

The DAWN report

JANUARY 2003

Narcotic Analgesics

In Brief

Concern about the abuse of prescription painkillers has risen dramatically in the U.S. Of particular concern is the abuse of pain medications containing opiates (also known as *narcotic analgesics*), marketed under such brand names as Vicodin, OxyContin, Percocet, Demerol, and Darvon. According to the Drug Abuse Warning Network (DAWN), the incidence of emergency department (ED) visits related to narcotic analgesic abuse has been increasing in the U.S. since the mid-1990s, and more than doubled between 1994 and 2001.

- In 2001, there were an estimated 90,232 ED visits related to narcotic analgesic abuse, a 117 percent increase since 1994.
- Nationally, narcotic analgesics were involved in 14 percent of all drug abuse-related ED visits in 2001.
- In 2001, approximately one-third of the narcotic analgesics reported to DAWN were not specified by name (32,196 mentions). Among the named narcotic analgesics, hydrocodone led with 21,567 mentions, followed by oxycodone (18,409 mentions).
- Oxycodone mentions increased 70 percent from 2000 to 2001, compared to the 186 percent surge in mentions from 1999 to 2000. However, mentions of most narcotic analgesics did not increase from 2000 to 2001.
- From 1994 to 2001, the only narcotic analgesic that declined was codeine. Mentions decreased 61 percent, from 9,439 to 3,720.
- Dependence was the most frequently mentioned motive for narcotic analgesic abuse cases (38,941), followed by suicide (24,576), psychic effects (13,949), unknown motive (11,039), and other motives (1,727).
- In 2001, the average age was 37 for patients who attended the ED because of narcotic analgesic abuse.

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Background

Concern about the abuse of narcotic analgesics has increased dramatically in the past few years. Because DAWN collects information on drug abuse-related emergency department (ED) visits, it is well positioned to provide insights on this topic. DAWN publishes estimates for ED visits and for the number of times a drug is mentioned as being involved in an ED visit related to substance abuse (referred to as drug mentions).

This report provides estimates and trends for the coterminous U.S. of emergency department visits related to the abuse of narcotic analgesics. Demographic and multi-drug use patterns associated with these visits are also discussed.

The term "narcotic analgesic" refers to drugs derived from natural or synthetic opiates for the purpose of relieving pain. Table 1 includes a complete list of the drugs described in this report. A narcotic analgesic may contain a single ingredient (such as oxycodone) or it may include other ingredients (such as oxycodone with acetaminophen). In this report, mentions of the single- and multiple-ingredient narcotic analgesics have been combined. Cough and cold remedies that contain a narcotic but are not considered analgesics are excluded from this analysis.

Trends in Narcotic Analgesic ED visits: 1994-2001

From 1994 to 2001, the estimated number of ED visits involving narcotic analgesic abuse rose from 41,687 to 90,232, a 117 percent

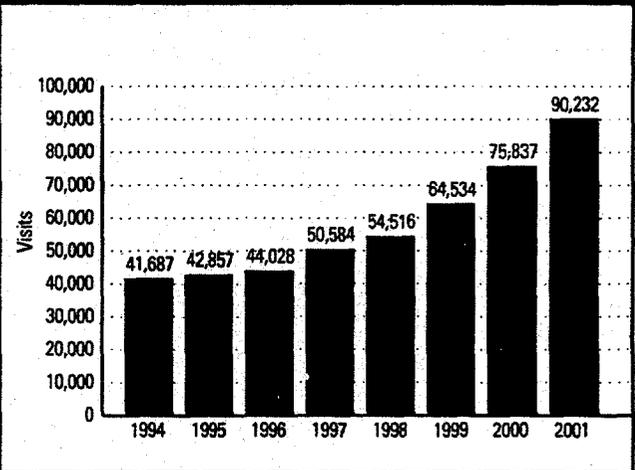
Estimates for the narcotic analgesics described in this report should not be attributed to drugs marketed under particular trade or brand names. For example, although there have been many recent media reports of abuse of OxyContin (a particular brand of oxycodone), the DAWN estimates for oxycodone should not be attributed to OxyContin, Percocet, Percodan or any other particular brand of analgesic containing oxycodone.

increase (Figure 1). Instances of narcotic analgesics mentioned in ED visits also increased, from 44,518 in 1994 to 99,317 in 2001 (123%) (Table 1). Thirty-two percent (32,196) of the mentions were of unnamed (*not otherwise specified or NOS*) narcotic analgesics, followed by hydrocodone (21,567 mentions), oxycodone (18,409), and methadone¹ (10,725). Figure 2 depicts narcotic analgesics which reached 1,000 mentions at least once from 1994 to 2001. To put the narcotic analgesic estimates into context, in 2001 there were an estimated 218,005 mentions of alcohol in combination with another drug, 193,034 mentions of cocaine, 93,064 mentions of heroin, and 110,512 mentions of marijuana in visits to EDs.

