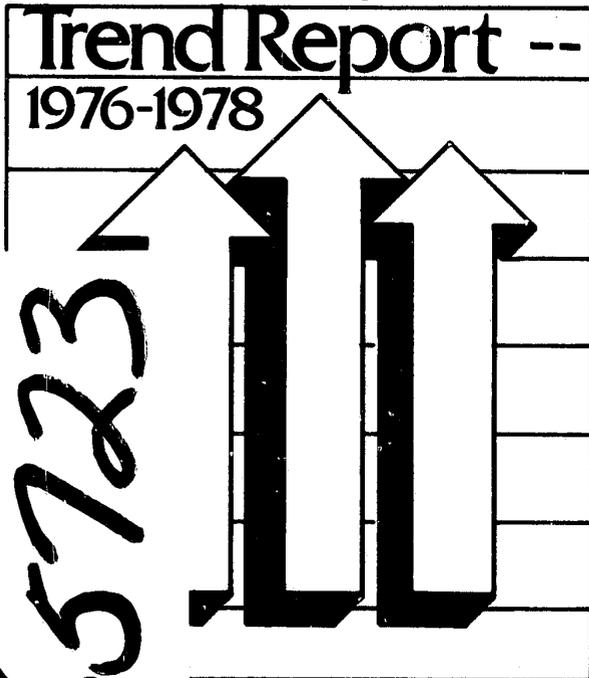


National Institute on Drug Abuse

Heroin Indicators



Trend Report --
1976-1978

An Update

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
NATIONAL INSTITUTE ON DRUG ABUSE
National Center for Mental Health Administration

Heroin Indicators Trend Report -- An 1976-1978 Update

Heroin Indicators Task Force

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ACQUISITIONS

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Alcohol, Drug Abuse, and Mental Health Administration

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FOREWORD

Heroin indicators provide drug abuse treatment planners and practitioners, law enforcement officials, health professionals, and Governmental funding agencies with information on which to base policy and program planning strategies regarding the heroin problem in the United States. In 1978, the number of heroin-related deaths and emergency room visits reached a two year low. However, heroin indicators have shown cyclical trends during the decade between 1969 and 1979. The appearance of a decline should not be interpreted immediately as a sign of dissolution of the heroin problem. In fact, some major metropolitan areas show recent increases in the number of heroin-related emergency room visits or deaths. These differences in local trends make one acutely aware of the need to continually monitor heroin indicators. The Heroin Indicators Trend Report --An Update is one of a series of publications which provide the reader with an understanding of the current status of the heroin problem in the country.

Nicholas Kozel
Acting Chief, Forecasting Branch

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SUMMARY OF HEROIN TRENDS 1976-1978

Decline in all Indicators 1976-1978

All national heroin indicators uniformly showed declining trends for 1976 through 1978. The number of heroin-related deaths in 1978 was less than half of the number reported in 1976. Emergency room visits in 1977 had also declined from that noted in 1976. The average retail price of heroin increased substantially, while the average purity of heroin decreased. Both price and purity trends indicated diminished availability of heroin. The total number of heroin treatment admissions to drug abuse treatment programs as well as the percent of heroin admissions declined noticeably between the two years. Although not statistically significant, there were declines in lifetime prevalence of heroin use as indicated by the 1977 National Household Survey.

Localized Increases and Seasonal Patterns

National trends are a composite of the trends for various parts of the United States. When the local trends were examined, a few different patterns emerged. Some Standard Metropolitan Statistical Areas (SMSAs) showed an increase in the number of heroin-related emergency room visits or deaths, while others showed a decrease. Those with increases were San Francisco, Miami, and Philadelphia. A representative from San Francisco feels the increase may have been related to the poor quality of the heroin.

Some SMSAs exhibited a cyclical trend with peaks occurring in the summer months and lows in the winter months; these were Detroit, Boston, and Washington, D.C. An increase was noted in 1978 for these SMSAs but the increase is thought to be attributable to seasonal factors.

INTRODUCTION

The Heroin Indicators Trend Report--An Update is intended to provide a brief and objective assessment of heroin indicators in the United States. The remainder of the introduction and other parts of the text are taken from a former report (1), since the rationale for the selection of the various indicators has remained unchanged.

