

HEROIN EPIDEMICS SURVEYED

IN A METHADONE

TREATMENT POPULATION

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ABSTRACT

This study surveys the first year of opiate (heroin) use of 1,100 participants in the West Australian methadone program from 1978 to 1984. A major epidemic was found to have occurred with its peak in the mid-1970's and there was evidence of a smaller epidemic having occurred in 1980.

The study demonstrates that data gathered from participants in a methadone program at the time of their admission is a potentially practical, economical and effective method of surveying trends of heroin use in the community. The challenge for programs is to identify new users, who are considered the most infectious vectors of epidemics, and provide treatment that satisfies these individuals and dissuades them from introducing others to heroin.

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INTRODUCTION

The phenomenon of heroin use has been described as being like a communicable disease, spread through interpersonal contact between susceptible novitiates and their heroin using friends: Greene (1974). In an epidemic - like fashion heroin use in a community may have an incubation period with few apparent cases, then the incidence of use quickly proliferates as the agent (heroin) is transmitted by infectious vectors (addicts and users), to new human hosts: Hughes et al (1972a), Mackintosh and Stewart (1979). However, unlike other entities which occur in an epidemic - like fashion, heroin use is very difficult to detect, primarily because of the extreme secrecy surrounding its use.

Because physical addiction takes some time to develop we find that heroin epidemics only become apparent when the number of addicts is numerous. Early intervention strategies can minimise the spread of heroin use to susceptible groups and thereby reduce the long-term social costs of widespread addiction. These consequences include the costs of rehabilitation, efforts to interdict heroin supplies by law enforcement, as well as the actual costs of the activities of addicts supporting their addiction : Hughes et al (1972b: 999).

The rationale for detection of new epidemics and early intervention is supported by findings that users most frequently recruit others into heroin use in the first 12 months of their addiction careers; probably at the time when they regard heroin use as a highly rewarding activity : Brown et al (1976: 527). In reality however users tend to make their first voluntary admission to treatment after 4 to 5 years of heroin use, by which time they may well have introduced a number of people to heroin for the first time : Hughes & Crawford (1972), Levengood et al (1973).

It is difficult to determine the incidence of heroin use in a community as statistically it is a rare phenomenon : McBride & Clayton (1985). This has been a major reason for the predominance of surveys of self-selected populations of heroin users attending treatment agencies rather than more acceptable techniques of probability sampling. The proposition considered in this paper is that data collected from attenders at a methadone clinic can provide an indication of changes in the incidence of heroin use.

In Western Australia a methadone program has operated since 1974. By using the year of first reported heroin use of heroin addicts presenting for treatment an accurate picture of past heroin epidemics in WA can be built up and we may therefore confidently infer the existence of a heroin epidemic because

"(t)he modal year of first heroin use reported by a population of heroin users is thought to accurately represent the year in which the incidence of heroin use peaked."

Greene (1974 : 2)

This paper is principally concerned with changes in the incidence of heroin use, however it is pointed out that this does not constitute the complete picture of heroin use in Western Australia. There is a complex relationship between (1) incidence, (2) prevalence, and (3) the frequency and intensity of heroin use. The latter two measures ultimately estimate the size of heroin market as

"... falling incidence of first use may or may not be associated with falling prevalence of active use, depending on the removal rate (cures, remission, deaths, net emigration)."

Hunt (1977 : 61)

METHODOLOGY

Since 1978 all new and re-admitted clients to the Alcohol and Drug Authority (ADA) were interviewed by a social worker. The purpose of the interview was to make a comprehensive assessment and in association with a doctor initiate treatment as agreed upon by the client, eg referral to a detoxification hospital, or to a residential program, or chemotherapy (eg Methadone). Client data obtained by social workers in these interviews was recorded in a standardised format and data processed.

This study looks at 7 treatment cohorts made up of persons who were first prescribed methadone during one of the years 1978 to 1984 inclusive. The opiate use history of Ss in each cohort was obtained from individual client admission records.

RESULTS

In the 7 year period 1978-1984 there were 1,100 (733 male and 367 female) individuals prescribed methadone, of whom 781 (502M and 279F) were admitted to the WA methadone program for the first time. The remaining 319 persons had been first admitted to the methadone program between 1973 and 1977.