The ED trends for individual narcotic analgesics vary. Those showing the largest increases from 1994 to 2001 included oxycodone (352%), methadone (230%), morphine (210%), and hydrocodone (131%). Fentanyl mentions increased significantly between 1994 and 2001 (from 28 to 710 mentions), although the

numbers remained relatively small. Meanwhile, mentions of meperidine, opium, pentazocine, and propoxyphene remained stable. Mentions of codeine declined 61 percent from 1994 to 2001. Most of the increases in narcotic analgesic mentions occurred toward the end of the 1990s. Total mentions increased 44 percent from 1999 to 2001, apparently driven by increases in oxycodone (186%), methadone (98%), and hydrocodone (41%). From 2000

FIGURE 1
Trends in narcotic analgesic-related ED visits: 1994-2001



to 2001, statistically significant increases were observed for oxycodone (70%) and methadone (37%). Although unspecified narcotic analgesics (NOS) increased 288 percent from 1994 to 2001 and 24 percent from 2000 to 2001, it is not possible to determine which, if any, specific drugs are driving the overall increase in that category.

TABLE 1
Trends in ED mentions and total visits for narcotic analgesics: 1994-2001

Drug name ¹	1994	1995	1996	1997	1998	1999	2000	2001	percent change ²		
									1994, 2001	1999, 2001	2000, 2001
Narcotic analgesics/combinations	44,518	45,254	46,941	54,116	58,946	69,011	82,373	99,317	123.1	43.9	20.6
codeine/combinations	9,439	8,732	7,594	7,869	6,620	4,974	5,295	3,720	-60.6	-25.2	-29.7
fentanyl/combinations	28	22	34	203	286	337	576	710	2,435.7	110.7	
hydrocodone/combinations	9,320	9,686	11,419	11,570	13,611	15,252	20,098	21,567	131.4	41.4	
hydromorphone	887	569	609	604	937	1,313			
meperidine/combinations	925	1,045	876	864	730	882	1,085	665			
methadone	3,252	4,247	4,129	3,832	4,810	5,426	7,819	10,725	229.8	97.7	37.2
morphine/combinations	1,099	1,283	864	1,300	1,955	2,217	2,483	3,403	209.6		
opium/combinations	30	49	24	...	167	96			
oxycodone/combinations	4,069	3,393	3,190	5,012	5,211	6,429	10,825	18,409	352.4	186.3	70.1
pentazocine/combinations	289	153	196	202	329	262	...	247			
propoxyphene/combinations	6,731	6,294	5,889	6,502	5,826	5,632	5,485	5,361			
narcotic analgesics/combinations-NOS ²	8,307	9,562	11,855	15,893	18,495	25,946	25,935	32,196	287.6		24.1
Total narcotic analgesic visits	41,687	42,857	44,028	50,584	54,516	64,534	75,837	90,232	116.5	39.8	19.0
Total drug abuse visits	518,880	513,519	513,933	526,818	542,432	554,767	601,563	636,484	23.1	15.1	6.1

¹ Includes all combination drugs containing the narcotic analgesic listed. In this analysis, drugs are categorized by the narcotic ingredient regardless of whether other drugs are included in the compound. For example, a drug containing codeine and acetaminophen is included in the same category as codeine.

² Drugs whose specific names were not recorded in the source document but where there was enough information to identify them as narcotic analgesics (e.g., "morphine derivative," "opiate") are categorized as "Not Otherwise Specified" (NOS) in this report.

NOTES: ... Estimate does not meet standard of precision.

This classification of drugs is derived from the Multum *Lexicon*, Copyright © 2001, Multum Information Services, Inc. The classification has been modified to meet DAWN's unique requirements (2001). The Multum Licensing Agreement governing use of the Lexicon is provided in DAWN publications and can be found on the Internet at <http://www.multum.com>.

Narcotic analgesics with very few mentions, or of minimal current policy interest, are not included in this report. A complete listing of narcotic analgesics reported to DAWN in 2001 may be found in Table 2.8.0 in *Emergency Department Trends From the Drug Abuse Warning Network, Final Estimates 1994-2001*, available at: <http://www.DAWNinfo.net>.

Emergency department data are weighted estimates based on a representative sample of non-Federal, short-stay hospitals with 24-hour EDs in the coterminous U.S.