The information utilized was obtained from a variety of sources which are generally considered to have an association with trends in drug use. The absolute nature of the association is not known, although it is generally considered that changes in drug use are reflected by changing values in the indicators. Thus, the indicators should be viewed as relative measures of change rather than absolute measures. The indicators include:

- Heroin-related deaths
- Heroin-related emergency room visits
- Heroin average price and purity
- Heroin treatment admissions
- Household and high school surveys
- Estimates of heroin prevalence

RATIONALE FOR SELECTION OF INDICATORS

Heroin-related deaths

An increase in the number of active heroin users in the Nation is thought to result in an increase in the number of fatal reactions to the drug. It is believed that the number of deaths would increase as a function of the number of persons who intravenously self-administer heroin of varying quantity and quality.

Heroin-related emergency room visits

Similar to heroin-related deaths, the number of non-fatal reactions to heroin is thought to increase as the number of heroin users increases. Thus, the number of individuals who experience heroin overdose and are treated in hospital emergency rooms should vary with the total number of active users.

Heroin average price and purity

Changes in the retail purity and potency of heroin and changes in price are generally considered a measure of heroin availability. As the purity of heroin increases and the price declines, availability of heroin is assumed to increase. Increases in availability are believed to be associated with increases in the total number of heroin users.

Heroin treatment admissions

The number of persons admitted to treatment for use of heroin is thought to be a function of the number of heroin users. As heroin availability increases, the number of users should increase. With an increase in the number of persons eligible for treatment, the number entering treatment should increase.

Household and high school surveys

Surveys are contrasted with other indicators for heroin use in that they provide a more direct measure of the number of drug users rather than an indication. Household surveys of heroin users, however, are limited since not all heroin users may be found in residences. In addition, high school surveys only involve those in high school, omitting those who may have dropped out. On the other hand, surveys can be used to indicate a general trend in the number of users and show differences in use patterns among groups.

Estimated number of heroin users

A prevalence estimate is required to complement a discussion of heroin trends. In this case, the estimate is based on a combination of indicators, i.e., price and purity, emergency room mentions, deaths and the estimated number of heroin users for selected SMSAs when available.

Other indicators

Hepatitis (Type A and B) trends are not included due to spurious and unfounded relationships to the drug-using population. Reporting of hepatitis has improved over the years along with antigen tests and improved identification procedures. Thus, it is difficult to discuss whether an increase in the number of reported hepatitis cases is related to the improved reporting or a change in the size of the heroin-using population.

Burglaries and robberies are also excluded because of the nonuniform relationship between these indicators and heroin use. In some cities it is thought that less than 20 percent of the crimes are drug related. These findings cause one to question the use of crime statistics in determining drug abuse trends.

It should be noted that the indicators described are believed to have a distinct, albeit indirect, relationship with heroin trends. Although the exact association among the various indicators or between the indicators and heroin use or activity is unknown, the indicators are thought to reflect general variation in heroin trends. Each indicator provides a unique set of data regarding the consequences or correlates of heroin use or activity, i.e., deaths, emergencies, price-purity, and treatment.

HEROIN-RELATED DEATHS

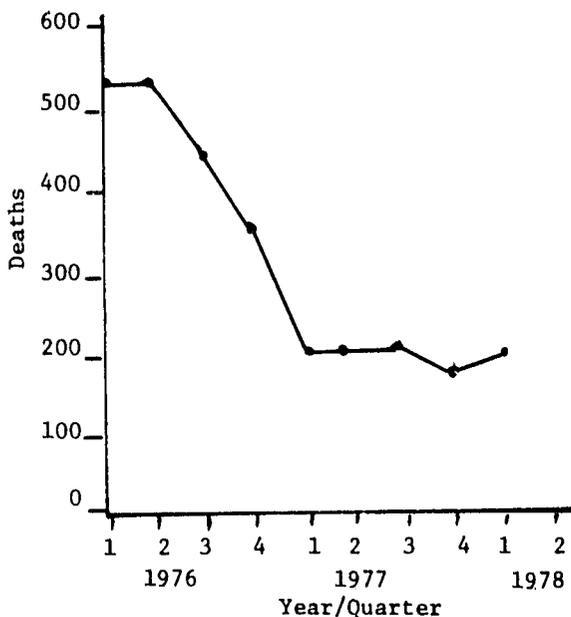


Figure 1. Heroin-related Deaths reported by a consistent panel of medical examiners, 1976-1978.

