

23. Rosenstein, A.: Hospital closure or survival: formula for success. *Health Care Manage Rev* 11: 29-35 (1986).
24. Longo, D., and Avant, D.: Small or rural hospitals: the pursuit of quality. *In* Maintaining quality under pressure: the dilemma of the small hospital. Joint Commission on Accreditation of Hospitals, Chicago, 1986, pp. 7-13.
25. Spivak, S.: The aged: a demographic imperative—a major health care market. *In* Hospitals and the aged: the new old market, edited by S. Brody and N. Persily. Aspen Publishers, Inc., Rockville, MD, 1984, pp. 15-24.
26. Mullner, R., and McNeal, D.: Rural and urban hospital closures. *Health Aff (Millwood)* 5: 131-141 (1986).
27. Robinson, M. L.: Rural providers ask: what's a hospital? *Hospitals* 61: 48-52 (1987).
28. Bowen, O. R.: Report to Congress: reimbursement of Sole Community Hospitals under Medicare's Prospective Payment System. Health Care Financing Administration, Washington, DC, Nov. 11, 1987, p. 2-2.
29. Shull, K. A.: Statement of Kenneth A. Shull, President, Stanly Memorial Hospital, Albemarle, NC, Subcommittee on Hospital Productivity and Cost Effectiveness, Prospective Payment Assessment Commission on the Impact of Prospective Pricing on Rural Hospitals, Washington, DC, Nov. 12, 1985, p. 7.
30. State Health Coordinating Council: Rural access to medical care in Washington State. State Department of Social and Health Services, Olympia, WA, 1986.
31. Hernandez, S., and Kaluzny, A.: Hospital closure: a review of current and proposed research. *Health Serv Res* 18: 419-436 (1983).
32. Grim, S. A.: Win/win: urban and rural hospitals network for survival. *Hosp Health Serv Adm* 31: 34-42, January-February 1986.

## A Review of PCP Abuse Trends and Perceptions

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### Synopsis .....

*A critical review of epidemiologic literature on the abuse of phencyclidine (PCP) suggests that*

*current perceptions by the public and among members of the health professions and drug treatment communities about abuse of the drug are distorted. Epidemiologic data indicate that PCP abuse is not widespread in the United States, nor is its abuse prevalent among adolescents. Its abuse has become concentrated among post-high school age, black males in a limited number of cities, especially Washington, DC. The degree of PCP abuse in a metropolitan area may be related to the availability and cost of other, more highly coveted drugs, such as crack cocaine.*

**I**N THE UNITED STATES, phencyclidine (PCP) is viewed as a socially undesirable and dangerous drug of abuse (1-3). Its dangers have been reported by the news media and described by the medical, educational, and law enforcement communities (4). In some major cities, newspaper accounts abound of bizarre or violent behavior among PCP abusers (5-7).

While PCP is well known as a dangerous drug of abuse, misconceptions regarding the drug exist in both popular and professional literatures. Inaccuracies are related to the prevalence of PCP abuse and to characteristics of the typical user, have created a distorted view of PCP abuse, and have led to a highly fearful view of this particular drug problem.

### Prevalence

PCP abuse is frequently thought of as a widespread problem in the period of the 1980s (1-3). According to Garey and coworkers (1), "The illicit use of the psychotomimetic agent phencyclidine (PCP) is still a major problem throughout the United States." Issacs and coworkers (2) subtitled an article on PCP abuse with the phrase, "A close-up look at a growing problem." Schwartz and coworkers (3) began an article on PCP by referring to it as "a widely used illicit drug," and claimed ". . . there is accumulating evidence that PCP use is prevalent among adolescents."

An examination of the number of drug treatment

Table 1. Number of treatment admissions by primary drug of abuse for fiscal year 1987

Drug	Number of admissions
Alcohol.....	1,317,473
Heroin.....	98,549
Cocaine.....	84,707
Marijuana or hashish.....	63,740
Other.....	51,743
Amphetamines.....	16,952
Other opiates or synthetics.....	10,431
PCP.....	8,454
Tranquilizers.....	4,532
Other sedatives or hypnotics.....	2,761
Other hallucinogens.....	2,723
Barbiturates.....	2,570

SOURCE: reference (8).

