality



*This report is one in a series of reports that provide a snapshot of drug-related emergency department (ED) visits in 11 metropolitan areas across the United States. This report focuses on drug-related ED visits in the Miami-Dade Metropolitan Division, hereafter referred to as “Miami-Dade,” and the Miami-Fort Lauderdale Metropolitan Division, hereafter referred to as “Fort Lauderdale.”<sup>1,2</sup>*

The Drug Abuse Warning Network (DAWN) is a public health surveillance system that monitors drug-related ED visits in the United States. DAWN uses a probability sample of hospitals to produce annual estimates of drug-related ED visits for the United States and selected metropolitan areas. To be a DAWN case, an ED visit must have involved a drug, either as the direct cause of the visit or as a contributing factor.

As a national public health resource, DAWN data can track trends, spot emerging problems, and gauge the impact of intervention programs. This information enables communities to manage resources more efficiently, target treatment efforts, and improve the well-being of individuals and their communities. This report uses national statistics as the comparison base for Miami-Dade from 2005 to 2009.<sup>3</sup> Because Fort Lauderdale data are only available from 2008 to 2009, the trend analyses for Miami-Fort Lauderdale are not conducted; however, 2009 data are compared with national statistics.<sup>4</sup> Statistical testing was used for comparisons of rates for the sociodemographic characteristics, trends, and drug types within Miami-Dade and Fort Lauderdale and between these two Miami divisions and the Nation. Each comparison was tested independently and does not account for differences in

<sup>1</sup> The data for Miami-Fort Lauderdale-Miami Beach, FL, Metropolitan Statistical Area may be divided into two divisions: the Miami-Dade Metropolitan Division and the Miami-Fort Lauderdale Metropolitan Division.

<sup>2</sup> Data for Miami-Dade are representative of the 24-hour, general purpose EDs in the Miami-Miami Beach-Kendall, FL, Division of the Miami-Fort Lauderdale-Miami Beach, FL, Metropolitan Statistical Area. The division covers Miami-Dade County. Data for Miami-Fort Lauderdale are representative of the 24-hour, general purpose EDs in Broward County and Palm Beach County.

<sup>3</sup> The percentage of missing data for age or gender in Miami-Dade was less than 0.1 percent.

<sup>4</sup> The percentage of missing data for age or gender in Fort Lauderdale was less than 0.1 percent.



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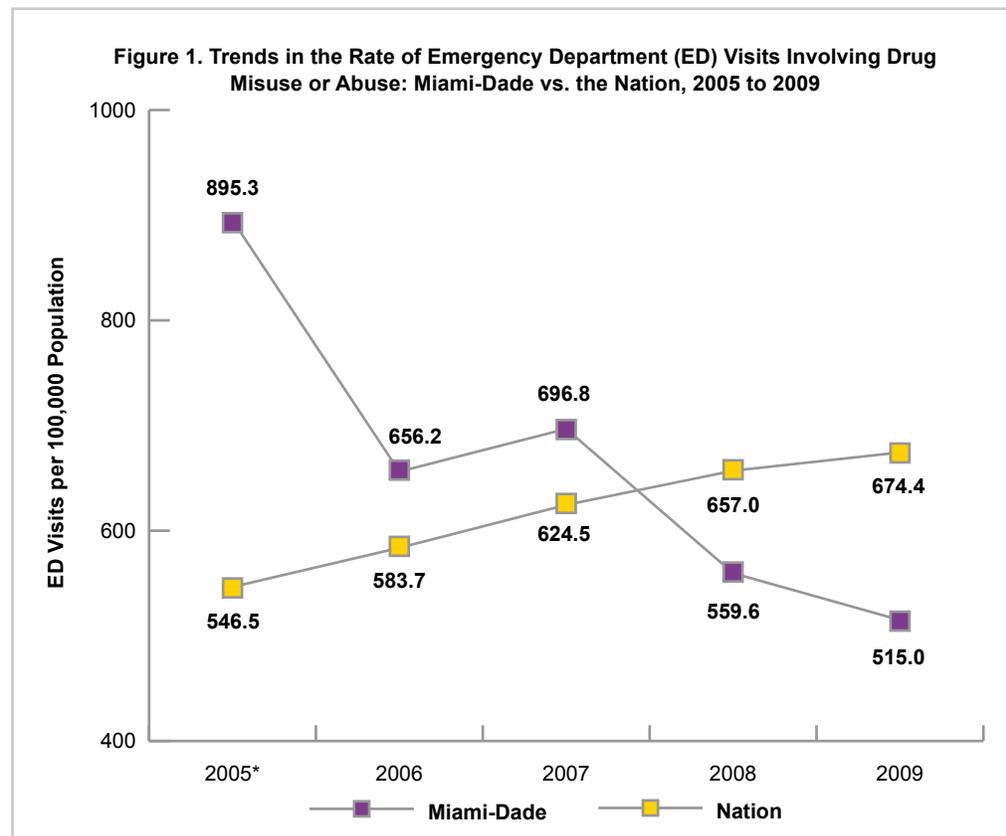
other characteristics (e.g., geographic variations). A glossary is included at the end of this report to provide more information about the pharmaceuticals that are highlighted in the following analyses.

## Overview of Miami-Dade

In 2009, DAWN data show an estimated 23,791 drug-related visits—a rate of 951.4 visits per 100,000 population—were made to Miami-Dade EDs. These data represent the total ED visits in which drugs were taken for any reason—not just drug abuse—and involve illegal drugs, prescription and over-the-counter pharmaceuticals (e.g., dietary supplements, cough medicine), nonpharmaceutical inhalants, alcohol in combination with other drugs, and alcohol only (for patients aged 20 or younger).

## ED Visits Involving Drug Misuse or Abuse in Miami-Dade

This section presents information about ED visits involving drug misuse or abuse, which is defined as a group of ED visits that includes all visits associated with illicit drugs, use of alcohol in combination with other drugs, use of alcohol only among those aged 20 or younger, and nonmedical use of pharmaceuticals. In 2005, Miami-Dade's rate of ED visits involving drug misuse or abuse was significantly higher than the national rate (895.3 vs. 546.5 visits per 100,000 population) (Figure 1). The rates for the rest of the years were not statistically different.



\*The difference between Miami-Dade and the Nation was statistically significant at the .05 level.

Source: 2005 to 2009 estimates from the 2009 SAMHSA Drug Abuse Warning Network (DAWN).

The demographic characteristics of patients in Miami-Dade who made an ED visit involving drug misuse or abuse in 2009 show that

- patients aged 25 to 34 made 3,027 visits (23.5 percent);
- when population is taken into account, patients aged 18 to 24 had a rate of 1,072.7 visits per 100,000 population; and
- about 3 in 5 (63.1 percent) ED visits were made by male patients (Table 1).

**Table 1. Distribution of Emergency Department (ED) Visits Involving Misuse or Abuse of Drugs, by Gender\* and Age\*\*: Miami-Dade, 2009**

Demographic Characteristic	Estimated Number of ED Visits	Percentage of ED Visits	Rate of ED Visits per 100,000 Population
Total ED Visits	12,877	100.0	515.0
Male	8,118	63.1	665.1
Female	4,747	36.9	370.9
Aged 0 to 11	***	***	***
Aged 12 to 17	624	4.8	335.2
Aged 18 to 24	2,467	19.2	1,072.7
Aged 25 to 34	3,027	23.5	864.2
Aged 35 to 44	2,805	21.8	773.2
Aged 45 to 54	2,530	19.7	714.3
Aged 55 to 64	858	6.7	323.7
Aged 65 or Older	521	4.0	144.6

\*ED visits for which gender is unknown have been excluded.

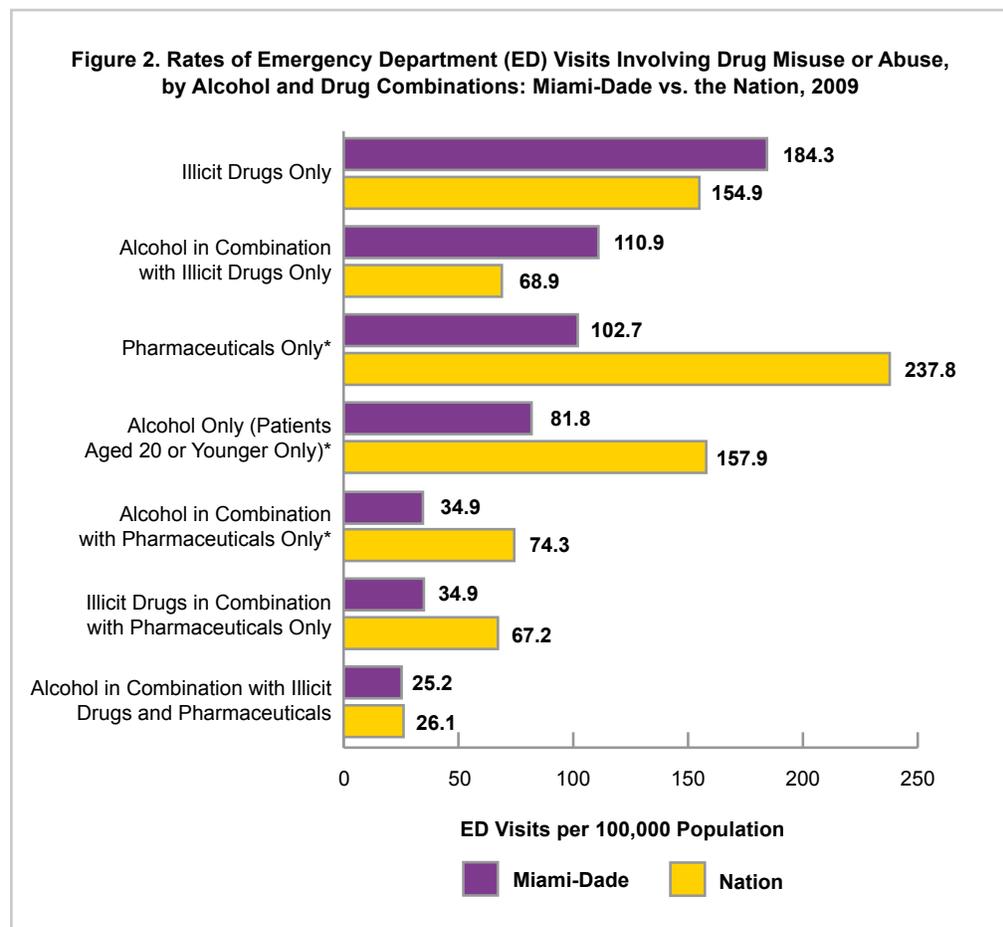
\*\*ED visits for which age is unknown have been excluded.