Source: DAWN Quarterly Report April - June 1978.
Rockville, Maryland: National Institute on Drug Abuse, 1979.

Figure 1 and table 1 show the number of heroin-related deaths based on data reported to the Drug Abuse Warning Network (DAWN), an information system funded jointly by the National Institute on Drug Abuse (NIDA) and the Drug Enforcement Administration (DEA).

Table 1

Heroin-Related Deaths

Consistent Panel of Medical Examiners

<u>Quarter</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
Jan-Mar	524	200	198
Apr-Jun	537	200	
Jul-Sep	447	201	
Oct-Dec	360	166	

Source: DAWN Quarterly Report April - June 1978.
 Rockville, Maryland: National Institute on
 Drug Abuse, 1979.

The data are raw numbers based on reports for January 1976 through March 1978 from approximately 100 medical examiners consistently reporting over that time.

The medical examiners were located in 24 major Standard Metropolitan Statistical Areas (SMSAs) throughout the United States. The SMSAs were not statistically selected to be representative of heroin-related deaths in the country. Nonetheless, the fact that they were all major metropolitan areas, containing a sizeable percentage of the total United States population, suggests that national changes in heroin-related deaths were likely to be reflected in their combined trends.

The heroin-related death trend line shows a decline in 1976 with a levelling off in 1977 and 1978.

HEROIN-RELATED EMERGENCY ROOM VISITS

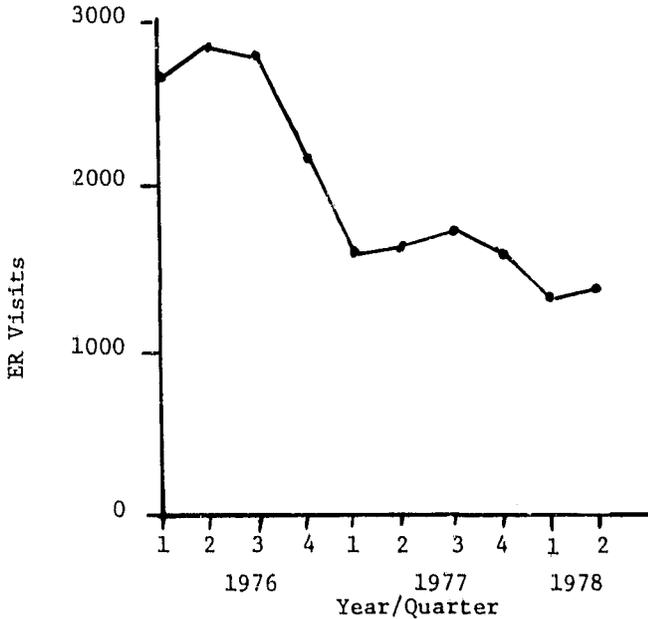


Figure 2. Heroin-related emergency room visits reported by a consistent panel of emergency rooms, 1976-1978.

Source: DAWN Quarterly Report, April - June 1978.
Rockville, Maryland: National Institute on Drug Abuse, 1979.

The number of heroin-related emergency room visits reported to DAWN is shown in figure 2 and table 2. The data are drawn from reports submitted by approximately 600 facilities throughout the country consistently reporting over the time period.

Table 2
 Heroin-Related Emergency Room Visits
 Consistent Panel of Emergency Rooms

Quarter	1976	1977	1978
Jan-Mar	2605	1644	1337
Apr-Jun	2851	1664	1399
Jul-Sep	2814	1768	
Oct-Dec	2286	1600	

Source: DAWN Quarterly Report April - June 1978.
Rockville, Maryland: National Institute on
Drug Abuse, 1979.

