

# The DAWN Report

AUGUST 2003

## Marijuana-related Emergency Department Visits by Youth

### In Brief

- According to the Drug Abuse Warning Network (DAWN), marijuana is the most frequently reported drug in emergency department (ED) visits related to drug abuse in youth age 12 to 19.
- In 2001, youth age 12 to 19 made an estimated 26,706 ED visits related to the abuse of marijuana or marijuana with other substances.<sup>1</sup> More than 60 percent (16,516) of these visits involved youth age 12 to 17.
- From 1994 to 2001, youth age 18 to 19 had the highest rates of marijuana-related ED visits per 100,000 population; adults age 35 and over had the lowest rates. Rates for youth age 12 to 17 fell between these two extremes.
- The rate of marijuana-related ED visits<sup>2</sup> among youth has been increasing. For youth age 12 to 17,

the rate of marijuana-related ED visits rose 126 percent from 1994 to 2001, while their overall rate of drug-related ED visits was stable. For youth age 18 to 19, the rate of marijuana-related visits increased 149 percent over this time period.

- More than half of marijuana-related ED visits among youth age 12 to 17 involve other drugs,<sup>3</sup> particularly alcohol, cocaine, and amphetamines.
- When marijuana alone was implicated in the ED visit, *psychic effects* was the most commonly cited motive for using the drug (in 60% of cases for youth age 12 to 17), and *unexpected reaction* was the most commonly cited reason for the ED visit (40% of cases).

<sup>1</sup> The number of DAWN visits does not represent individuals because a patient may make multiple visits to an ED.

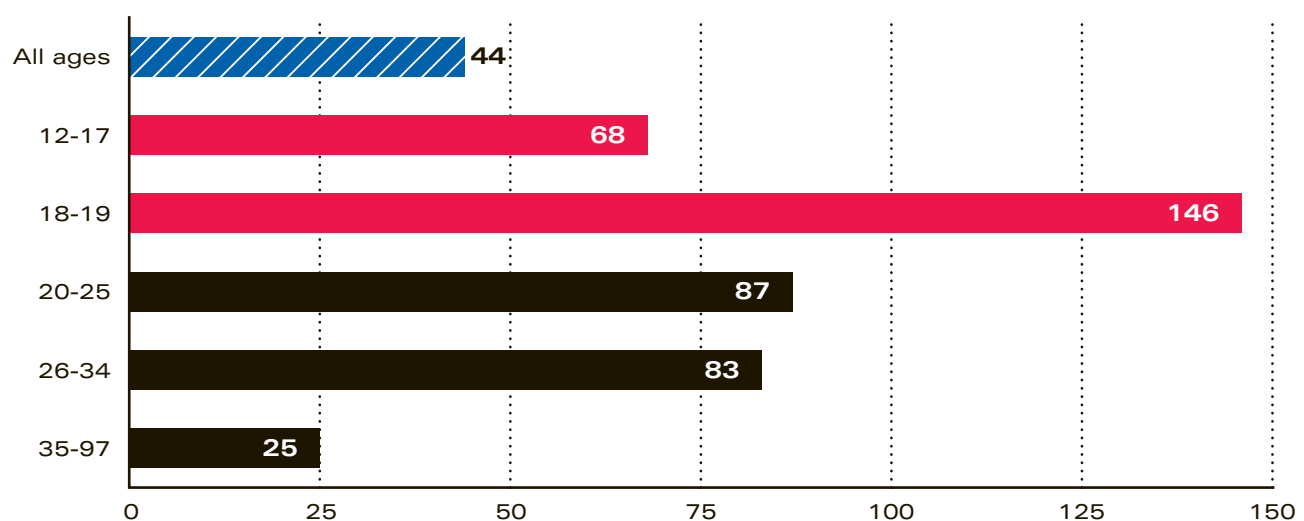
<sup>2</sup> Rates are expressed as the number of ED visits per 100,000 population in the age group.

<sup>3</sup> Up to 4 drugs plus alcohol may be reported for a single visit.

FIGURE 1

### Marijuana in ED visits related to drug abuse, by age: 2001

Rates per 100,000 population



## Marijuana is more frequently reported than other drugs in ED visits among youth.

Marijuana abuse by youth is a major and growing problem in the U.S. An estimated 3.6 million youth age 12 to 17 reported using marijuana in 2001,<sup>4</sup> an increase of 14 percent since 2000.

Patients who present to hospital EDs for problems related to marijuana abuse represent only a small fraction of users. Still, in ED visits related to drug abuse, DAWN finds that marijuana is reported more frequently than any other drug for youth age 12 to 19.

In 2001, youth age 12 to 17 made an estimated 16,516 ED visits related to the abuse of marijuana or marijuana with other substance(s).<sup>5</sup> Youth age 18 to 19 added another 10,190 ED visits involving marijuana.