SOURCE: Office of Applied Studies, SAMHSA, Drug Abuse Warning Network, 2001 (03/2002 update).

FIGURE 2
Trends in ED mentions of narcotic analgesics: 1994-2001

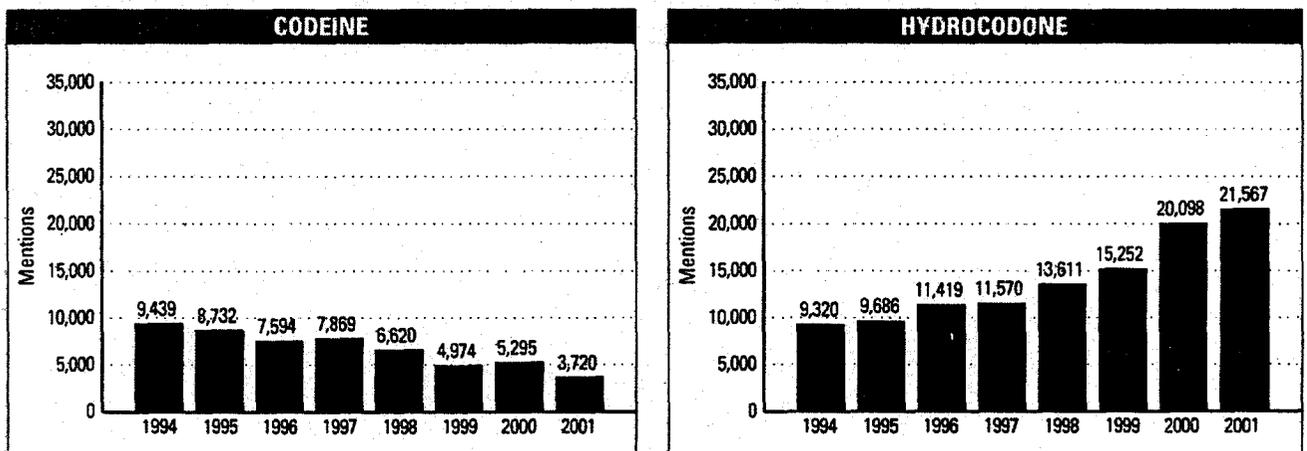
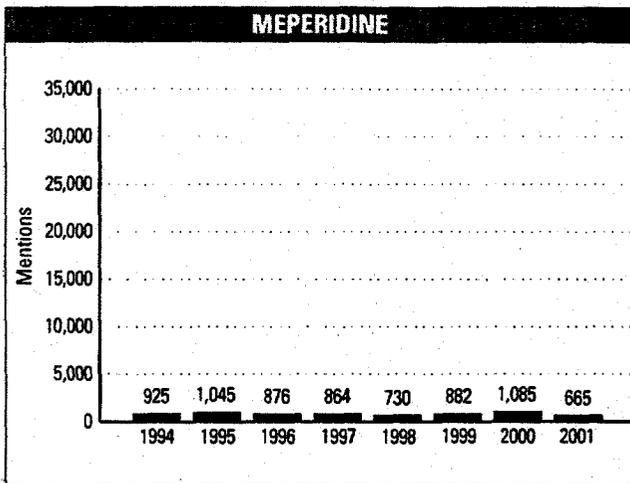
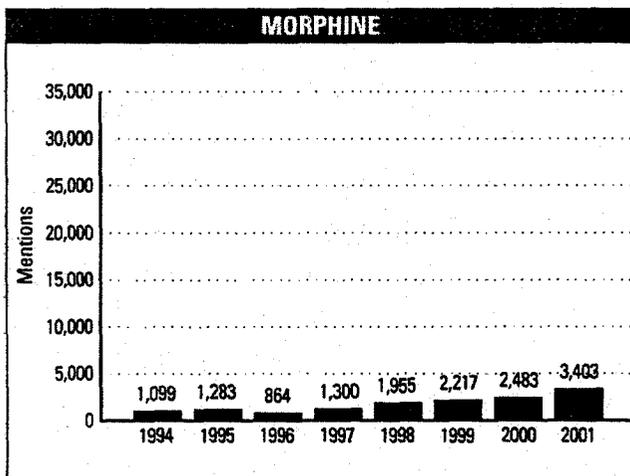
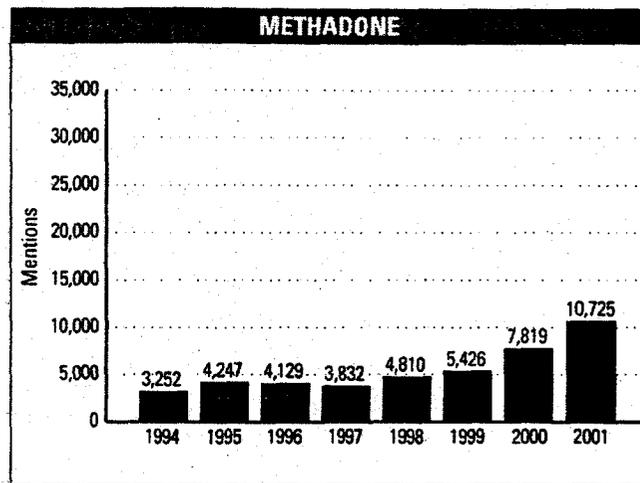