Most of the hospitals were located in saturated SMSAs, i.e., SMSAs in which all eligible hospitals were encouraged to report and in which approximately 80 percent or more reported. At the time of the printing of the Heroin Indicators Trend Report--An Update there were 21 SMSAs which were saturated and three (New York, Chicago, and Los Angeles) which were monitored on a 50 percent sampling basis.

The emergency room visits trend line shows a sharp decline from 1976 to 1978. In mid-1977, a slight increase was observed. Since a similar increase was noted in mid-1976, the possibility of seasonal variation must be considered.

HEROIN AVERAGE PRICE AND PURITY

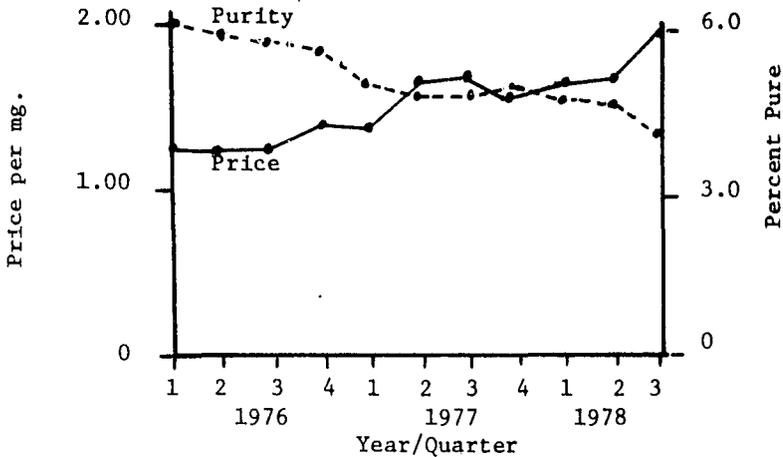


Figure 3. Heroin Average Price and Purity, 1976-1978.

Source: Performance Measurement System, Statistics Compiled Through September 1978. Washington, D.C.: U.S. Department of Justice, Drug Enforcement Administration, 1978.

Samples of heroin were obtained through street buys by law enforcement officials. These buys were not random although they were thought to be representative. An attempt was made to exclude wholesale buys, i.e., those destined to be sold to dealers, from the price-purity indicator. The criterion used to distinguish retail street-level buys from wholesale buys changed in 1977 and the effect on the trend line is not known.

Table 3a

Average Heroin Price
(Price per milligram)

Quarter	1976	1977	1978
Jan-Mar	\$1.26	\$1.39	\$1.66
Apr-Jun	1.26	1.65	1.69
Jul-Sep	1.28	1.69	1.96
Oct-Dec	1.40	1.59	

Table 3b

Average Heroin Purity
(Percent pure)

Quarter	1976	1977	1978
Jan-Mar	6.6%	5.8%	4.9%
Apr-Jun	6.4	5.1	4.9
Jul-Sep	6.2	5.0	4.2
Oct-Dec	6.1	5.1	

Source: Performance Measurement System, Statistics Through September 1978. Washington, D.C.: U.S. Department of Justice, Drug Enforcement Administration, 1978.

The price and purity of heroin are shown in figure 3 and tables 3a and 3b. The average price of heroin increased over the entire period 1976-1978 while the purity declined. Both maintained stable trends during the latter half of 1977 and the first half of 1978. In the third quarter of 1978, heroin price increased somewhat while purity decreased.

HEROIN TREATMENT ADMISSIONS

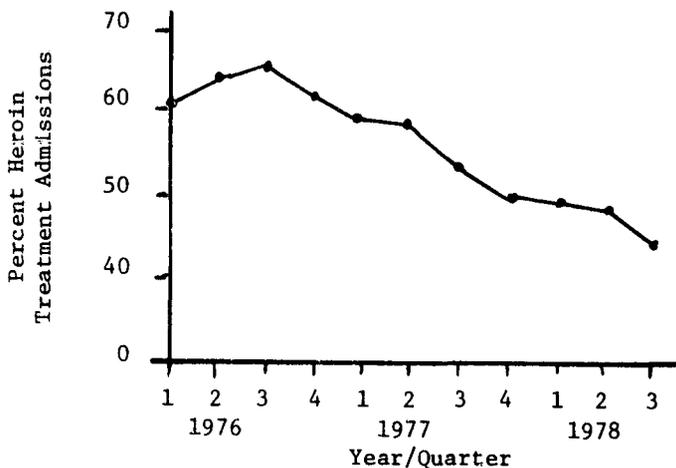


Figure 4. Percent treatment admissions with heroin as the primary drug of abuse, 1976-1978.