Overall, marijuana was a factor in more than 1 in 4 drug-related ED visits among youth (27% of 61,695 visits for age 12 to 17, and 29% of 34,578 visits for age 18 to 19).

## Youth account for a disproportionate number of marijuana-related ED visits.

In 2001, youth age 12 to 17 made up 15 percent of marijuana-related ED visits and 28 percent of marijuana-only visits. By contrast, they were 10 percent of the population and 10 percent of all DAWN ED visits.

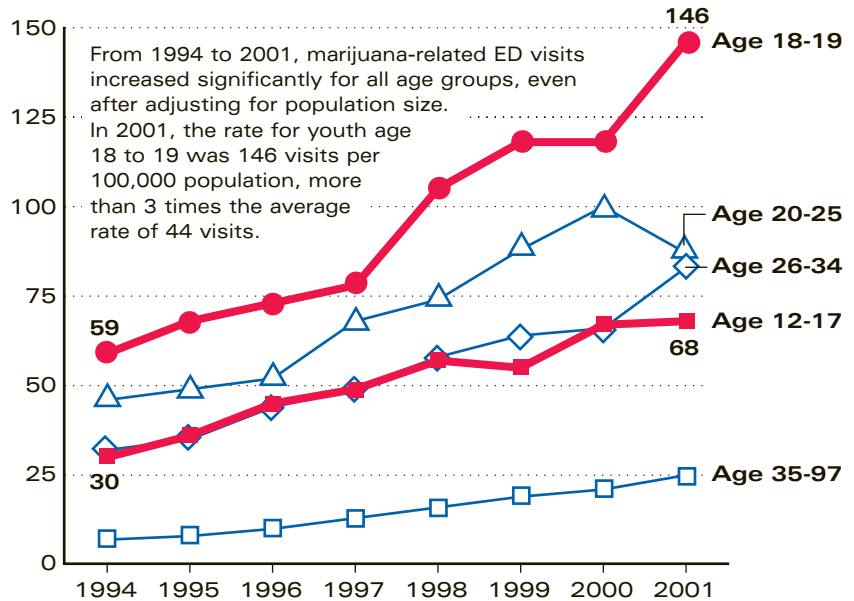
<sup>4</sup> Office of Applied Studies, Substance Abuse and Mental Health Services Administration (8/2002). *Results From the 2001 National Household Survey on Drug Abuse (NHSDA): Volume III Detailed Tables*. Rockville, MD.

<sup>5</sup> Up to 4 drugs plus alcohol may be reported for a single visit.

**FIGURE 2**

### Marijuana-related ED visits, by age group: 1994 to 2001

Rates per 100,000 population



Youth age 18 to 19 accounted for 9 percent of marijuana-related visits and 14 percent of marijuana-only visits. This age group was only 3 percent of the population and 5 percent of DAWN ED visits overall.

## Marijuana-related ED visits are highest for youth age 18 to 19.

In 2001, there were 68 marijuana-related visits per 100,000 youth age 12 to 17. For youth age 18 to 19, the rate was 146 visits per 100,000, the highest of all age groups (Figure 1). By contrast, the rate across all age groups was 44 visits per 100,000.

Since 1994, youth age 18 to 19 have had the highest rates of marijuana-related ED visits, and adults age 35 and over have had the lowest. Rates for youth age 12 to 17 fell between these two extremes (Figure 2).

## Marijuana-related ED visits are increasing faster than drug-related visits overall.

Marijuana-related ED visits have been increasing much faster than drug-related visits overall, with increases evident in every age group. The rate of marijuana-related visits for all ages increased 151 percent, from 17 to 44 per 100,000 population, from 1994 to 2001. By contrast, the rate of drug abuse-related ED visits overall increased a mere 12 percent, with many age groups showing no increase at all.

Among youth age 12 to 17, the rate of marijuana-related visits increased 126 percent from 1994 to 2001, while the rate of drug abuse visits overall did not increase at all.

Among youth age 18 to 19, the rate of marijuana-related visits increased 149 percent from 1994 to 2001, while the rate of drug abuse visits overall increased only 20 percent.

## Marijuana is often reported with other drugs.

Why do individuals go to EDs as a result of marijuana abuse? In many cases, marijuana is present along with other drugs.

In 2001, almost half (46%) of marijuana-related visits among youth age 12 to 17 involved marijuana as the only drug reported. In 1994, this number was 35 percent<sup>6</sup> (Figure 3).