The 7 treatment cohorts consisted of the following new admissions -

1978	205	(137M, 68F)
1979	118	(80M, 38F)
1980	60	(40M, 20F)
1981	68	(44M, 24F)
1982	100	(62M, 38F)
1983	68	(39M, 29F)
1984	162	(100M, 62F)

To preclude multiple counting each treatment cohort excluded re-admitted clients and those in continuous treatment from the previous year. If all clients had been included there would have been 496 Ss in 1978, 387 Ss in 1979, 296 Ss in 1980, 219 Ss in 1981, 273 Ss in 1982, 242 Ss in 1983 and 378 Ss in 1984.

There was clear evidence of a substantial heroin epidemic in the mid-1970's in all the treatment cohorts, with a modal year of first usage in 1976. This epidemic, which may qualify as a macroepidemic : Hughes & Crawford (1972) had a well defined very low level of incidence until 1969, then rapidly reached 130 new cases for the year 1976, to abate to 24 cases in 1979.

1960-66	8	1976	130
1967	5	1977	103
1968	11	1978	51
1969	11	1979	24
1970	32	1980	38
1971	36	1981	30
1972	48	1982	19
1973	56	1983	6
1974	76	1984	2
1975	95		

TABLE 1 : NEW ADMISSIONS 1978-1984 X YEAR OF FIRST OPIATE USE.

A substantial number, 404 (51.7%), of initiations to heroin occurred in the 4 year period 1974 to 1977.

INSERT FIGURE 1 ABOUT HERE

There is an indication of a new emergent epidemic in about 1980. This epidemic so far has involved much smaller numbers of individuals presenting for treatment than the mid-1970's epidemic. There would need to be an examination of cohorts after 1984 to establish whether or not this new epidemic was of sufficient size to have produced as large a crop of addicts as the earlier epidemic.

INSERT FIGURES 2 AND 3 ABOUT HERE

The challenge for treatment programmes is to identify recent users of heroin, who are considered to be the most infectious vectors of epidemics and to provide treatment that will adequately satisfy these individuals and also dissuade them from introducing others to heroin. Close attention to changes in the incidence of heroin use in the community obtained by systematic data collection as part of standard admission procedures should be considered an important function of treatment programs.

DISCUSSION

An interesting finding is the long elapse of some cases between their first usage of an opiate and eventual first presentation for methadone treatment. One consequence of this phenomenon has been a change in demographic characteristics of the methadone treatment population in WA to an older population with a history of many years of relatively stable heroin use and a lifestyle not usually associated with heroin addiction, eg raising of children, regular employment etc.

The consistent annual presentation of these long-term users is particularly evident in Figure 3. It may be a truism that the longer an individual is a regular heroin user, the greater the probability of involvement in a methadone program. Even though this group may have been stable, they may however pose a threat, as they

"... do contribute to heroin addiction incidence as vectors, as a potent influence on heroin availability and as the reservoir of endemic heroin use in the community."

Greene (1974 : 5).

The 319 Ss who were in treatment between 1978 and 1984 but who first entered the WA methadone program before 1978 differ from later new admissions only in that their opiate usage commenced about 2 years earlier.

1960-66	1	1972	22
1967	3	1973	49
1968	5	1974	62
1969	11	1975	65
1970	22	1976	27
1971	22	1977	5

TABLE 2 : NEW ADMISSIONS 1973 - 1977 X YEAR FIRST OPIATE USE.

We observe for the 312 Ss for whom there is data, a modal year of first opiate use in 1974-75.

INSERT FIGURE 4 ABOUT HERE

The two groups seem to have had similar small populations of heroin users before the advent of the mid-1970's epidemic.

It seems reasonable to place some confidence in the reliability of the findings of the survey, Cf Hochhauser (1979). This is because of (1) the consistency of first time opiate use by successive cohorts, and (2) a lack of demand characteristics at the initial interview with respect to the first usage of opiates. Experience shows opiate users seeking admission to methadone treatment place great emphasis on the treatment being a panacea for their difficulties, as well as embellishing and exaggerating the extent of their current episode of heroin use.