Source: Client Oriented Data Acquisition Process
Cumulative Admissions Files January 1975 -
September 1978. Rockville, Maryland:
National Institute on Drug Abuse, 1979.

The treatment admission reports were based on the Client Oriented Data Acquisition Process (CODAP). CODAP is a NIDA funded national information system which was implemented in April 1973 and to which all federally supported treatment facilities are required to report. The federally funded programs reporting to CODAP did not represent a statistical sample of all treatment programs in the country but they were believed to include approximately 55 percent of all individuals who entered drug abuse treatment programs.

Table 4a

Drug Abuse Treatment Admissions
Number with Heroin as Primary Drug of Abuse

Quarter	1976	1977	1978*
Jan-Mar	38,125	29,929	27,335
Apr-Jun	39,204	30,544	25,599
Jul-Sep	39,842	29,713	21,673
Oct-Dec	35,280	28,916	

*Provisional data

Table 4b

Drug Abuse Treatment Admissions
Percent with Heroin as Primary Drug of Abuse

Quarter	1976	1977	1978*
Jan-Mar	61.4%	57.8%	47.6%
Apr-Jun	64.5	57.3	47.0
Jul-Sep	66.0	54.9	44.6
Oct-Dec	62.7	50.9	

*Provisional data

Source: Client Oriented Data Acquisition Process
Cumulative Admissions Files January 1975 -
September 1978. Rockville, Maryland,
National Institute on Drug Abuse, 1979.

Figure 4 and tables 4a and 4b show the number and percent of all heroin treatment admissions 1976-1978. The number and percentage of heroin admissions has been declining since the last quarter of 1976.

HOUSEHOLD AND HIGH SCHOOL SURVEYS

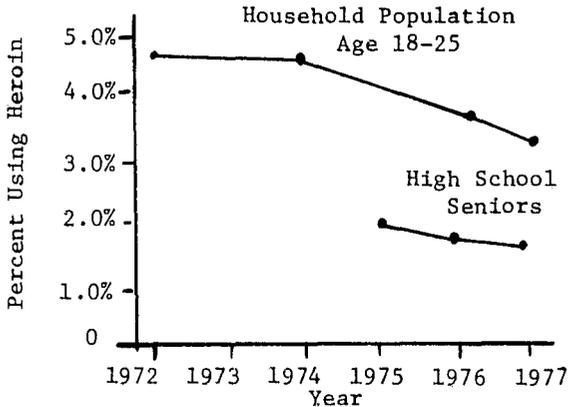


Figure 5. Percent of household population and high school seniors reporting ever used heroin, 1972-1977.

Source: Abelson, Herbert, et.al. National Survey on Drug Abuse: 1977. Rockville, Maryland: National Institute on Drug Abuse, 1978.

Johnson, Lloyd, et.al. Highlights from Drug Use Among American High School Students: 1975-1977. Rockville, Maryland: National Institute on Drug Abuse, 1978.

Surveys provide direct estimates of drug use in contrast to indicators which are indirect measures of use. Since heroin is illegal and used by a small proportion of the population, reports of heroin use from most samples must be interpreted cautiously.

General Population Survey Figure 5 and table 5a illustrate the percentage of participants in the household survey who reported ever using heroin. The lifetime prevalence ("ever used") of heroin was greatest in the 18-25 age group. The changes in percent claiming they ever used heroin from 1972 through 1977 showed a slight but not statistically significant decline in that age group.

Table 5a
Lifetime Prevalence of Heroin Use
Household Population of U.S.