\*\*\*Estimate suppressed because of low statistical precision.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

DAWN data also can provide information on the different drug combinations involved in ED visits related to drug misuse or abuse. In 2009, there were differences between Miami-Dade and the Nation with respect to the types and combinations of drugs in ED visits involving drug misuse or abuse (Figure 2). Specifically, Miami-Dade's rates were significantly lower than those of the Nation for

- pharmaceutical drugs only (102.7 vs. 237.8 visits per 100,000 population);
- alcohol only (for patients aged 20 or younger only; 81.8 vs. 157.9 visits per 100,000 population); and
- alcohol in combination with pharmaceuticals only (34.9 vs. 74.3 visits per 100,000 population).

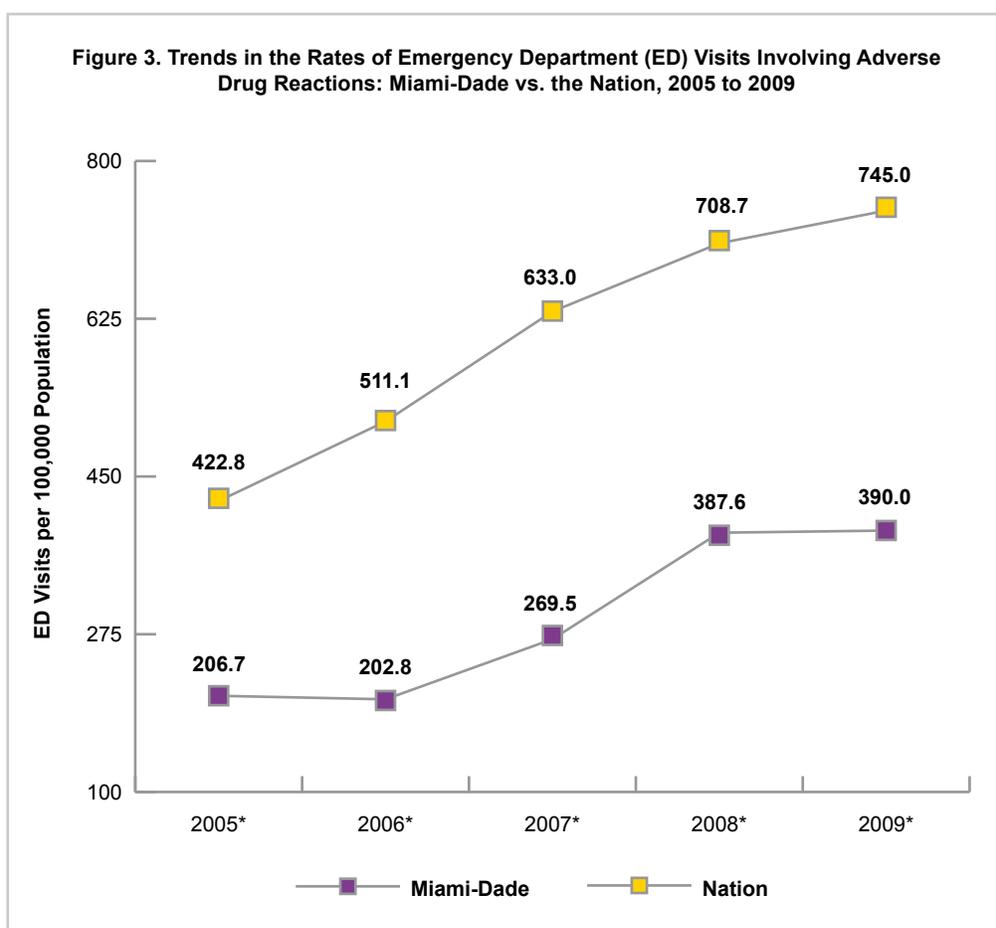


\*The difference between Miami-Dade and the Nation was statistically significant at the .05 level.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

## ED Visits Involving Adverse Drug Reactions in Miami-Dade

This section presents information about ED visits involving adverse reactions to drugs. Within DAWN, adverse reactions are defined as ED visits in which an adverse health consequence results from taking prescription drugs, over-the-counter medications, or dietary supplements as prescribed or recommended. From 2005 through 2009, Miami-Dade's rates of ED visits involving adverse drug reactions were consistently and significantly lower than the national rates (Figure 3). For example, in 2009, Miami-Dade's rate of visits involving adverse reactions was 390.0 visits per 100,000 population, whereas the national rate was 745.0 visits per 100,000 population.



\*The difference between Miami-Dade and the Nation was statistically significant at the .05 level.

Source: 2005 to 2009 estimates from the 2009 SAMHSA Drug Abuse Warning Network (DAWN).

The demographic characteristics of patients in Miami-Dade who made an ED visit involving an adverse reaction to drugs in 2009 show that

- patients aged 65 or older made the most ED visits (3,637 visits, or 37.3 percent) and had the highest rate of ED visits (1,009.1 visits per 100,000 population); and
- nearly 3 in 5 (59.8 percent) visits were made by female patients (Table 2).

**Table 2. Distribution of Emergency Department (ED) Visits Involving Adverse Drug Reactions, by Gender\* and Age\*\*: Miami-Dade, 2009**

Demographic Characteristic	Estimated Number of ED Visits	Percentage of ED Visits	Rate of ED Visits per 100,000 Population
Total ED Visits	9,753	100.0	390.0
Male	3,914	40.2	320.6
Female	5,829	59.8	455.4
Aged 0 to 11	878	9.0	223.9
Aged 12 to 17	163	1.7	87.4
Aged 18 to 24	790	8.1	343.4
Aged 25 to 34	928	9.5	265.1
Aged 35 to 44	1,057	10.8	291.5
Aged 45 to 54	1,172	12.0	330.8
Aged 55 to 64	1,126	11.6	425.2
Aged 65 or Older	3,637	37.3	1,009.1

\*ED visits for which gender is unknown have been excluded.

\*\*ED visits for which age is unknown have been excluded.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

In 2009, the rates of adverse reaction-related ED visits in Miami-Dade compared with the Nation varied by drug type (Table 3). Compared with the Nation, Miami-Dade had significantly lower rates of ED visits involving adverse reactions to

- central nervous system medications (101.4 vs. 192.6 visits per 100,000 population);
- cardiovascular system medications (41.2 vs. 80.8 visits per 100,000 population);
- drugs for metabolic disorders (18.1 vs. 56.6 visits per 100,000 population);
- hormones (17.5 vs. 38.8 visits per 100,000 population);
- respiratory system medications (13.2 vs. 31.0 visits per 100,000 population);

- immune system medications (12.4 vs. 32.7 visits per 100,000 population);
- cancer drugs (12.3 vs. 34.2 visits per 100,000 population);
- gastrointestinal system medications (12.3 vs. 26.8 visits per 100,000 population);
- nutritional products (9.8 vs. 21.8 visits per 100,000 population); and
- topical agents (7.3 vs. 16.4 visits per 100,000 population).

**Table 3. Rates of Emergency Department (ED) Visits Involving Adverse Drug Reactions, by Drug Category: Miami-Dade vs. the Nation, 2009**

Drug Category and Selected Drugs	Miami-Dade Rate per 100,000 Population	National Rate per 100,000 Population
Central Nervous System Medications*	101.4	192.6
Pain Relievers*	52.2	126.1
Opiates/Opioids*	24.1	73.5
Narcotic Pain Relievers*	23.4	71.1
Oxycodone	11.0	21.2
Hydrocodone*	3.8	26.0
Drugs That Treat Anxiety or Insomnia	21.2	34.0
Anticonvulsants*	16.6	28.3
Anti-infection Medications	92.1	155.4
Blood Modifiers	54.0	70.8
Cardiovascular System Medications*	41.2	80.8
Drugs for Metabolic Disorders*	18.1	56.6
Hormones*	17.5	38.8
Respiratory System Medications *	13.2	31.0
Immune System Medications *	12.4	32.7
Cancer Drugs*	12.3	34.2
Gastrointestinal System Medications*	12.3	26.8
Nutritional Products*	9.8	21.8
Topical Agents*	7.3	16.4