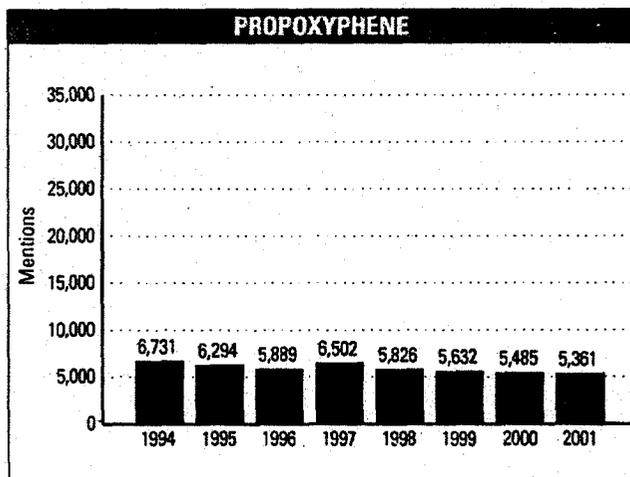
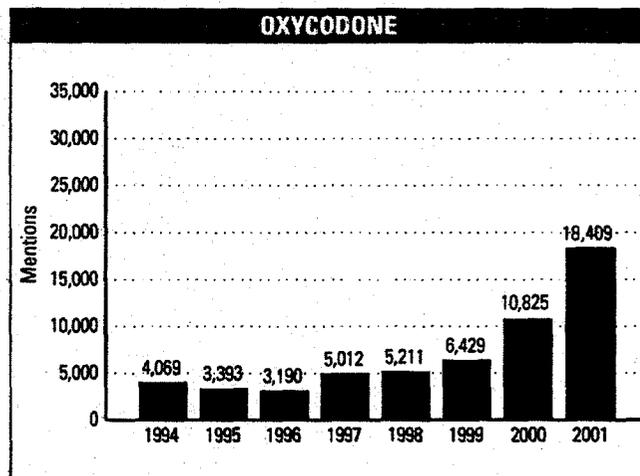
FIGURE 2, CONT.
Trends in ED mentions of narcotic analgesics: 1994-2001