It is not known to what extent the methadone treatment population in WA, from 1978 to 1984 differed from other Australian heroin users. Western Australia is traditionally regarded to be affected by most social changes slightly later than the more populous eastern states of Australia. There was no residential discrimination in admission policy, up to one-third of the admissions to the program probably involved individuals temporarily resident in Western Australia.

REFERENCES

- BROWN B.S., GREENE, M.H. and TURNER, N.J. The spread of addiction - the role of the average addict. Am J. Drug Alcohol Abuse. 3:521-8, 1976.
- GREENE, M.H. An epidemiologic assessment of heroin use. Am J. Public Health, Supplement. 64:1-10, 1974.
- GREENE, M.H., KOZEL, N.J., HUNT, L.G. and APPLETREE, R.L. An Assessment of the Diffusion of Heroin Abuse to Medium-Sized American Cities. Washington, D.C.: Special Action Office for Drug Abuse Prevention, 1974,.
- HOCHHAUSER, M. Bias in drug abuse survey research. Int. J. Addict. 14:675-87, 1979.
- HUGHES, P.H. and CRAWFORD, G.A. A contagious disease model for researching and intervening in heroin epidemics. Arch Gen. Psychiat. 27:149-55, 1972.
- HUGHES, P.H., SENAY, E.C. and PARKER, R. The medical management of a heroin epidemic. Arch. Gen. Psychiat. 27: 585-91, 1972(a).
- HUGHES, P.H., BARKER, N.W., CRAWFORD, G.A. and JAFFE, J.H. The natural history of a heroin epidemic. Am. J. Public Health. 62: 995-001, 1972(b).
- HUNT, L.G. Prevalence of active heroin use in the United States. In J.D. Rittenhouse (ed.) The Epidemiology of Heroin and Other Narcotics. Rockville, Maryland: National Institute on Drug Abuse, 1977.

LEVENGOOD, R., LOWINGER, P. and SCHOOFF, K. Heroin addiction in the suburbs - an epidemiologic study. Am. J. Public Health. 63:209-14, 1973.

MACKINTOSH, D.R. and STEWART, G.T. A mathematical model of a heroin epidemic: implications for control policies. J. Epidemiology and Community Health. 33:299-304, 1979.

McBRIDE, D.C. and CLAYTON, R.R. Methodological issues in the etiology of drug abuse. J. Drug Issues. 15: 509-29, 1985.