Table 2. Number of PCP treatment admissions by three States and the District of Columbia

State	Number of admissions
California.....	3,508
Maryland.....	1,771
District of Columbia.....	1,239
Missouri.....	347

SOURCE: reference (8).

Table 3. Number of emergency room mentions and deaths associated with PCP, by metropolitan area, 1987

Metro area	E. R. mentions	Deaths
Washington, D. C.....	4,235	103
Los Angeles.....	1,589	95
Chicago.....	966	4
St. Louis.....	600	5
New York.....	523	( <sup>1</sup> )
San Francisco.....	508	10
Baltimore.....	247	9
New Orleans.....	203	4

<sup>1</sup> Medical examiner data from the New York metropolitan area were excluded from DAWN Annual Data.  
SOURCE: reference (9).

admissions in State-supported facilities indicates that PCP abusers, compared to abusers of other drugs, have not burdened the drug treatment system (8). Table 1 lists the number of drug treatment admissions by primary drug of abuse, as reported to the State Alcohol and Drug Abuse Profile (SADAP) for fiscal year 1987.

Far more people drink alcohol than use illicit substances such as PCP. This results in a much higher number of alcohol-related treatment facility admissions than illicit drug-related ones. Thus, the data do not weigh the comparative health risks of alcohol use, for example, compared to PCP use.

The data do indicate that PCP abuse did not reach epidemic levels nationwide in 1987, relative to some other abused drugs.

Moreover, PCP abuse apparently is increasingly a regional problem. Table 2 shows the States with the largest number of PCP treatment admissions, as reported to SADAP for fiscal year 1987 (8).

In addition to the data reported in table 2, 32 States reported fewer than 300 PCP treatment admissions. Furthermore, 21 States reported fewer than 20 PCP admissions in fiscal year 1987. Fifteen States did not collect data on PCP treatment admissions that year. Note that the figures only represent treatment admissions to facilities which receive some State funding (8).

Further evidence of the regional pattern of PCP abuse is provided by the Drug Abuse Warning Network (DAWN) (9). By 1987, the Washington, DC, metropolitan area accounted for 44 percent of all emergency room mentions reported to DAWN (9). Table 3 shows the distribution of PCP emergency room mentions and PCP-induced or -related deaths reported to DAWN in 1987, by metropolitan area.

In addition to the data in table 3, 19 of the 27 metropolitan areas included in DAWN reported fewer than 100 PCP-related emergency room mentions in 1987 (9). In the same year, Washington, DC, accounted for 41 percent of the PCP-related deaths reported to DAWN (9). The regionalized pattern of abuse is further evidenced by the fact that 13 of the 27 metropolitan areas in DAWN reported fewer than 5 PCP-related deaths. Moreover, 11 metropolitan areas reported no PCP-related deaths in 1987 (9).

The National Institute of Justice, of the Department of Justice, implemented its Drug Use Forecasting (DUF) system in June 1987. The system conducts voluntary, anonymous urine tests of persons arrested for serious crimes (10). By tracking the prevalence of drug abuse among male arrestees in major cities, the data base permits examination of regional patterns of illicit drug abuse. The initial DUF report included samples of male arrestees from 12 cities. Its findings are summarized in table 4. The most frequently found illicit drugs were cocaine, marijuana, and opiates (10). PCP was frequently found among male arrestees in Washington, DC, but not in other cities reporting to DUF.

Table 4 indicates that the majority of male arrestees in 12 cities were positive for at least one illicit drug. From 53 to 79 percent of the men arrested for a crime tested positive in the DUF sample. However, PCP use was relatively low

among this population in most cities. Four cities, Portland, Houston, Detroit, and Fort Lauderdale, reported no arrestees positive for PCP. Los Angeles, one metropolitan area thought to have a serious PCP abuse problem, reported that 5 percent of arrestees were positive for PCP. Washington, DC, with 55 percent of arrestees positive for PCP, had substantially more abuse of the drug among arrestees than other cities. The DUF system is still in early stages of development, with plans for many more cities to join the network (10). Nonetheless, the data provide additional evidence of the regional nature of PCP abuse.