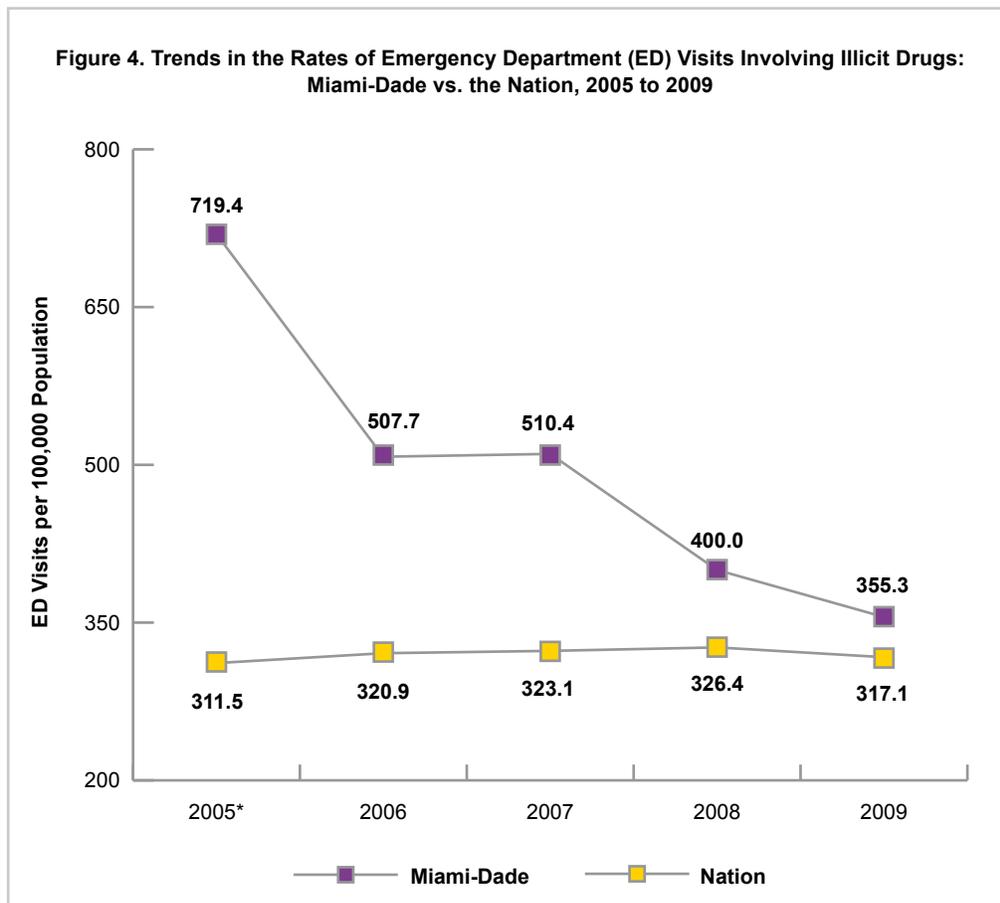
\*The difference between Miami-Dade and the Nation was statistically significant at the .05 level.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

## ED Visits Involving Illicit Drug Use in Miami-Dade

Within DAWN, ED visits involving illicit drug use are defined as all visits related to the use of illicit or illegal drugs, such as cocaine, marijuana, heroin, and stimulants (e.g., amphetamines and methamphetamines). In 2005, the rate of ED visits involving illicit drugs was higher in Miami-Dade than that in the Nation as a whole (719.4 vs. 311.5 visits per 100,000 population) (Figure 4). However, from 2006 to 2009, the rate in Miami-Dade was not statistically different from the national rate.

**Figure 4. Trends in the Rates of Emergency Department (ED) Visits Involving Illicit Drugs: Miami-Dade vs. the Nation, 2005 to 2009**



\*The difference between Miami-Dade and the Nation was statistically significant at the .05 level.

Source: 2005 to 2009 estimates from the 2009 SAMHSA Drug Abuse Warning Network (DAWN).

The demographic characteristics of patients in Miami-Dade who made ED visits related to illicit drugs in 2009 show that

- patients aged 25 to 34 made 2,450 visits (27.6 percent);
- when population is taken into account, patients aged 25 to 34 had a rate of 699.5 visits per 100,000 population, and patients aged 18 to 24 had a rate of 696.8 visits per 100,000 population; and
- about 7 in 10 (70.4 percent) ED visits were made by male patients (Table 4).

**Table 4. Distribution of Emergency Department (ED) Visits Involving Illicit Drugs, by Gender\* and Age\*\*: Miami-Dade, 2009**

Demographic Characteristic	Estimated Number of ED Visits	Percentage of ED Visits	Rate of ED Visits per 100,000 Population
Total ED Visits	8,885	100.0	355.3
Male	6,246	70.4	511.7
Female	2,632	29.6	205.7
Aged 0 to 11	***	***	***
Aged 12 to 17	249	2.8	133.6
Aged 18 to 24	1,602	18.0	696.8
Aged 25 to 34	2,450	27.6	699.5
Aged 35 to 44	2,188	24.6	603.3
Aged 45 to 54	1,825	20.6	515.4
Aged 55 to 64	487	5.5	183.7
Aged 65 or Older	***	***	***

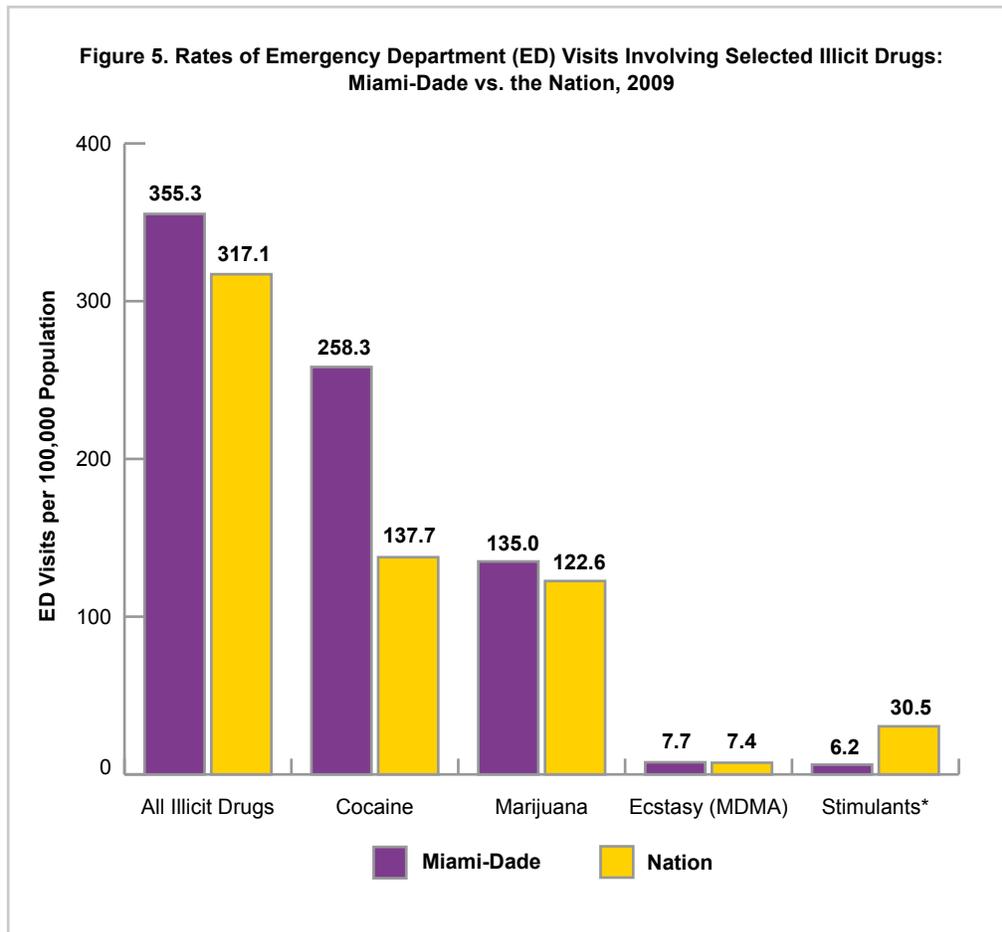
\*ED visits for which gender is unknown have been excluded.

\*\*ED visits for which age is unknown have been excluded.

\*\*\*Estimate suppressed because of low statistical precision.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

In 2009, Miami-Dade’s rate of drug-related ED visits involving illicit drugs was similar to the national rate (355.3 vs. 317.1 visits per 100,000) (Figure 5). By particular drug, ED visits involving stimulants were significantly lower in Miami-Dade than in the Nation as a whole (6.2 vs. 30.5 visits per 100,000). There were no statistically significant differences found between the rates in Miami-Dade and those in the Nation as a whole for ED visits related to cocaine, marijuana, and Ecstasy. The rate for visits related to heroin in Miami-Dade was not compared with the national rate because of suppression rules for low statistical precision.

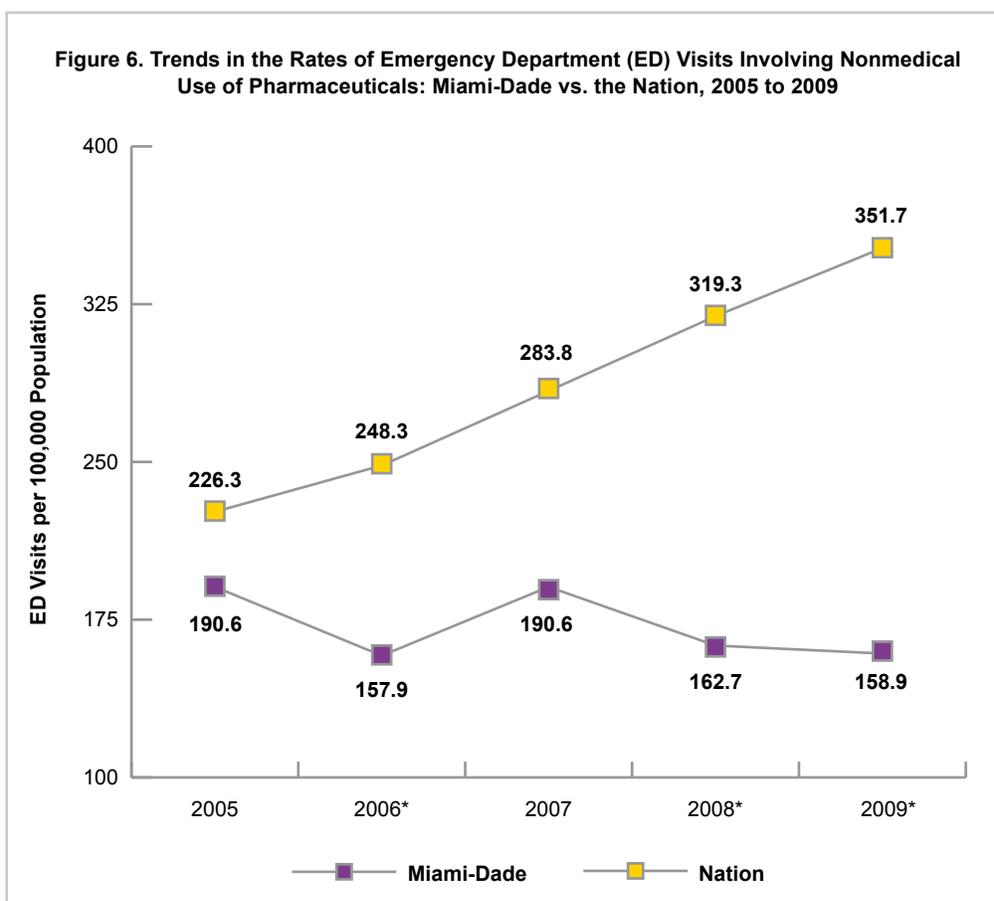


\*The difference between Miami-Dade and the Nation was statistically significant at the .05 level.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

## ED Visits Involving Nonmedical Use of Pharmaceuticals in Miami-Dade

In DAWN, the 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 only or pharmaceuticals in combination with illicit drugs or alcohol. Miami-Dade’s rate was significantly lower than the national rate in 2006, 2008, and 2009 (Figure 6).