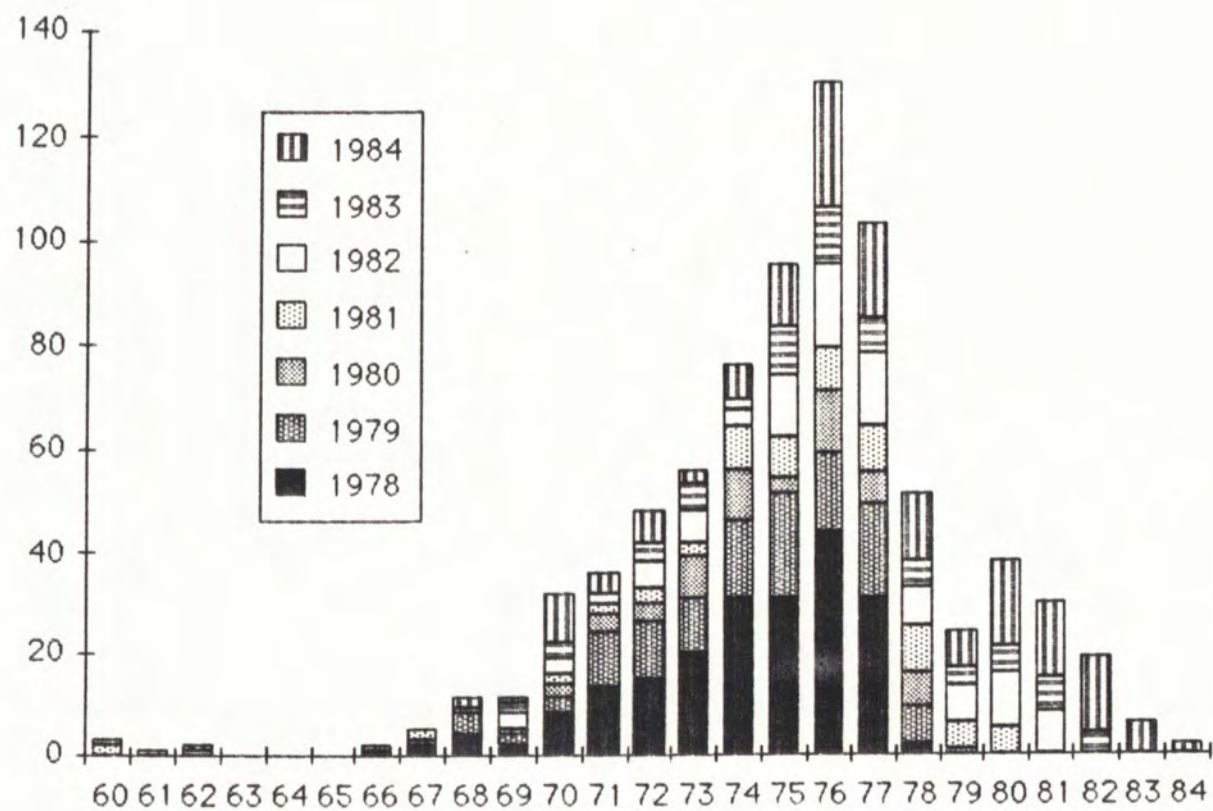


FIGURE 1: YEAR OF FIRST OPIATE USE: NEW ADMISSIONS 1978 - 1984

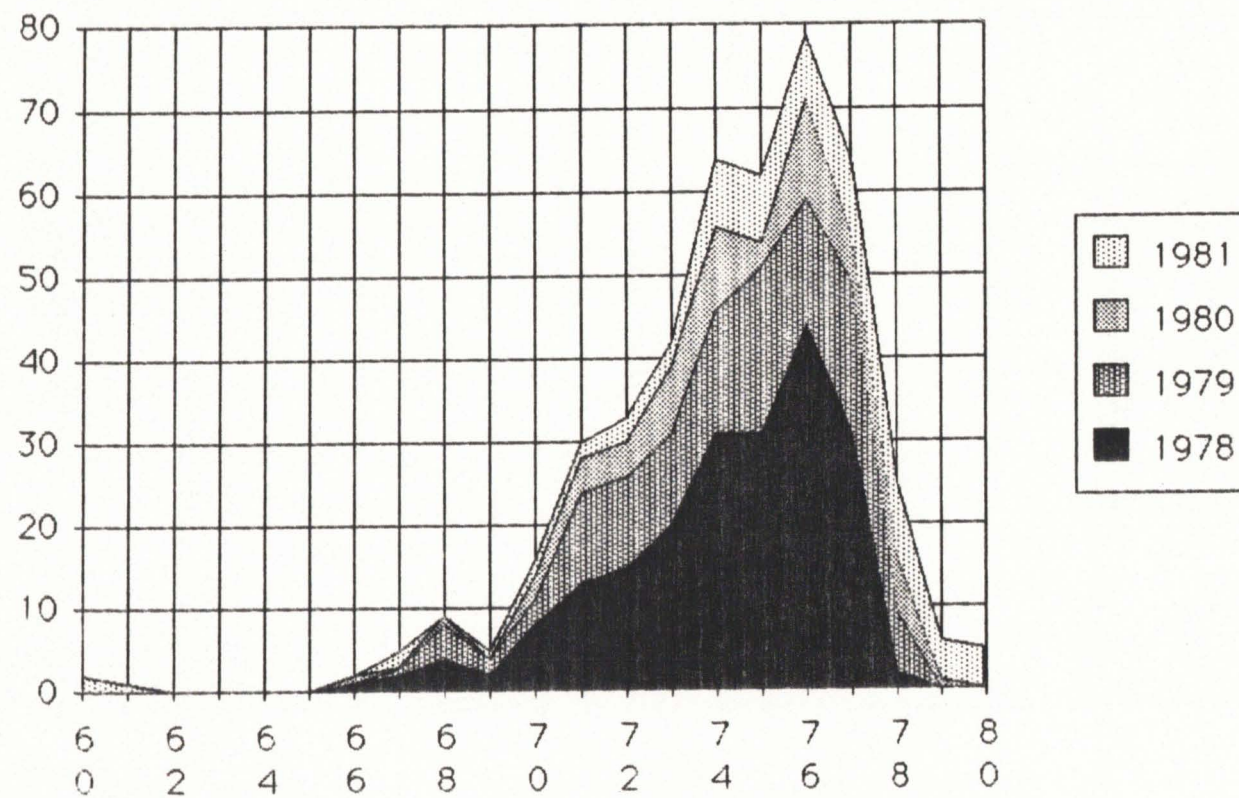