Year	Percent Ever Used					
	Age 12-17		Age 18-25		Age 26+	
	N**	%	N**	%	N**	%
1972	(880)	0.6	(772)	4.6	(1613)	*
1974	(952)	1.0	(849)	4.5	(2221)	0.5
1976	(986)	0.5	(882)	3.9	(1708)	0.5
1977	(1272)	1.1	(1500)	3.6	(1822)	0.8

* less than 0.5 percent

** size of sample

Source: Adapted from tables 50, 52 and 53
Abelson, Herbert, et.al. National Survey on
Drug Abuse: 1977. Rockville, Maryland:
National Institute on Drug Abuse, 1978.

Table 5b
Lifetime Prevalence of Heroin Use
High School Seniors

Year	N of Sample	Percent Ever Used
1975	(9,408)	2.2
1976	(15,385)	1.8
1977	(17,116)	1.8

Source: Adapted from tables 3 and 4, Johnston, Lloyd,
et.al. Highlights from: Drug Use Among
American High School Students 1975-1977.
Rockville, Maryland: National Institute
on Drug Abuse, 1978.

High School Survey Figure 5 and table 5b illustrate the percent of high school seniors reporting use of heroin at least once. The trend for high school seniors' heroin use from 1975 through 1977 also showed a slight decline, especially from 1975 to 1976, but the differences were not statistically significant (figure 5 and table 5b).

ESTIMATED NUMBER OF HEROIN USERS

Estimates of the number of heroin users from 1973 through 1975 and 1977 were provided by the National Institute on Drug Abuse and are shown in table 6. The procedure used for 1973, 1974, and 1975 involved obtaining estimates of the number of users in a few cities called "anchor cities" for each year applying an onsite methodology. Using indicators such as heroin price-purity, treatment admissions, deaths, and emergency room visits for the "anchor cities" and other SMSAs in DAWN, a prevalence projection was made to the total United States.

In 1977, an estimate was obtained in a slightly different manner. No "anchor cities" were used. A projection was made from prevalence estimates in 1973, 1974, and 1975 to 1977 with the number of emergency room visits, deaths, and heroin purity. Since the prevalence estimates for each of the years were based on differing assumptions, definitions, methodologies, and data sources, the apparent change from year to year seen in table 6 may not be an actual change.

The number of heroin users in 1977 is estimated to be between 396,000 and 510,000 or 456,000. Although the estimate for 1977 is approximately 100,000 fewer than for 1973 through 1975, the difference in methodology applied does not allow one to conclude definitively that an absolute decrease of 100,000 users took place.

Table 6

Estimated Number of Heroin Users

Year	<u>Low Estimate</u>	<u>Mid Point</u>	<u>High Estimate</u>
1973*	554,000	574,000	593,000
1974*	564,000	558,000	605,000
1975*	522,000	546,000	559,000
1977**	396,000	456,000	510,000

*Source: Person, Philip H., Retka, Robert L., and Woodward, Authur J. A Method for Estimating Heroin Use Prevalence. Rockville, Maryland: National Institute on Drug Abuse, 1977.

**Source: Greenwood, Joseph, and Crider, Raquel Estimated Number of Heroin Addicts, 1977. Rockville, Maryland: National Institute on Drug Abuse, 1978.