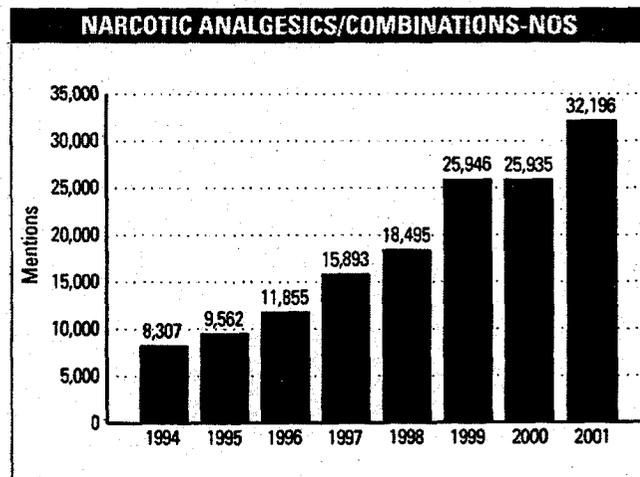
Not a statistically significant trend



Note: Only the increase between 1994 and 2001 is statistically significant



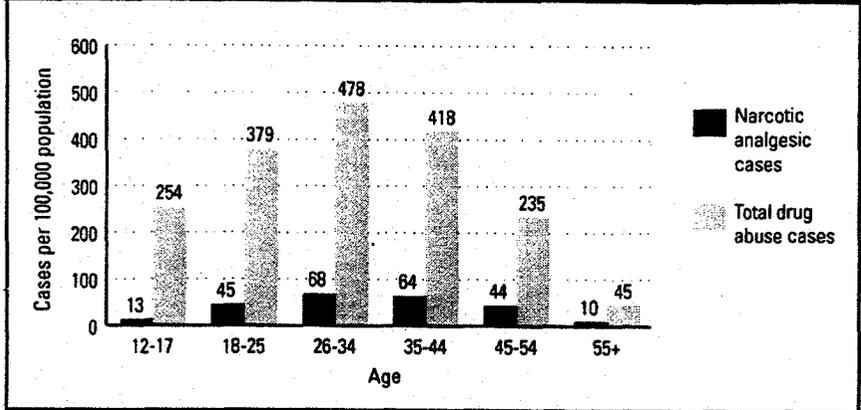
Not a statistically significant trend



Demographic Characteristics

Age. DAWN captures data on ED patients from age 6 to 97. In 2001, the age of patients attending the ED because of narcotic analgesic abuse averaged 37 years. Rates of ED cases involving narcotic analgesics peaked in the 26 to 34 age group (68 cases per 100,000 population), closely followed by patients age 35 to 44 (64) (Figure 3). Rates for total DAWN ED cases followed a similar pattern.

FIGURE 3
ED cases per 100,000 population for narcotic analgesics and all drugs, by age: 2001



At the individual drug level, rates of hydrocodone and oxycodone mentions were

similar within each age group (Figure 4). For all age groups, however, the highest rates were

for the unnamed narcotic analgesic group.

FIGURE 4
ED mentions per 100,000 population for narcotic analgesics,² by age: 2001

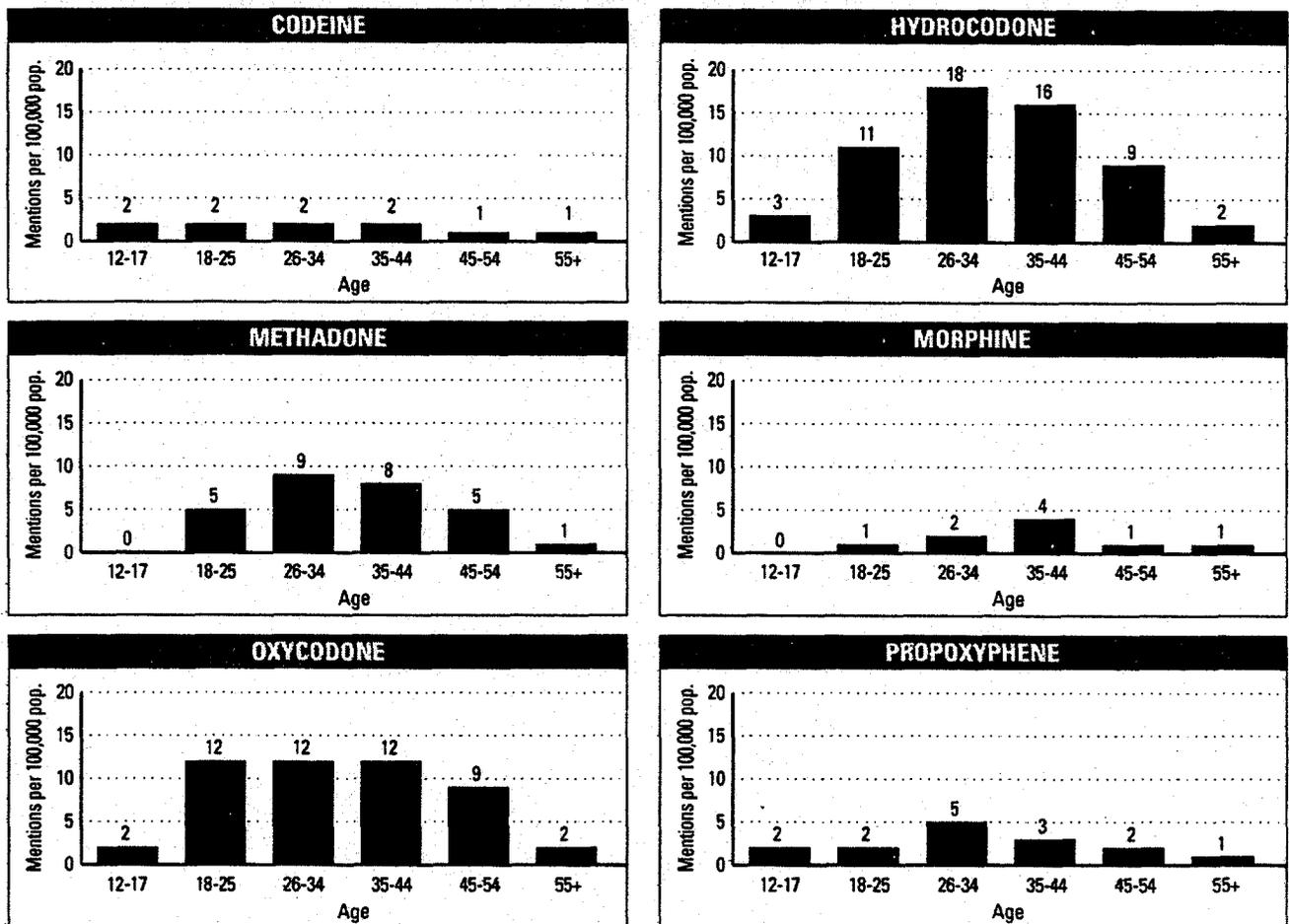
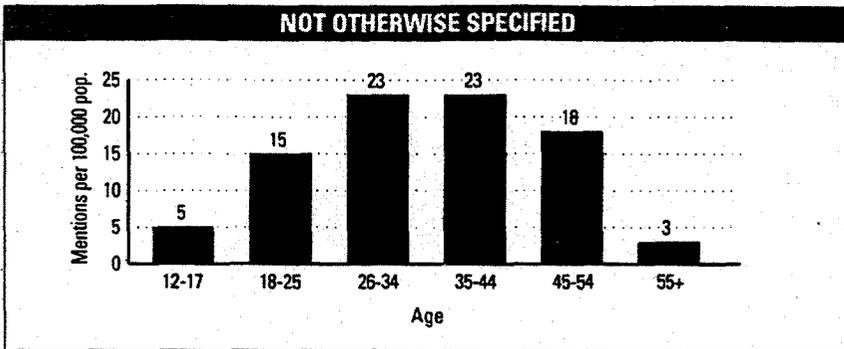