FIGURE 2: YEAR OF FIRST OPIATE USE: NEW ADMISSIONS 1978 - 1981

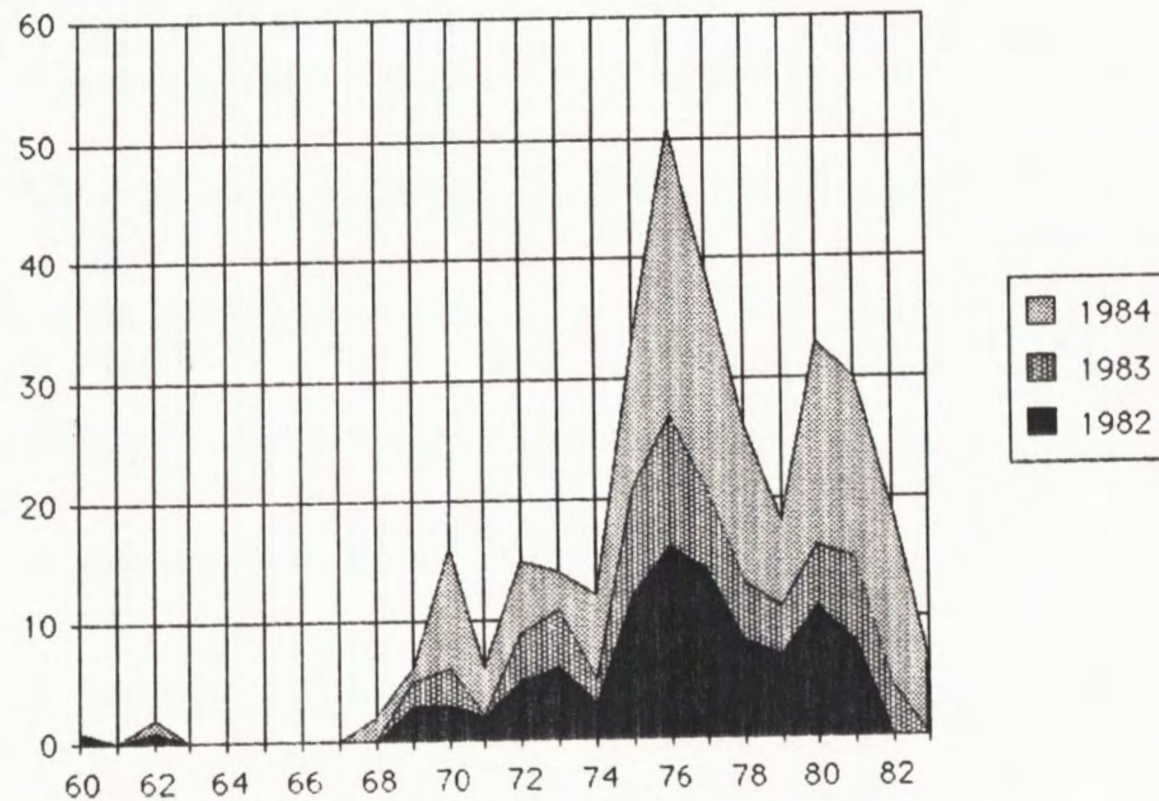


FIGURE 3: YEAR OF FIRST