\*The difference between Miami-Dade and the Nation was statistically significant at the .05 level.

Source: 2005 to 2009 estimates from the 2009 SAMHSA Drug Abuse Warning Network (DAWN).

The demographic characteristics of patients in Miami-Dade who made a drug-related ED visit involving nonmedical use of pharmaceuticals in 2009 show that

- patients aged 45 to 54 made 819 visits (20.6 percent);
- when population is taken into account, the rate of ED visits was highest for patients aged 18 to 24 (262.3 visits per 100,000 population); and
- ED visits were almost evenly divided between male and female patients (47.9 and 52.1 percent, respectively) (Table 5).

**Table 5. Distribution of Emergency Department (ED) Visits Involving Nonmedical Use of Pharmaceuticals, by Gender\* and Age\*\*: Miami-Dade, 2009**

Demographic Characteristic	Estimated Number of ED Visits	Percentage of ED Visits	Rate of ED Visits per 100,000 Population
Total ED Visits	3,974	100.0	158.9
Male	1,900	47.9	155.6
Female	2,066	52.1	161.4
Aged 0 to 11	***	***	***
Aged 12 to 17	292	7.4	157.0
Aged 18 to 24	603	15.2	262.3
Aged 25 to 34	706	17.8	201.7
Aged 35 to 44	722	18.2	199.1
Aged 45 to 54	819	20.6	231.1
Aged 55 to 64	354	8.9	133.8
Aged 65 or Older	441	11.1	122.3

\*ED visits for which gender is unknown have been excluded.

\*\*ED visits for which age is unknown have been excluded.

\*\*\*Estimate suppressed because of low statistical precision.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

In 2009, Miami-Dade generally had lower rates of ED visits for nonmedical use of pharmaceuticals within selected drug categories (Table 6). For example, Miami-Dade’s rate was significantly lower than the national rate for ED visits involving

- central nervous system medications (117.0 vs. 257.8 visits per 100,000 population);
- narcotic pain relievers (23.7 vs. 111.6 visits per 100,000 population), including oxycodone (14.0 vs. 48.4 per 100,000 population);
- anticonvulsants (8.0 vs. 13.7 visits for 100,000 population);
- antidepressants (12.6 vs. 29.0 visits per 100,000 population);
- respiratory system medications (5.4 vs. 11.7 visits per 100,000 population); and
- drugs for metabolic disorders (4.6 vs. 10.0 visits per 100,000 population).

**Table 6. Rates of Emergency Department (ED) Visits Involving Nonmedical Use of Pharmaceuticals, by Drug Category: Miami-Dade vs. the Nation, 2009**

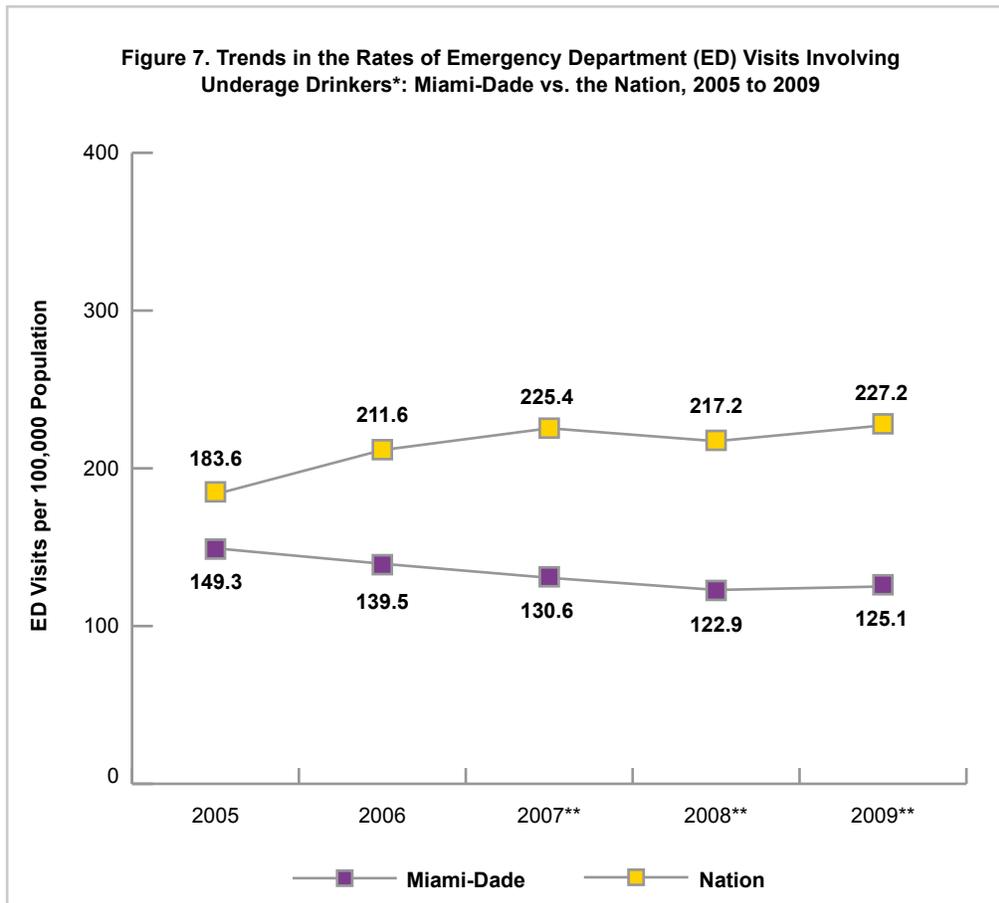
Drug Category and Selected Drugs	Miami-Dade Rate per 100,000 Population	National Rate per 100,000 Population
Central Nervous System Medications*	117.0	257.8
Pain Relievers*	52.4	168.1
Opiates/Opioids*	32.8	135.7
Narcotic Pain Relievers*	23.7	111.6
Oxycodone*	14.0	48.4
Anticonvulsants*	8.0	13.7
Drugs That Treat Anxiety or Insomnia	71.0	118.3
Benzodiazepines	63.4	101.9
Psychotherapeutic Medications*	24.0	43.2
Antipsychotics	14.0	18.9
Antidepressants*	12.6	29.0
Cardiovascular System Medications	9.9	15.1
Respiratory System Medications*	5.4	11.7
Drugs for Metabolic Disorders*	4.6	10.0

\*The difference between Miami-Dade and the Nation was statistically significant at the .05 level.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

## ED Visits Involving Underage Drinkers in Miami-Dade

Underage drinking continues to be a public health concern in many metropolitan areas and in the Nation as a whole. In DAWN, drug-related ED visits involving underage drinking are those visits related to alcohol use by patients aged 20 or younger. These visits may include alcohol only or alcohol in combination with other drugs. Miami-Dade's rate of drug-related ED visits involving underage drinkers was significantly lower than the national rate from 2007 to 2009 (Figure 7). By 2009, the rate for visits involving underage drinking in Miami-Dade was 125.1 visits per 100,000 population, compared with the national rate of 227.2 visits per 100,000 population.



\*The rate includes visits involving alcohol only and alcohol in combination with other drugs.

\*\*The difference between Miami-Dade and the Nation was statistically significant at the .05 level.

Source: 2005 to 2009 estimates from the 2009 SAMHSA Drug Abuse Warning Network (DAWN).

Demographic characteristics of underage drinkers who made drug-related visits to Miami-Dade EDs in 2009 indicate that

- young adults aged 18 to 20 made the most ED visits related to underage drinking (627 visits, or 74.2 percent) and had the highest rate of visits (646.6 visits per 100,000 population); and
- the percentages of ED visits for male and female patients were comparable (57.8 and 42.2 percent, respectively) (Table 7).

**Table 7. Distribution of Emergency Department (ED) Visits Involving Underage Drinking, by Gender\* and Age\*\*: Miami-Dade, 2009**

Demographic Characteristic	Estimated Number of ED Visits	Percentage of ED Visits	Rate of ED Visits per 100,000 Population
Total ED Visits	844	100.0	125.1
Male	488	57.8	141.1
Female	356	42.2	108.2
Aged 0 to 11	***	***	***
Aged 12 to 17	213	25.2	114.5
Aged 18 to 20	627	74.2	646.6

\*ED visits for which gender is unknown have been excluded.

\*\*ED visits for which age is unknown have been excluded.