FIGURE 4, CONT.
ED mentions per 100,000 population for narcotic analgesics, by age: 2001



Gender. In a shift from 2000, when hydrocodone was the narcotic analgesic most frequently mentioned for both men and women, in 2001 oxycodone (9,624 mentions) topped hydrocodone (7,767) for men. For women, hydrocodone continued to be the most-mentioned narcotic (13,461), followed by oxycodone (8,265). Methadone was the third-most mentioned narcotic analgesic for both men (6,338) and women (4,154) in 2001. It is important to remember that these rankings do not include the unnamed narcotic analgesics (18,696 mentions for men and 13,189 mentions for women) which may be distributed differently.

In 2001, the ED case rates were 37 per 100,000 population for men and 33 for women for narcotic analgesics. In comparison, the rates of total drug abuse visits were 271 per 100,000 population for men and 227 for women (Figure 5). The rates by gender for specific narcotic analgesics are depicted in Figure 6.

Race/ethnicity. In 2001, 62,937 of the ED patients who abused narcotic analgesics were white, 9,986 were black, and 8,329

were Hispanic. In 8,532 visits, the patient's race/ethnicity was unknown.

A substantial proportion of narcotic analgesic mentions were unnamed for black (57%), Hispanic (50%), and white (26%) patients. Hydrocodone was the most

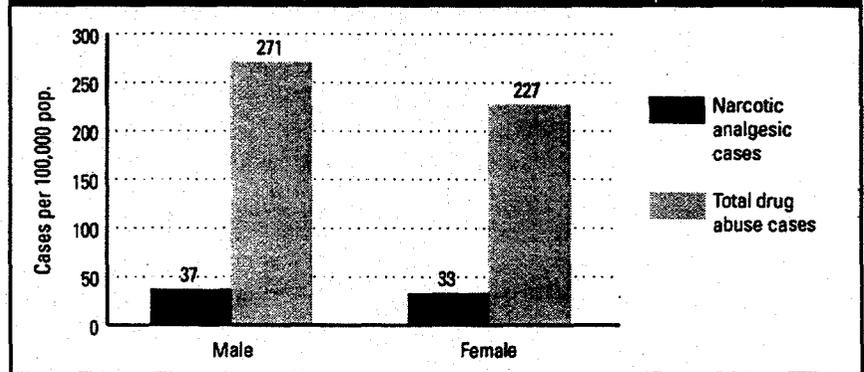
black and Hispanic patients. For the racial/ethnic groups not included in the previous categories, codeine, hydrocodone, and oxycodone had similar numbers of mentions.

Characteristics of narcotic analgesic ED visits: 2001

Multi-drug visits. On average, 2 drugs were mentioned in each ED visit involving narcotic analgesics, and more than 1 drug was involved in 72 percent of the visits (Figure 7).