The reliability of reports resulting from national surveys are frequently questioned (11). One way to assess their reliability is to compare the regional incidence of PCP abuse across various independent national surveys. A comparison of the data from SADAP, DAWN, and DUF reveal relatively consistent regional patterns of PCP abuse. For example, Los Angeles and Washington, DC, reported the most PCP-related emergency room mentions and deaths to the DAWN system. Consistent with these data are reports from SADAP. The States of California and Maryland, and the District of Columbia, reported the greatest number of PCP treatment admissions. Washington, DC, reported to DUF the greatest percentage of male arrestees found positive for PCP. However, Los Angeles reported to DUF that only 5 percent of male arrestees were PCP-positive. In relation to the Washington, DC, DUF report and data from DAWN and SADAP, the Los Angeles data appear suspect. Aside from this possible discrepancy, the consistency of the data across surveys suggests that reports of PCP abuse can be considered relatively reliable.

### Demographic Characteristics of Abusers

PCP abuse is often thought to occur primarily among adolescents (3). Existing data do not support this view. DAWN reports of PCP-related emergency room visits indicate that the majority of abusers are between the ages of 20 and 29, male, and black. Table 5 shows that in 1987, 74 percent of emergency room patients were male, 60.4 percent were black, and 57.0 percent were between 20 and 29 years of age (9).

Between 1976 and 1987, the gender of PCP abusers visiting emergency rooms was almost constant. However, the age and race of abusers changed significantly during this period. For example, in the period 1976-77, 51 percent of PCP-

Table 4. Percent of male arrestees found positive for any drug and PCP in 12 major cities, June to November, 1987

City	Any drug	PCP
New York City .....	79	3
Washington, DC.....	77	55
San Diego.....	75	4
Chicago.....	73	11
New Orleans.....	72	14
Portland.....	70	0
Los Angeles.....	69	5
Detroit.....	66	0
Fort Lauderdale.....	65	0
Houston.....	62	0
Indianapolis.....	60	2
Phoenix.....	53	2

SOURCE: reference (10).

Table 5. Demographic characteristics of patients in PCP-related emergency room visits, percent distribution by sex, race, and age, 1987

Characteristic	Percent
<b>Gender:</b>	
Male .....	74.1
Female.....	25.1
Unknown.....	0.7
<b>Race:</b>	
Black.....	60.4
White.....	22.5
Hispanic.....	11.3
Other or unknown.....	5.7
<b>Age:</b>	
10-19 years.....	15.7
20-29 years.....	57.8
30 years and older.....	25.6
Unknown.....	0.9

SOURCE: reference (9).

related emergency room visits were for patients between the ages of 10 and 19 years of age. In contrast, by 1987 only 15.7 percent of PCP-related emergency room visits were for patients in this age group. Blacks made up 24 percent of the PCP-related emergency room visits in the period 1976-77. That figure more than doubled to 60.4 percent of the emergency room visits in 1987 (9).

Additional evidence supporting the notion that PCP is not widely used by adolescents is provided by the National Institute on Drug Abuse's Monitoring the Future Research and Reporting Program. The program began in 1975, but PCP abuse was not recorded until 1979. That year 12.8 percent of the nation's high school seniors reported having used the drug at least once (12). Each year since 1979 has shown small, but steady, decreases in the number of high school seniors who report having ever used PCP. By 1987, only 3 percent of high

school seniors reported ever having used PCP (12).

The Monitoring the Future Program could be biased by significant increases in the nation's school dropout rate. It could be argued that the apparent decline in rates of PCP (and other drug abuse) in the 1980s reflected a tendency of drug abusing youths to drop out of school in greater numbers than nondrug abusing youth. Thus, drug abusing students would be excluded from the sample and cause the actual rates of drug abuse to be underestimated.

An examination of Federal data suggests that the validity of long-term trends in the Monitoring the Future Program is not threatened by school dropout rates. Although there are significant methodological problems with determining the national school dropout rate, it has remained stable at 13 to 14 percent since 1974 (13, 14). In fact, the national school dropout rate for black youth, ages 16 to 24, has decreased slightly since 1974 (14).

## Discussion

The literature review highlights several important trends in PCP abuse in 1987. First, abuse of the drug has become heavily concentrated in the Washington, DC, metropolitan area, with Los Angeles a distant second. The typical PCP abuser is 20 years of age or older, and likely to be black. Moreover, consistency among several independent national surveys (DAWN, SADAP, DUF, and the Monitoring the Future Program) suggests that reports of PCP abuse are relatively reliable.