OPIATE USE: NEW ADMISSIONS 1982 - 1984

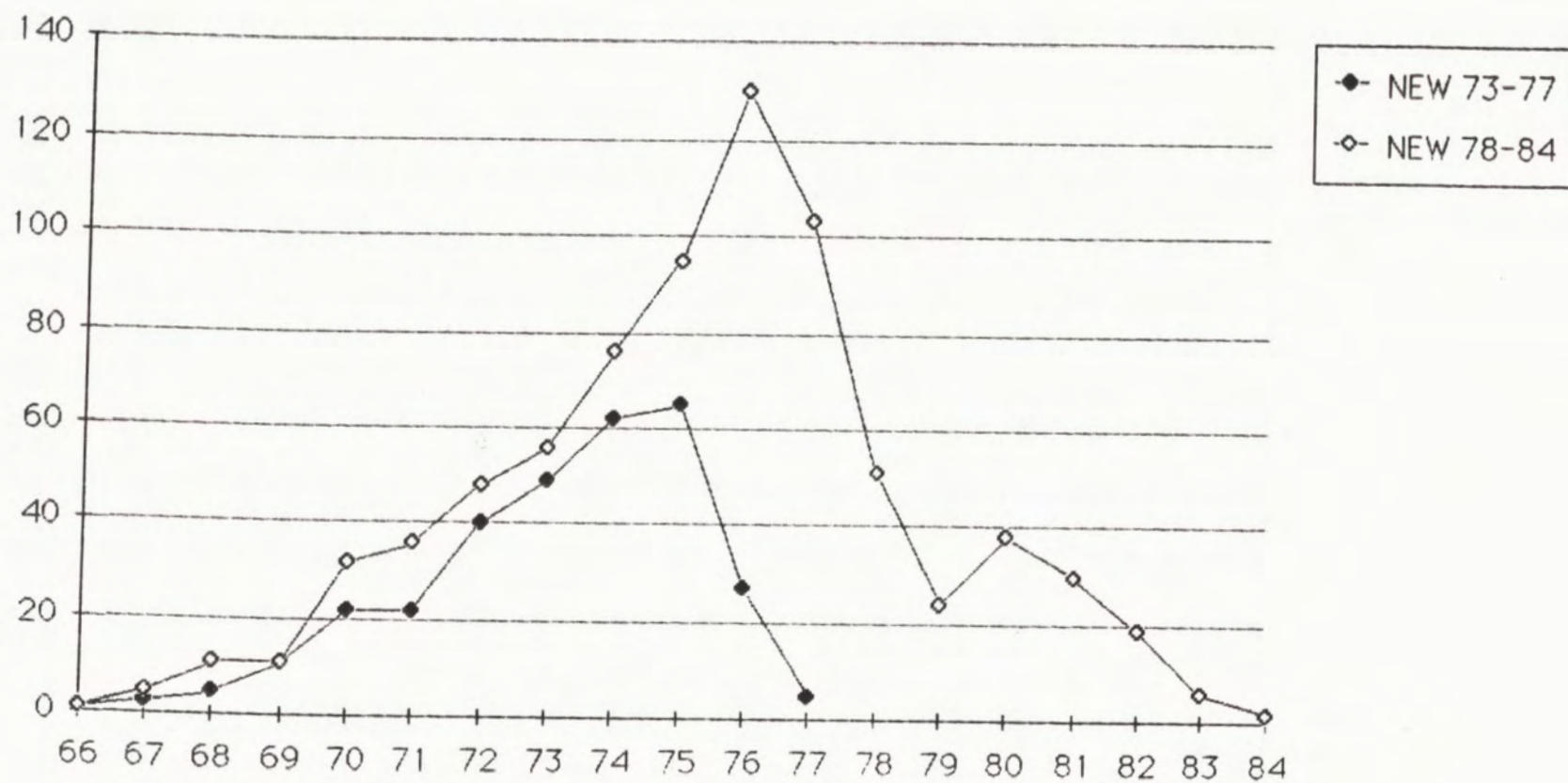


FIGURE 4: YEAR OF FIRST OPIATE USE : ALL NEW ADMISSIONS