There were 25,222 ED visits where the narcotic analgesic was the sole drug reported; in 29,924 visits there were a narcotic analgesic and another drug; in 21,785 visits there were 3 drugs, and for 13,301 visits, 4 or 5 drugs were mentioned. Cocaine taken with unspecified

FIGURE 5
ED cases per 100,000 population for narcotic analgesics and all drugs, by gender: 2001



frequently named narcotic analgesic for white patients, followed by oxycodone and methadone. Hydrocodone, methadone, and oxycodone were the most frequently mentioned narcotic analgesics for

narcotic analgesics was the most frequently reported combination in 2001 (Table 2). This pattern suggests that efforts to prevent narcotic analgesic abuse must also address multi-drug abuse.

FIGURE 6
ED mentions per 100,000 population for narcotic analgesics, by gender: 2001

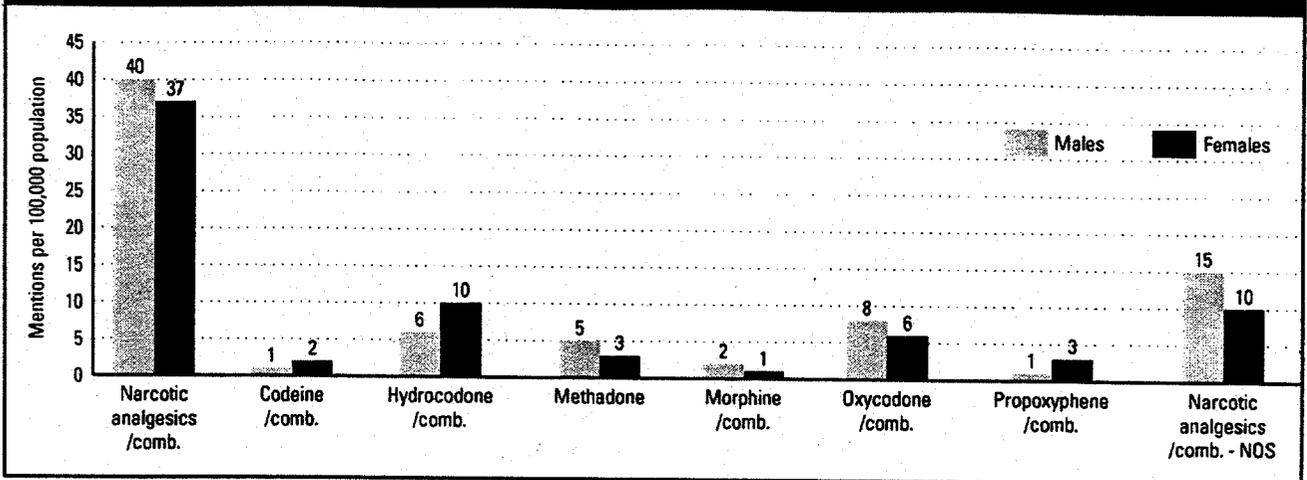


FIGURE 7
Narcotic analgesics in multi-drug ED visits: 2001

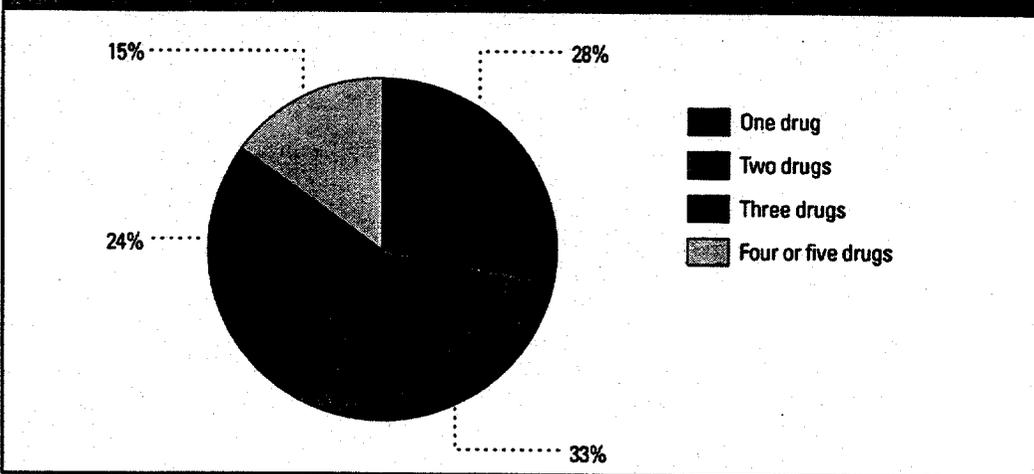


TABLE 2
Top 10 ED narcotic analgesic drug combinations: 2001

Rank	Cases	Drugs mentioned in ED visits		
		Drug 1	Drug 2	Drug 3
1	3,096	narcotic analgesics-NOS	cocaine	
2	2,693	narcotic analgesics-NOS	alcohol	
3	2,226	narcotic analgesics-NOS	benzodiazepines-NOS	
4	1,938	hydrocodone	alcohol	
5	1,710	narcotic analgesics-NOS	marijuana	
6	1,333	narcotic analgesics-NOS	cocaine	alcohol
7	1,204	oxycodone	alcohol	
8	1,138	narcotic analgesics-NOS	cocaine	marijuana
9	966	methadone	alcohol	
10	913	narcotic analgesics-NOS	benzodiazepines-NOS	alcohol

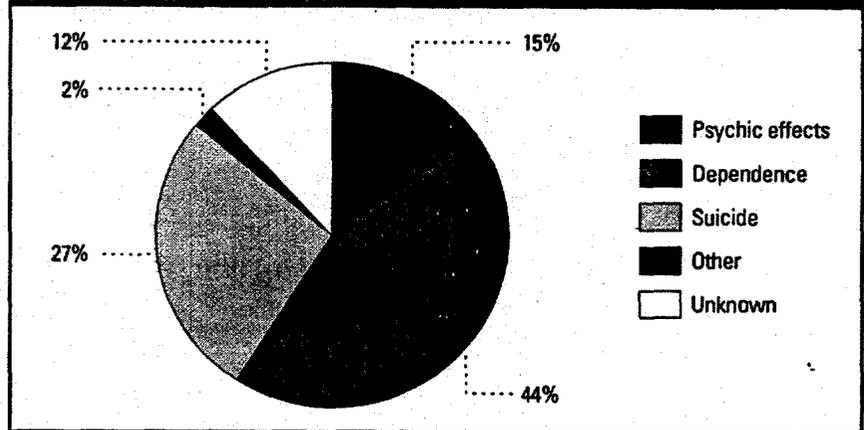
Motive for abuse. In 2001, dependence was the most frequently reported motive underlying narcotic analgesic visits (38,941 visits), followed by suicide (24,576) and psychic effects (13,949) (Figure 8). Meperidine, methadone, morphine, oxycodone, and unspecified narcotic analgesic mentions were most frequently associated with dependence. Codeine, hydrocodone, and propoxyphene were most frequently associated with suicide-related visits.

Only one motive can be assigned to each DAWN ED visit. If a patient takes several drugs but has a different reason for each one (for example, a narcotic analgesic for pain relief, and cocaine because of dependence) these multiple motives are not reflected in the