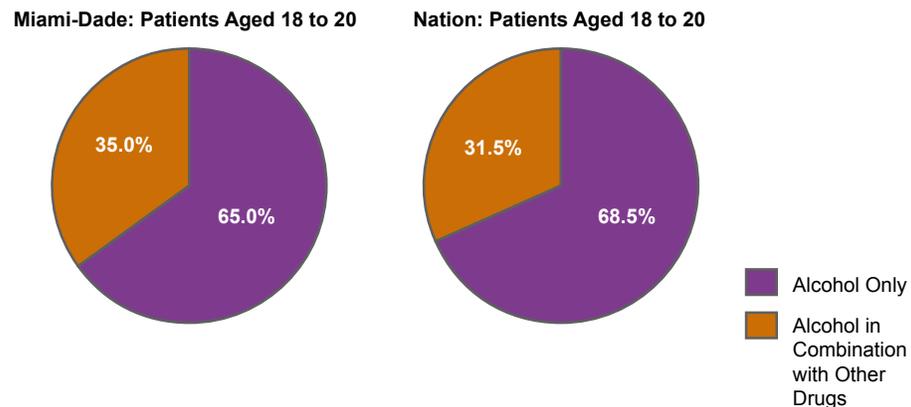
\*\*\*Estimate suppressed because of low statistical precision.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

In 2009, 34.8 percent of ED visits among Miami-Dade's underage drinkers aged 12 to 20 involved alcohol in combination with other drugs, which was similar to the proportion in the Nation as a whole (30.5 percent) (data not shown).

Among underage drinkers aged 18 to 20, Miami-Dade also had a proportion of ED visits that involved alcohol in combination with other drugs similar to that of the Nation as a whole (35.0 and 31.5 percent, respectively) (Figure 8). For Miami-Dade, the percentages among underage drinkers aged 12 to 17 were not compared with the national percentages (28.9 percent for alcohol only and 71.1 percent for alcohol in combination with other drugs) because of low statistical precision.

**Figure 8. Distribution of Emergency Department (ED) Visits Involving Underage Drinkers Aged 18 to 20: Miami-Dade vs. the Nation, 2009\***

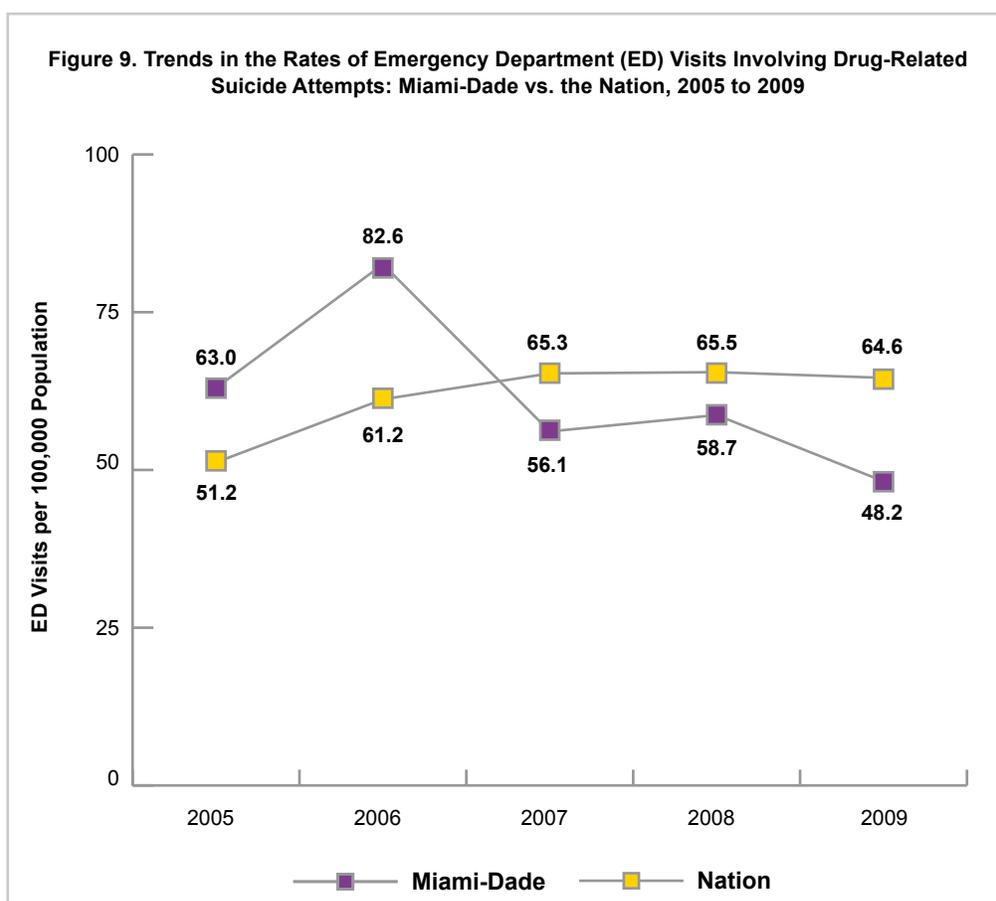


\*Due to low statistical precision, there are no figures available for ED visits involving alcohol only and alcohol in combination with other drugs for patients aged 12 to 17.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

## ED Visits Involving Drug-Related Suicide Attempts in Miami-Dade

This section presents information on drug-related suicide attempts that resulted in ED visits. Drug-related suicide attempts are not limited to drug overdoses. If there is drug involvement in a suicide attempt by other means (e.g., if a patient cut his or her wrists while smoking marijuana), the case is considered to be drug related. Excluded are suicide-related behaviors other than actual attempts (e.g., suicidal ideation or suicidal thoughts). From 2005 through 2009, Miami-Dade's rate of ED visits involving drug-related suicide attempts was not significantly different from the national rate (Figure 9). For example, in 2009, Miami-Dade's rate of visits involving suicide attempts was 48.2 visits per 100,000 population in comparison with the national rate of 64.6 visits per 100,000 population.



Source: 2005 to 2009 estimates from the 2009 SAMHSA Drug Abuse Warning Network (DAWN).

Demographic characteristics of patients who made visits to Miami-Dade EDs involving drug-related suicide attempts in 2009 indicate that

- patients aged 18 to 24 made 279 visits (23.2 percent) and had the highest rate of ED visits (121.1 visits per 100,000 population); and
- 59.6 percent of ED visits were made by female patients (Table 8).

**Table 8. Distribution of Emergency Department (ED) Visits Involving a Drug-Related Suicide Attempt, by Gender\* and Age\*\*: Miami-Dade, 2009**

Demographic Characteristic	Estimated Number of ED Visits	Percentage of ED Visits	Rate of ED Visits per 100,000 Population
Total ED Visits	1,204	100.0	48.2
Male	486	40.4	39.8
Female	718	59.6	56.1
Aged 0 to 11	***	***	***
Aged 12 to 17	***	***	***
Aged 18 to 24	279	23.2	121.1
Aged 25 to 34	247	20.6	70.6
Aged 35 to 44	232	19.3	64.0
Aged 45 to 54	199	16.6	56.2
Aged 55 to 64	93	7.8	35.2
Aged 65 or Older	***	***	***

\*ED visits for which gender is unknown have been excluded.

\*\*ED visits for which age is unknown have been excluded.

\*\*\*Estimate suppressed because of low statistical precision.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

An examination of the rate of ED visits involving drug-related suicide attempts in 2009 revealed that there were a few differences between Miami-Dade and the Nation in the types of drugs involved (Table 9). For example, Miami-Dade's rates of ED visits were significantly lower than the national rates for visits involving

- pain relievers (13.4 vs. 24.6 visits per 100,000 population);
- opiates/opioids (3.4 vs. 10.7 visits per 100,000 population), including narcotic pain relievers (3.2 vs. 9.6 visits per 100,000 population); and
- antidepressants (6.3 vs. 11.8 visits per 100,000 population).

**Table 9. Rates of Emergency Department (ED) Visits Involving a Drug-Related Suicide Attempt, by Drug Category: Miami-Dade vs. the Nation, 2009**

Drug Category and Selected Drugs	Miami-Dade Rate per 100,000 Population	National Rate per 100,000 Population
Alcohol	10.9	20.1
Illicit Drugs	9.0	11.6
Cocaine	7.3	5.9
Marijuana	2.9	4.6
Central Nervous System Medications	32.8	46.8
Pain Relievers*	13.4	24.6
Opiates/Opioids*	3.4	10.7
Narcotic Pain Relievers*	3.2	9.6
Drugs That Treat Anxiety or Insomnia	21.7	25.3
Benzodiazepines	19.0	18.5
Psychotherapeutic Medications	10.7	17.1
Antidepressants*	6.3	11.8
Antipsychotics	6.0	7.8

\*The difference between Miami-Dade and the Nation was statistically significant at the .05 level.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

## Overview of Fort Lauderdale

In 2009, DAWN data show an estimated 22,004 drug-related visits—a rate of 722.3 visits per 100,000 population—were made to Fort Lauderdale EDs. These data represent the total ED visits in which drugs were taken for any reason—not just drug abuse—and involve illegal drugs, prescription and over-the-counter pharmaceuticals (e.g., dietary supplements, cough medicine), nonpharmaceutical inhalants, alcohol in combination with other drugs, and alcohol only (for patients aged 20 or younger).

## ED Visits Involving Drug Misuse or Abuse in Fort Lauderdale

This section presents information about ED visits involving drug misuse or abuse, which is defined as a group of ED visits that includes all visits associated with illicit drugs, use of alcohol in combination with other drugs, use of alcohol only among those aged 20 or younger, and nonmedical use of pharmaceuticals. In 2009, Fort Lauderdale's rate of ED visits involving drug misuse or abuse was not statistically different from that of the Nation as a whole (429.1 and 674.4 visits per 100,000 population).

The demographic characteristics of patients in Fort Lauderdale who made ED visits involving drug misuse or abuse in 2009 show that

- patients aged 25 to 34 made 3,176 visits (24.3 percent);
- when population is taken into account, patients aged 18 to 24 had a rate of 939.6 visits per 100,000 population; and
- 58.8 percent of ED visits were made by male patients (Table 10).