The observed trends prompt the question of why did PCP abuse in 1987 reach high levels in Washington, DC, and to a lesser extent in Los Angeles, when most other American cities had relatively little abuse of the drug? The differing levels in regional prevalence of PCP abuse probably reflect regional differences in the availability and cost of more preferred drugs such as crack cocaine. PCP was the cheapest drug that was widely available on Washington, DC, streets in 1987 (15). The relatively inexpensive crack cocaine did not become generally available there until 1988 (16). PCP abuse may decrease when other more desired drugs like crack cocaine are widely available and inexpensive. This may account for the decreases in PCP abuse in recent years in both Los Angeles and New York, since both cities showed an increase in the abuse of crack cocaine during the same period (9, 17). A 1987 Drug Enforcement Administration report lends support to this notion by reporting that some former PCP dealers in Los Angeles switched to

selling crack cocaine (15). Thus, the availability of PCP may remain limited in those cities where drugs like crack cocaine are preferred, widely available, and relatively inexpensive.

## References

1. Garey, R. E. et al.: PCP abuse in New Orleans: a six-year study. *Am J. Drug Alcohol Abuse* 13: 135-144 (1987).
2. Issacs, S. O., Martin, P., and Washington, J. A.: Phencyclidine (PCP) abuse: a close-up look at a growing problem. *Oral Surg Oral Med Oral Pathol* 61: 126-129 (1986).
3. Schwartz, R. H., et al.: Clinical and laboratory observations: use of phencyclidine among adolescents attending a suburban drug treatment facility. *J. Pediatr* 110: 322-324 (1987).
4. Davis, B. L.: The PCP epidemic: a critical review. *Int J. Addict* 17: 1137-1155 (1982).
5. Harriston, K.: Woman stabbing herself fatally shot by police. *The Washington Post*, C-3, July 26, 1987.
6. Klaidman, D.: The country's PCP capital. *The Washington Post*, C-8, Aug. 2, 1987.
7. Sanchez, C.: PCP users are courting fire. *The Washington Post*, A-1, Mar. 7, 1988.
8. Butynski, W., and Canova, D.: State resources and services related to alcohol and drug abuse problems, fiscal year 1987: an analysis of State alcohol and drug abuse profile data. National Association of State Alcohol and Drug Abuse Directors, Inc., Washington, DC, 1988.
9. National Institute on Drug Abuse: Annual data 1987, data from the drug abuse warning network (DAWN), DHHS Publication No. (ADM) 88-1584. U.S. Government Printing Office, Washington, DC, 1988.
10. National Institute of Justice: Drug use forecasting (DUF): January report. Department of Justice, Washington, DC, 1988.
11. Johnston, L. D., and O'Malley, P. M.: Issues of validity and population coverage in surveys of drug use. *In* Self-report methods of estimating drug use: meeting current challenges to validity, edited by B. A. Rouse, N. J. Kozel, and L. G. Richards. DHHS Publication No. (ADM) 85-1402, U.S. Government Printing Office, Washington, DC, 1985.
12. Johnston, L. D., O'Malley, P. M., and Bachman, J. G.: Illicit drug use, smoking, and drinking by America's high school students, college students, and young adults, 1975-1987, DHHS Publication No. (ADM) 89-1602. National Institute on Drug Abuse, Rockville, MD. In press.
13. Pallas, A. M.: School dropouts in the United States. DE Publication No. (CS) 87-426, U.S. Government Printing Office, Washington, DC, 1987.
14. U.S. General Accounting Office: School dropouts: the extent and nature of the problem. GAO Publication No. 87-11122, U.S. General Accounting Office, Washington, DC, 1986.
15. Drug Enforcement Administration: Illicit drug wholesale and retail price report, September. Washington, DC, 1987.
16. Greater Washington Research Center: Drug use and drug programs in the Washington metropolitan area: an assessment. Washington, DC, 1988.
17. National Institute on Drug Abuse: Annual data 1986, data from the drug abuse warning network (DAWN). DHHS Publication No. (ADM) 87-1530, U.S. Government Printing Office, Washington, DC, 1987.