visit description. This may result in misclassification of motive at the drug level, but the extent to which this occurs is unknown. This issue is particularly pertinent for narcotic

analgesics because they are so frequently taken in conjunction with other drugs. Therefore, these findings must be interpreted with this in mind.

FIGURE 8:
Narcotic analgesic-related ED visits, by motive for abuse: 2001



Things to remember

- DAWN publishes information about substances using the generic name of the drug, not the brand name. This is because DAWN data are extracted from medical records produced during the ED visit, where the drug may be listed by its brand (trade) name or by its generic name. There is no way to tell whether the brand names in the medical records are always accurate, or how frequently brands may have been recorded in generic terms. Because of this inconsistent reporting, DAWN does not publish estimates for particular brands.³
- In this analysis, drugs are categorized by the narcotic ingredient regardless of whether other drugs are included in the compound. For example, a drug containing codeine and acetaminophen is included in the codeine category.
- A substantial proportion of the ED narcotic analgesic mentions (32%) fall into the NOS (unnamed) category. We cannot assume that the distribution of the NOS drugs is similar or dissimilar to the distribution of named drugs.

Endnotes

¹ Methadone is included in this report because it is a narcotic analgesic used to treat heroin dependence. In some DAWN cases, methadone may be a drug of abuse; in others, it may be included in the reports because it was found with other illicit drugs such as heroin. Therefore, the figures for methadone in this report should be interpreted with caution.

² Figure 4 includes narcotic analgesics with rates greater than 1 per 100,000 population and with relative standard errors (RSEs) less than 50 percent. Meperidine rates are suppressed because their RSE is greater than 50.

³ For information linking brand names with drugs, see Drug Indexes at <http://www.DAWNinfo.net>.

SOURCES: *Emergency Department Trends From the Drug Abuse Warning Network, Final Estimates 1994-2001* and *Detailed Emergency Department Tables*. Available at <http://www.DAWNinfo.net>.