**Table 10. Distribution of Emergency Department (ED) Visits Involving Misuse or Abuse of Drugs, by Gender\* and Age\*\*: Fort Lauderdale, 2009**

Demographic Characteristic	Estimated Number of ED Visits	Percentage of ED Visits	Rate of ED Visits per 100,000 Population
Total ED Visits	13,071	100.0	429.1
Male	7,680	58.8	516.6
Female	5,388	41.2	345.4
Aged 0 to 11	92	0.7	20.1
Aged 12 to 17	1,033	7.9	459.0
Aged 18 to 24	2,274	17.4	939.6
Aged 25 to 34	3,176	24.3	847.3
Aged 35 to 44	2,578	19.7	607.0
Aged 45 to 54	2,568	19.6	560.8
Aged 55 to 64	1,025	7.8	298.1
Aged 65 or Older	326	2.5	62.3

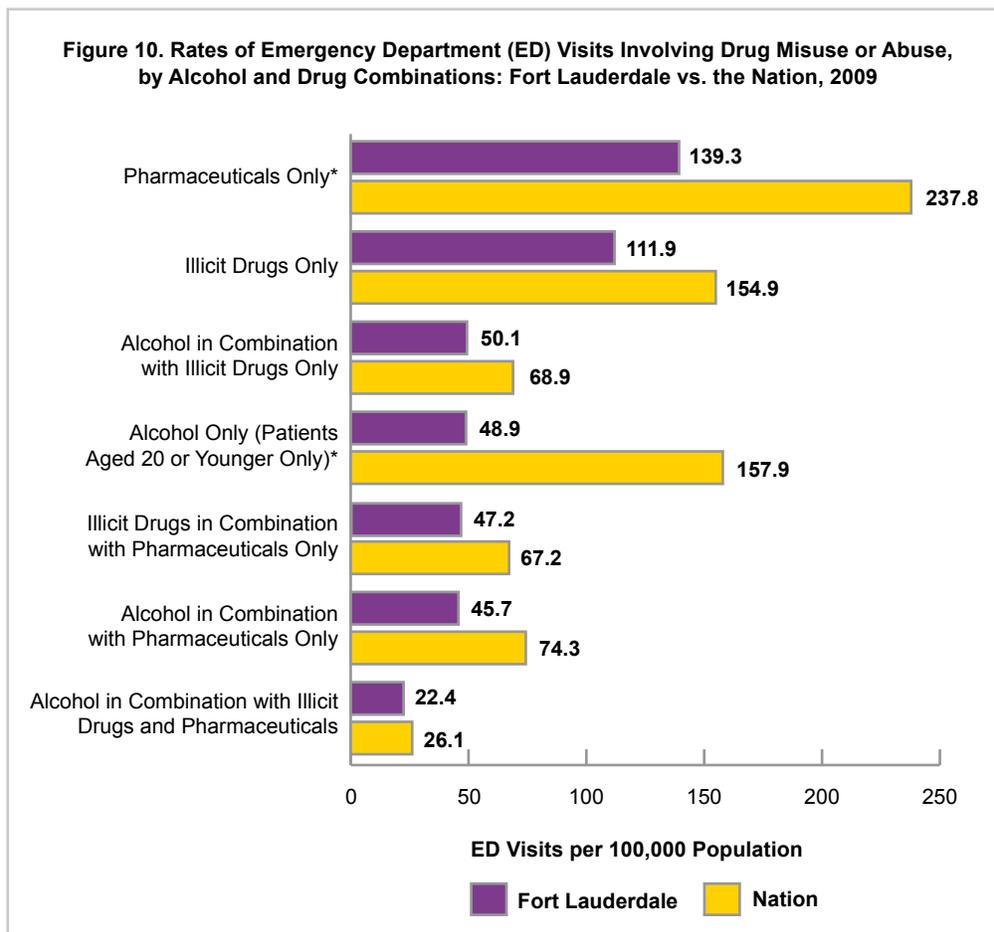
\*ED visits for which gender is unknown have been excluded.

\*\*ED visits for which age is unknown have been excluded.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

DAWN data also can provide information on the different drug combinations involved in ED visits related to drug misuse or abuse. In 2009, there were statistically significant differences between Fort Lauderdale and the Nation with respect to the types and combinations of drugs in ED visits involving drug misuse or abuse (Figure 10). Specifically, Fort Lauderdale’s rates were significantly lower than those of the Nation for

- pharmaceuticals only (139.3 vs. 237.8 visits per 100,000 population); and
- alcohol only (for patients aged 20 or younger only; 48.9 vs. 157.9 visits per 100,000 population).



\*The difference between Fort Lauderdale and the Nation was statistically significant at the .05 level.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

## ED Visits Involving Adverse Drug Reactions in Fort Lauderdale

This section presents information about ED visits involving adverse reactions to drugs. Within DAWN, adverse reactions are defined as ED visits in which an adverse health consequence results from taking prescription drugs, over-the-counter medications, or dietary supplements as prescribed or recommended. In 2009, Fort Lauderdale's rate of ED visits involving adverse drug reactions was significantly lower than the national rate (224.5 vs. 745.0 visits per 100,000 population).

The demographic characteristics of patients in Fort Lauderdale who made ED visits involving adverse reactions to drugs in 2009 show that

- patients aged 65 or older made 1,399 visits (20.5 percent);
- when population is taken into account, patients aged 18 to 24 had a rate of 288.0 visits per 100,000 population; and
- 60.8 percent of ED visits involving adverse reactions were made by female patients (Table 11).

**Table 11. Distribution of Emergency Department (ED) Visits Involving Adverse Drug Reactions, by Gender\* and Age\*\*: Fort Lauderdale, 2009**

Demographic Characteristic	Estimated Number of ED Visits	Percentage of ED Visits	Rate of ED Visits per 100,000 Population
Total ED Visits	6,839	100.0	224.5
Male	2,684	39.2	180.5
Female	4,155	60.8	266.4
Aged 0 to 11	1,037	15.2	227.9
Aged 12 to 17	190	2.8	84.4
Aged 18 to 24	697	10.2	288.0
Aged 25 to 34	821	12.0	219.1
Aged 35 to 44	800	11.7	188.4
Aged 45 to 54	1,069	15.6	233.4
Aged 55 to 64	825	12.1	240.0
Aged 65 or Older	1,399	20.5	267.3

\*ED visits for which gender is unknown have been excluded.

\*\*ED visits for which age is unknown have been excluded.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

Compared with the Nation, Fort Lauderdale had significantly lower rates of ED visits involving adverse reactions to all selected drug types examined for 2009 (Table 12).

**Table 12. Rates of Emergency Department (ED) Visits Involving Adverse Drug Reactions, by Drug Category: Fort Lauderdale vs. the Nation, 2009**

Drug Category and Selected Drugs	Fort Lauderdale Rate per 100,000 Population	National Rate per 100,000 Population
Anti-infection Medications*	64.3	155.4
Central Nervous System Medications*	54.3	192.6
Pain Relievers*	32.4	126.1
Opiates/Opioids*	13.4	73.5
Narcotic Pain Relievers*	13.3	71.1
Oxycodone*	5.6	21.2
Hydrocodone*	3.6	26.0
Drugs That Treat Anxiety or Insomnia*	6.8	34.0
Benzodiazepines*	4.2	20.7
Anticonvulsants*	8.6	28.3
Blood Modifiers*	34.6	70.8
Cardiovascular System Medications*	16.6	80.8
Drugs for Metabolic Disorders*	10.9	56.6
Immune System Medications*	9.6	32.7
Respiratory System Medications*	7.9	31.0
Hormones*	6.9	38.8
Gastrointestinal System Medications*	5.3	26.8
Nutritional Products*	4.7	21.8
Cancer Drugs*	4.6	34.2
Topical Agents*	3.5	16.4

\*The difference between Fort Lauderdale and the Nation was statistically significant at the .05 level.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

## ED Visits Involving Illicit Drug Use in Fort Lauderdale

Within DAWN, ED visits involving illicit drug use are defined as all visits related to the use of illicit or illegal drugs, such as cocaine, marijuana, heroin, and stimulants (e.g., amphetamines and methamphetamines). In 2009, the rate of ED visits in Fort Lauderdale involving illicit drugs was not statistically different from the national rate (231.5 and 317.1 visits per 100,000 population, respectively).

The demographic characteristics of patients in Fort Lauderdale who made ED visits related to illicit drugs in 2009 show that

- patients aged 25 to 34 made 1,859 visits (26.4 percent);
- when population is taken into account, patients aged 18 to 24 had a rate of 537.4 visits per 100,000 population; and
- almost 2 in 3 (64.4 percent) ED visits were made by male patients (Table 13).

**Table 13. Distribution of Emergency Department (ED) Visits Involving Illicit Drugs, by Gender\* and Age\*\*: Fort Lauderdale, 2009**

Demographic Characteristic	Estimated Number of ED Visits	Percentage of ED Visits	Rate of ED Visits per 100,000 Population
Total ED Visits	7,054	100.0	231.5
Male	4,542	64.4	305.5
Female	2,509	35.6	160.8
Aged 0 to 11	***	***	***
Aged 12 to 17	529	7.5	235.1
Aged 18 to 24	1,300	18.4	537.4
Aged 25 to 34	1,859	26.4	496.1
Aged 35 to 44	1,557	22.1	366.7
Aged 45 to 54	1,349	19.1	294.7
Aged 55 to 64	406	5.8	118.2
Aged 65 or Older	***	***	***

\*ED visits for which gender is unknown have been excluded.