STANDARD METROPOLITAN STATISTICAL AREA
INDICATORS

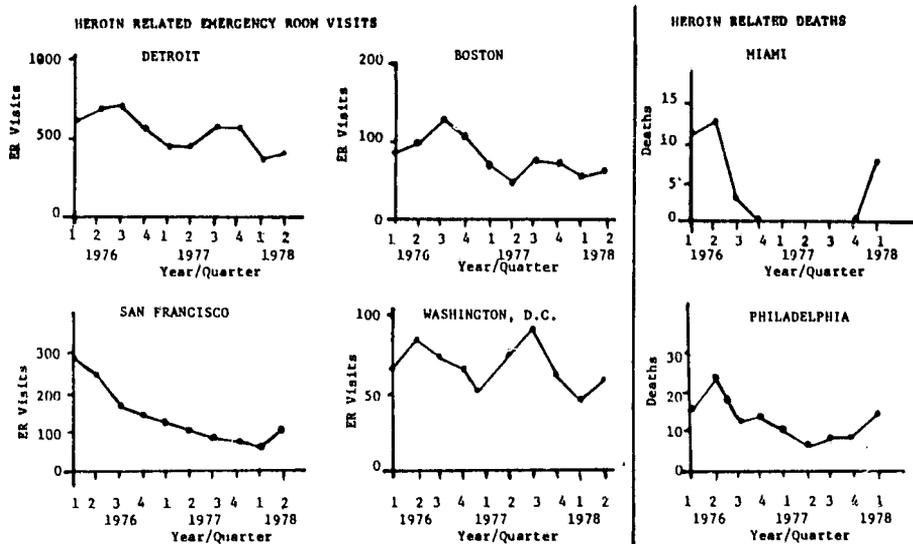


Figure 7. Heroin-related emergency room visits and deaths, 1976-1978.

Source: DAWN Quarterly Report, April-June 1978.
Rockville, Maryland: National Institute
on Drug Abuse, 1979.

As with most indicators, the trend for the country as a whole does not indicate whether there is an increase or decrease in any particular area. Thus, the heroin-related emergency room visits and deaths given by quarter for six Standard Metropolitan Statistical Areas (SMSAs) are thought to reflect the differing types of trends throughout the United States. Since some SMSAs in DAWN were sampled (having approximately 50 percent of the hospitals in the system) and some were saturated (having approximately 80 percent in the system) no comparison was made across SMSAs on the number of mentions. Only the trend line within an SMSA was used for analysis.

Table 7a

Heroin-Related Emergency Room Visits

	Quarter 1976				Quarter 1977				Qtr. 1978	
	1	2	3	4	1	2	3	4	1	2
Detroit	633	694	725	570	471	463	554	575	398	416
Boston	88	99	129	107	72	50	78	75	59	66
San Fr.	294	254	174	156	133	109	86	81	74	116
Wash DC	68	68	78	67	51	76	93	62	48	58

Table 7b

Heroin-Related Deaths

	Quarter 1976				Quarter 1977				Qtr. 1978
	1	2	3	4	1	2	3	4	1
Miami	11	13	3	0	0	0	0	0	8
Phila.	16	24	13	14	11	7	9	9	16

Source: DAWN Quarterly Report, April-June 1978.
Rockville, Maryland: National Institute
on Drug Abuse, 1979.

Figure 7, table 7a, and table 7b show the number of emergency room visits and deaths related to heroin for selected SMSAs. Two different patterns can be seen. The most obvious is the increase in 1978 for San Francisco (Emergency Room Visits) and for Miami and Philadelphia (Deaths). In San Francisco, a drug abuse epidemiologist at the Haight Ashbury Free Medical Clinic, investigated the source of the increasing trends. He concluded the increase was a result of "an increase in the use of poor quality heroin." (2)

The National Institute on Drug Abuse attempted to verify trends noted in other SMSAs through the bi-annual meeting of the Community Correspondents Group (3). Both the Miami and Philadelphia representatives noted an increase for some of the drug abuse indicators but did not offer an explanation. The second interesting characteristic of the SMSA emergency room trend line is the peak occurring in 1976 and 1977 for some of the SMSAs, i.e., Detroit, Boston, and Washington, D.C. Each of the three SMSAs shown in figure 7 exhibited an increase in the number of mentions again in 1978. The pattern may indicate a seasonal trend with peaks occurring in the summer months and lows in the winter months.

CONCLUSION

All national heroin indicators showed a decline from 1976 through 1978. Of course, the national trend is the average of all SMSA trends. In some areas, the number of emergency room visits or deaths associated with heroin decreased while in others they increased. The areas with increasing trends were examined more closely. One group of areas exhibited a seasonal pattern with the number of emergency room visits reaching a peak in the summer months. Another group of SMSAs showed sharply increasing trends, i.e., San Francisco, Miami, and Philadelphia for emergency room visits or deaths. An epidemiologist in San Francisco thought the increase there may have been caused by poor quality heroin.

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