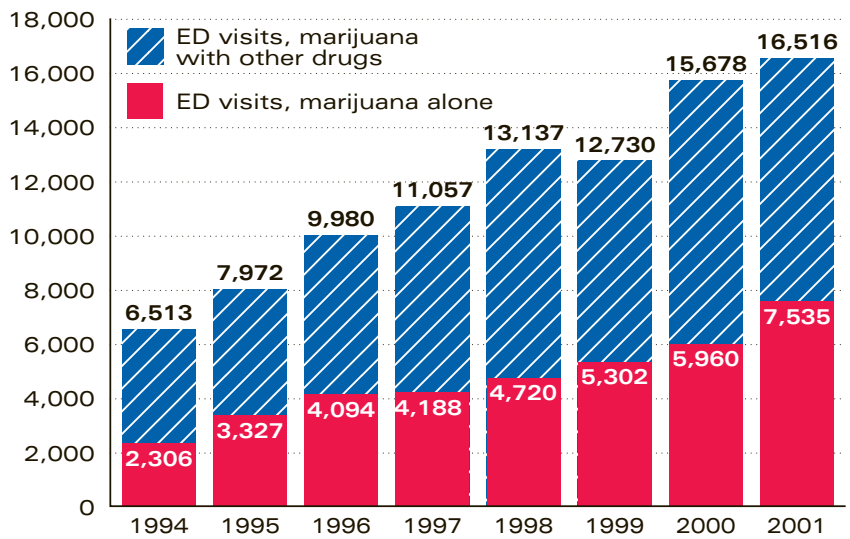
Despite this growth in marijuana-only visits, over half of the marijuana-related ED visits continue to involve more than one drug.

In 2001, alcohol was reported most often with marijuana for all age groups. Among youth age 12 to 17, alcohol was present in more than a quarter (26%) of marijuana-related ED visits. In this group, 14 percent involved only marijuana and alcohol, and 12 percent involved marijuana, alcohol, and other drug(s). Alcohol was present in nearly half of all marijuana visits that involved multiple drugs.

In terms of numbers, 4,313 ED visits by youth age 12 to 17 involved marijuana with alcohol. Marijuana also was reported frequently with cocaine (1,711), amphetamine (760), unnamed benzodiazepines (668), unnamed narcotic analgesics (626), LSD (519), and methamphetamine (444) (Table 1, page 4).

<sup>6</sup> The proportion for youth age 18 to 19 did not change; it was 31 percent in 1994 and 2001.

**FIGURE 3**  
Marijuana-related ED visits, age 12 to 17:  
1994 to 2001



These combinations appear to be changing. For youth age 12 to 17, unnamed narcotic analgesics (626), heroin (282), and unnamed tricyclic antidepressants (264) were among the top 10 drugs reported with marijuana in 2001. None of these drugs appeared in the top 20 in 1994.

## Why marijuana leads to ED visits is unclear.

When multiple drugs are involved, it is not possible to know which drug (or combination) precipitated the ED visit. Only one reason for the ED visit and one motive for abusing the drug are recorded for each ED visit, regardless of the number of drugs involved.

However, the reason for the visit can be determined in cases where marijuana is the only drug. Among youth age 12 to 17 in 2001, where marijuana was the only drug

reported, *psychic effects* (60%) was the most frequently cited motive for the marijuana use. *Dependence* was cited in 15 percent of cases.

*Unexpected reaction* (40%) was the most frequently reported reason for these ED visits. *Overdose* (10%), *chronic effects* (6%), *accident/injury* (4%), *seeking detoxification* (3%), and *withdrawal* (2%) were less frequent reasons.

These patterns differ somewhat for the multi-drug visits. For motive, multi-drug visits tended to include more suicide attempts and overdoses, with proportionately fewer psychic effects and unexpected reactions.

**TABLE 1****Top 20 drugs mentioned with marijuana in ED visits, youth age 12 to 17: 1994 and 2001**

<b>Substance mentioned with marijuana</b>	<b>1994</b>	<b>Substance mentioned with marijuana</b>	<b>2001</b>
alcohol-in-combination	1,936	alcohol-in-combination	4,313
LSD (lysergic acid diethylamide)	783	cocaine	1,711
cocaine	699	amphetamine	760
methamphetamine	528	benzodiazepines-NOS	668
amphetamine	276	narcotic analgesics-NOS	626
PCP (phencyclidine)	229	LSD (lysergic acid diethylamide)	519
acetaminophen-diphenhydramine	198	methamphetamine	444
diazepam	159	heroin	282
datura sauveolens	126	tricyclic antidepressants-NOS	264
psilocybin	114	PCP (phencyclidine)	252
benzodiazepines-NOS	99	acetaminophen	234
anxiolytics, sedatives, and hypnotics-NOS	82	psilocybin	212
acetaminophen	77	barbiturates-NOS	208
paroxetine	76	MDMA (Ecstasy)	198
hydrocodone	72	alprazolam	181
mescaline	70	sertraline	154
clonazepam	69	clonazepam	152
sertraline	66	acetaminophen-chlorpheniramine	134
caffeine	64	flunitrazepam	119
amitriptyline	60	drug unknown	111

**U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES**

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