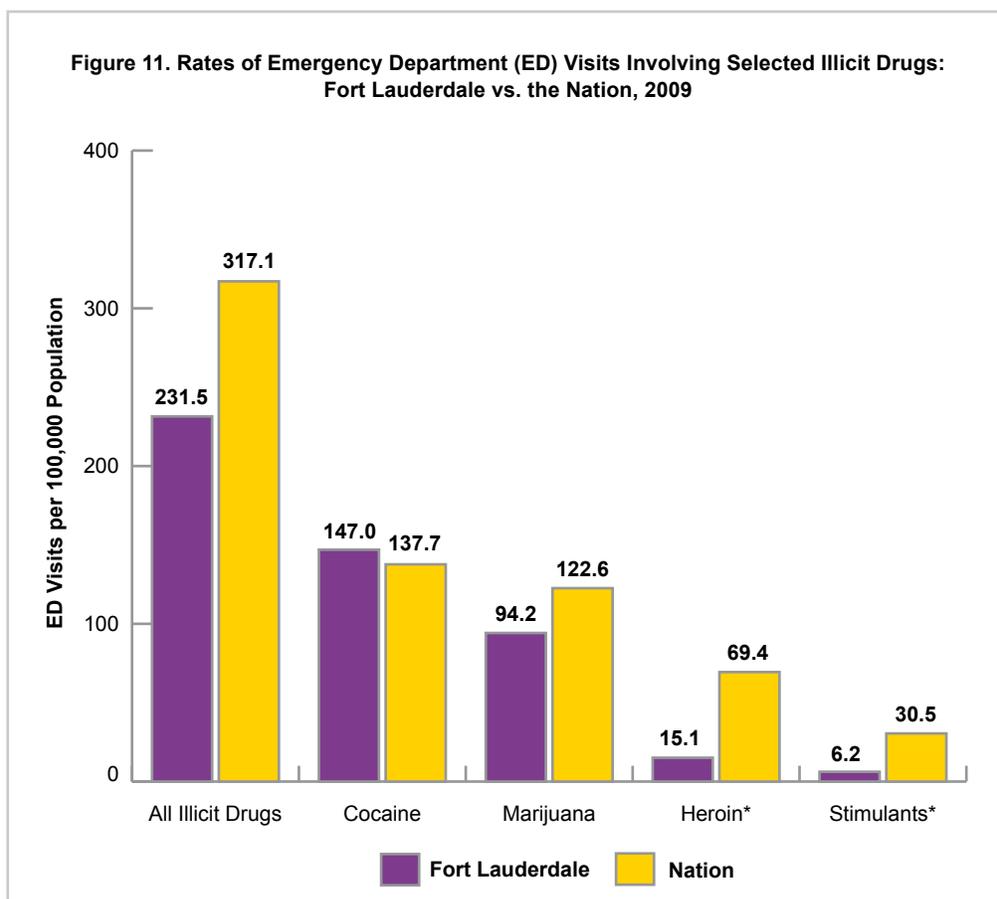
\*\*ED visits for which age is unknown have been excluded.

\*\*\*Estimate suppressed because of low statistical precision.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

In 2009, Fort Lauderdale’s rate of ED visits involving illicit drugs was not statistically different from the national rate (231.5 and 317.1 visits per 100,000 population, respectively) (Figure 11). When examined by particular drug, Fort Lauderdale’s rates were significantly lower than those of the Nation as a whole for visits involving

- heroin (15.1 vs. 69.4 visits per 100,000 population); and
- stimulants (6.2 vs. 30.5 visits per 100,000 population), including methamphetamine (3.5 vs. 20.9 visits per 100,000 population; data not shown) and amphetamines (3.4 vs. 12.2 visits per 100,000 population; data not shown).



\*The difference between Fort Lauderdale and the Nation was statistically significant at the .05 level.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

## ED Visits Involving Nonmedical Use of Pharmaceuticals in Fort Lauderdale

In DAWN, the 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 only or pharmaceuticals in combination with illicit drugs or alcohol. In 2009, the rate in Fort Lauderdale was not statistically different from that of the Nation as a whole (219.1 and 351.7 visits per 100,000 population, respectively).

The demographic characteristics of patients in Fort Lauderdale who made drug-related ED visits involving nonmedical use of pharmaceuticals in 2009 show that

- the most ED visits were made by patients aged 25 to 34 (1,751 visits, or 26.2 percent);
- when population is taken into account, the rate of ED visits was highest for patients aged 25 to 34 (467.0 visits per 100,000 population), followed by patients aged 18 to 24 (428.9 visits per 100,000 population); and
- ED visits were almost evenly divided between male and female patients (52.3 and 47.7 percent, respectively) (Table 14).

**Table 14. Distribution of Emergency Department (ED) Visits Involving Nonmedical Use of Pharmaceuticals, by Gender\* and Age\*\*: Fort Lauderdale, 2009**

Demographic Characteristic	Estimated Number of ED Visits	Percentage of ED Visits	Rate of ED Visits per 100,000 Population
Total ED Visits	6,674	100.0	219.1
Male	3,492	52.3	234.9
Female	3,182	47.7	204.0
Aged 0 to 11	64	1.0	14.0
Aged 12 to 17	408	6.1	181.4
Aged 18 to 24	1,038	15.5	428.9
Aged 25 to 34	1,751	26.2	467.0
Aged 35 to 44	1,214	18.2	285.8
Aged 45 to 54	1,297	19.4	283.4
Aged 55 to 64	628	9.4	182.6
Aged 65 or Older	275	4.1	52.5

\*ED visits for which gender is unknown have been excluded.

\*\*ED visits for which age is unknown have been excluded.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

In 2009, Fort Lauderdale generally had lower rates of ED visits for nonmedical use of pharmaceuticals than the Nation as a whole did within selected drug categories (Table 15). For example, Fort Lauderdale’s rates were significantly lower than the national rates for ED visits involving

- psychotherapeutic medications (13.9 vs. 43.2 visits per 100,000 population), including antidepressants (8.5 vs. 29.0 visits per 100,000 population) and antipsychotics (6.9 vs. 18.9 visits per 100,000 population);
- respiratory system medications (5.4 vs. 11.7 visits per 100,000 population); and
- cardiovascular system medications (4.0 vs. 15.1 visits per 100,000 population).

**Table 15. Rates of Emergency Department (ED) Visits Involving Nonmedical Use of Pharmaceuticals, by Drug Category: Fort Lauderdale vs. the Nation, 2009**

Drug Category and Selected Drugs	Fort Lauderdale Rate per 100,000 Population	National Rate per 100,000 Population
Central Nervous System Medications	181.1	257.8
Pain Relievers	113.9	168.1
Opiates/Opioids	95.2	135.7
Narcotic Pain Relievers	70.2	111.6
Oxycodone	52.8	48.4
Hydrocodone*	5.4	28.1
Methadone	9.7	20.5
Morphine*	2.2	10.3
Hydromorphone*	2.3	4.7
Drugs That Treat Anxiety or Insomnia	103.8	118.3
Benzodiazepines	95.2	101.9
Anticonvulsants*	4.3	13.7
Psychotherapeutic Medications*	13.9	43.2
Antidepressants*	8.5	29.0
Antipsychotics*	6.9	18.9
Respiratory System Medications*	5.4	11.7
Cardiovascular System Medications*	4.0	15.1

\*The difference between Fort Lauderdale and the Nation was statistically significant at the .05 level.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

## ED Visits Involving Underage Drinkers in Fort Lauderdale

Underage drinking continues to be a public health concern in many metropolitan areas and in the Nation as a whole. In DAWN, drug-related ED visits involving underage drinking are those visits related to alcohol use by patients aged 20 or younger. These visits may include alcohol only or alcohol in combination with other drugs. In 2009, the rate for visits involving underage drinking in Fort Lauderdale was significantly lower than that of the Nation (100.0 vs. 227.2 visits per 100,000 population).

Demographic characteristics of underage drinkers who made drug-related visits to Fort Lauderdale EDs in 2009 indicate that

- ED visits related to underage drinking were almost evenly divided between patients aged 12 to 17 and those aged 18 to 20 (49.3 and 47.8 percent, respectively); and
- the percentages of ED visits for male and female patients were comparable (56.4 and 43.6 percent, respectively) (Table 16).

**Table 16. Distribution of Emergency Department (ED) Visits Involving Underage Drinking, by Gender\* and Age\*\*: Fort Lauderdale, 2009**

Demographic Characteristic	Estimated Number of ED Visits	Percentage of ED Visits	Rate of ED Visits per 100,000 Population
Total ED Visits	784	100.0	100.0
Male	442	56.4	109.9
Female	342	43.6	89.6
Aged 0 to 11	***	***	***
Aged 12 to 17	386	49.3	171.5
Aged 18 to 20	374	47.8	361.4

\*ED visits for which gender is unknown have been excluded.

\*\*ED visits for which age is unknown have been excluded.

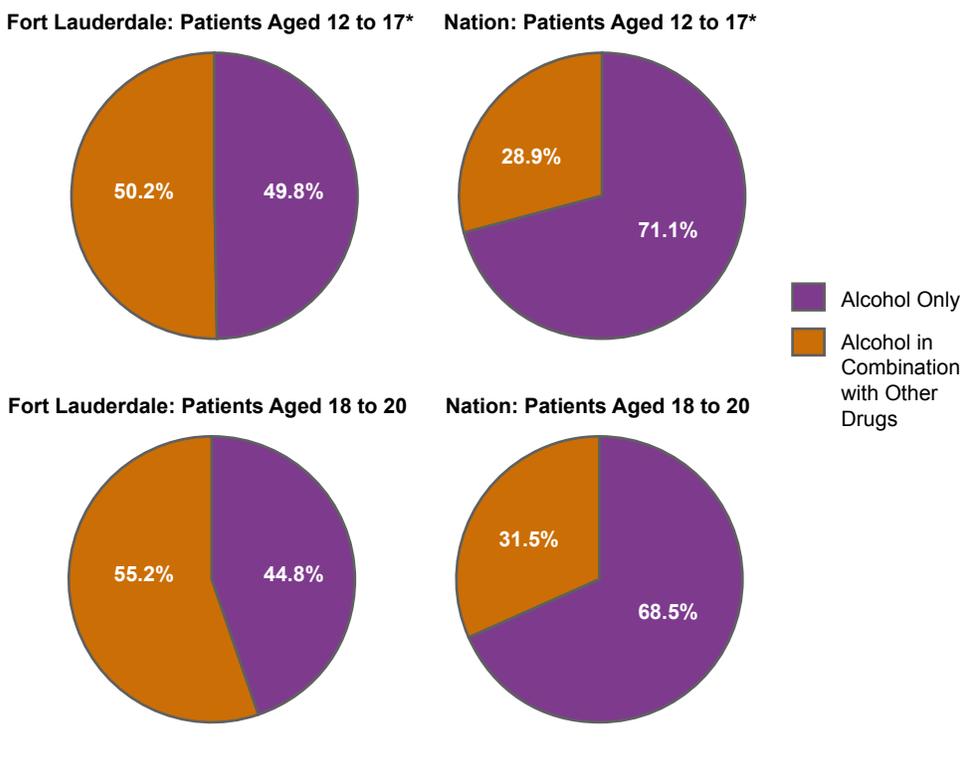
\*\*\*Estimate suppressed because of low statistical precision.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

In 2009, 52.7 percent of ED visits among Fort Lauderdale’s underage drinkers aged 12 to 20 involved alcohol in combination with other drugs, which was higher than the proportion in the Nation as a whole (30.5 percent) (data not shown).

By age group, among underage drinkers aged 12 to 17, Fort Lauderdale had a higher proportion of visits involving alcohol in combination with other drugs than the Nation as a whole did (50.2 vs. 28.9 percent). Among underage drinkers aged 18 to 20, the proportion of ED visits that involved alcohol in combination with other drugs in Fort Lauderdale was not statistically different from that of the Nation as a whole (55.2 and 31.5 percent, respectively) (Figure 12).

**Figure 12. Distribution of Emergency Department (ED) Visits Involving Underage Drinkers Aged 18 to 20: Fort Lauderdale vs. the Nation, 2009**



\*The difference between Fort Lauderdale and the Nation was statistically significant at the .05 level.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

## ED Visits Involving Drug-Related Suicide Attempts in Fort Lauderdale

In DAWN, drug-related suicide attempts are not limited to drug overdoses. If there is drug involvement in a suicide attempt by other means (e.g., if a patient cut his or her wrists while smoking marijuana), the case is considered to be drug related. Excluded are suicide-related behaviors other than actual attempts (e.g., suicidal ideation or suicidal thoughts).

In 2009, Fort Lauderdale's rate of ED visits involving drug-related suicide attempts was significantly lower than the national rate (38.9 vs. 64.9 visits per 100,000 population). Demographic characteristics of patients who made visits involving drug-related suicide attempts to Fort Lauderdale EDs in 2009 indicate that

- patients aged 25 to 34 made 254 visits (21.4 percent);
- when population is taken into account, patients aged 12 to 17 had a rate of 90.5 visits per 100,000 population; and
- the percentages of ED visits for male and female patients were comparable (44.0 and 56.0 percent, respectively) (Table 17).

**Table 17. Distribution of Emergency Department (ED) Visits Involving a Drug-Related Suicide Attempt, by Gender\* and Age\*\*: Fort Lauderdale, 2009**

Demographic Characteristic	Estimated Number of ED Visits	Percentage of ED Visits	Rate of ED Visits per 100,000 Population
Total ED Visits	1,185	100.0	38.9
Male	521	44.0	35.0
Female	664	56.0	42.6
Aged 0 to 11	***	***	***
Aged 12 to 17	204	17.2	90.5
Aged 18 to 24	180	15.2	74.5
Aged 25 to 34	254	21.4	67.7
Aged 35 to 44	172	14.6	40.6
Aged 45 to 54	256	21.6	55.9
Aged 55 to 64	93	7.9	27.1
Aged 65 or Older	***	***	***

\*ED visits for which gender is unknown have been excluded.

\*\*ED visits for which age is unknown have been excluded.

\*\*\*Estimate suppressed because of low statistical precision.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

An examination of the rate of ED visits involving drug-related suicide attempts in 2009 revealed that there were some differences between Fort Lauderdale and the Nation in the types of drugs involved (Table 18). For example, Fort Lauderdale rates of ED visits were significantly lower than the national rates for visits involving

- alcohol (11.2 vs. 20.1 visits per 100,000 population);
- central nervous system medications (29.5 vs. 46.8 visits per 100,000 population); and
- psychotherapeutic medications (7.1 vs. 17.1 visits per 100,000 population), including antidepressants (4.9 vs. 11.8 visits per 100,000 population) and antipsychotics (3.5 vs. 7.8 visits per 100,000 population).

**Table 18. Rates of Emergency Department (ED) Visits Involving a Drug-Related Suicide Attempt, by Drug Category: Fort Lauderdale vs. the Nation, 2009**

Drug Category and Selected Drugs	Fort Lauderdale Rate per 100,000 Population	National Rate per 100,000 Population
Alcohol*	11.2	20.1
Illicit Drugs	8.0	11.6
Cocaine	5.5	5.9
Marijuana	3.2	4.6
Central Nervous System Medications*	29.5	46.8
Drugs That Treat Anxiety or Insomnia	16.6	25.3
Benzodiazepines	13.7	18.5
Pain Relievers	17.7	24.6
Opiates/Opioids	8.9	10.7
Narcotic Pain Relievers	7.3	9.6
Oxycodone	4.4	3.6
Hydrocodone*	2.1	4.5
Psychotherapeutic Medications*	7.1	17.1
Antidepressants*	4.9	11.8
Antipsychotics*	3.5	7.8

\*The difference between Fort Lauderdale and the Nation was statistically significant at the .05 level.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

## Glossary for the Pharmaceuticals Mentioned in This Report

- **Anticonvulsants**—These medications prevent the brain from seizure activity and include those that treat epilepsy as well as those that can alleviate the discomfort associated with nerve damage. Common anticonvulsants include phenytoin (Dilantin®) and carbamazepine (Carbatrol®).
- **Antidepressants**—This category of drugs includes psychotherapeutic medications that are used to treat depression and other mental disorders. There are several types of antidepressants including: selective serotonin reuptake inhibitors (e.g., fluoxetine, or Prozac®), serotonin and norepinephrine reuptake inhibitors (e.g., duloxetine, or Cymbalta®), norepinephrine and dopamine reuptake inhibitors (e.g., bupropion, or Wellbutrin®), and atypical antidepressants (e.g., trazodone, or Desyrel®; mirtazapine, or Remeron®), and monoamine oxidase inhibitors (e.g., phenelzine, or Nardil®).
- **Anti-infection Medications**—Anti-infection medications are used to treat conditions caused by bacteria, viruses, protozoa, worms, fungi, and yeast. Drugs that treat infections include penicillins, azithromycin (Zithromax®), cephalexin (Keflex®), clindamycin (Cleocin®), and fluconazole (Diflucan®).
- **Antipsychotics**—Antipsychotic pharmaceuticals are used to treat mental disorders; the antipsychotic category includes drugs such as chlorpromazine (Thorazine®), haloperidol (Haldol®), and clozapine (Clozaril®). See also *Antidepressants* and *Psychotherapeutic Medications*.
- **Blood Modifiers**—Medications that alter the blood, including drugs that prevent blood from clotting, that dissolve blood clots, or that cause the blood to clot. Examples of blood modifiers include warfarin (Coumadin®), alteplase (Activase®), and factor IX complex.
- **Cancer Drugs**—A category of drugs that treats cancer. Examples of cancer drugs include medications such as paclitaxel (Taxol®), cyclophosphamide (Cytosan®), and chlorambucil (Leukeran®).
- **Cardiovascular System Medications**—Cardiovascular system medications treat conditions of the cardiovascular system such as angina and arrhythmia. Examples of such medications include beta blockers and diuretics.
- **Central Nervous System Medications**—As used by DAWN, central nervous system medications are a broad class of pharmaceuticals that act on the central nervous system. Major drug types grouped under this heading are: narcotic pain relievers (e.g., OxyContin®), nonnarcotic pain relievers (e.g., tramadol), anticonvulsants (e.g., Depakote®), drugs to treat anxiety (e.g., Klonopin®), central nervous system stimulants (e.g., Adderall®), and muscle relaxants (e.g., Soma®).
- **Drugs for Metabolic Disorders**—A category of medications that treat disorders or conditions that impact the metabolism. Examples of such drugs include antidiabetic agents (e.g., insulin), lipid-lowering drugs (e.g., Zocor® and Lipitor®), and antiobesity drugs (e.g., Orlistat®).

- **Drugs That Treat Anxiety or Insomnia**—This category includes drugs to treat anxiety or insomnia and includes: barbiturates (e.g., Seconal®), benzodiazepines (e.g., Xanax®, Klonopin®, Ativan®), and medications to treat sleep disorders (e.g., Ambien®).
- **Gastrointestinal System Medications**—A category of drugs that includes antacids, antidiarrheals, digestive enzymes, and laxatives.
- **Hormones**—A category of drugs that supplies hormones to the body, such as adrenal cortical steroids, thyroid medications (e.g., Synthroid®), hydrocortisone, prednisone, and contraceptives.
- **Immune System Medications**—Used to treat immune system conditions, this category includes antivirals (e.g., influenza shot) and vaccines (e.g., tetanus shot).
- **Narcotic Pain Relievers**—Used to treat severe pain, the category of narcotic pain relievers includes codeine, fentanyl (e.g., Actiq®), hydrocodone (e.g., Lortab® and Vicodin®), hydromorphone (e.g., Dilaudid®), oxycodone (e.g., OxyContin®), morphine, and methadone.
- **Nutritional Products**—A broad category of pharmaceuticals that includes products such as minerals, electrolytes, and vitamins.
- **Opiates/Opioids**—This category comprises pain relievers that contain opiates or opioids (synthetic opiates). *Narcotic Pain Relievers* are in this category, as are drugs identified by toxicology as opiate/opioid metabolites.
- **Pain Relievers**—This category includes narcotic and nonnarcotic pain relievers.
- **Psychotherapeutic Medications**—A general grouping of drugs that primarily includes *Antidepressants* and *Antipsychotics*.
- **Respiratory System Medications**—Drugs that treat conditions or diseases of the respiratory system, including medications such as antihistamines, bronchodilators, decongestants, and expectorants.
- **Topical Agents**—A category of drugs that includes antiseptics and germicides, dermatological medications, and topical antibacterials.