Heroin Addiction and Treatment:
A Case Study of the
Western Australian Methadone Program

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I declare that this thesis is my research and contains as its main content work which has not previously been submitted for a degree at any university.

Signed (Greg Swensen)

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Preface

We are a nation beset with drug problems, on most days of the week information about the consequences of drug-taking will be the subject of reports in the press, radio or TV. If the subject involved illicit drugs, especially heroin, it would be prominently featured, whether it were statements of a judge railing about crime said to be "caused" by the use of heroin, or testimonials by a group of individuals "saved" from ruin by undergoing a period of residency at a drug rehabilitation agency, or statements by an "expert" about an aspect of policy or recent research. An impartial observer would conclude that we appear to be a community at war with itself and that we spend enormous amounts of money to support institutions to suppress the use of some drugs, such as heroin.

It is clear that our policy of prohibition of heroin is expensive and needs ever-increasing amounts of resources to extend customs surveillance and maintain the activities of Federal and State law enforcement agencies in coping with what appears to be a problem without limits. We may surmise that we are a community for which heroin represents such a serious threat that we are prepared to endure the costs enumerated above. This paper is concerned with the consequence of criminalization of heroin use in Australia and of our attempt to find a solution for the heroin problem through the supply of methadone under medical supervision.

The use of heroin has been prohibited in Australia since the 1950s, with the effect that significant numbers of Australians have become law breakers. Over the past 30 years the implementation of this policy has resulted in marked increases in heroin seizures and the number of convictions of those who had used heroin or been involved in the black market that maintains supply to consumers.

Over the past 20 years, whilst we have supported the criminalization of heroin use, we have also permitted methadone, an addictive synthetic opiate with similar properties as heroin, to be provided on request by doctors to those who want it. It is not surprising therefore that there is a degree of confusion and cynicism about the prohibition of heroin, as it appears to discriminate between two similar opiates on arbitrary grounds and has meant that the legal-judicial and medical systems have control over the lives of a large number of young Australian adults.

There are many questions that arise from these polices. For instance, at what point does the use of opiates change from being the conduct of a criminal to the conduct of someone who is sick? Or, if we are prepared to condone the use of one opiate, methadone, if provided by doctors, should we also permit doctors to supply heroin to those who want it? Or, given that we let people use opiates, albeit under medical supervision, does this mean that these drugs are not as dangerous as we have believed? Answers to these questions involve complex political, administrative, legal and moral discriminations between fact and supposition, between principle and expediency, and between freedom and social responsibility.

The aim of the thesis is to review the history of heroin policy with special attention to the introduction of methadone treatment, and the factors which determined changes in policy regarding methadone in Western Australia. The thesis draws attention to the manner in which the problem of heroin is represented in official documents and in the media, and to the various interest groups involved in such representations. The impact of criminal justice models and medical models on treatment policies is an important sub-theme of the thesis.

In the thesis material will be organized into three major chapters. The first chapter will review the two eras of heroin policy in Australia. It will focus on the second era, from the 1960s to the end 1989 and evaluate our knowledge about heroin use, and the history of measures adopted to deal with the problem. In the second chapter the development of methadone treatment in the United States will be referred to, including a brief account of the key problems associated with methadone programs. This will be followed by a history of the introduction and structure of methadone treatment in Australia from 1969 to the end of 1989, the development of a national methadone policy and future problems and issues.

In the third chapter a case history of the WA methadone program will be constructed, with special attention to proposition that methadone policy in this State has changed due to pressure by interest groups, public health authorities, medical practitioners, law enforcement agencies and members of parliament.

The format of the case study, which will cover the period from 1973 when methadone was first used to the end of 1989, will be a descriptive account of the process of policy change and will collate and analyse opinions, articles, reviews, policy materials and statistical information about methadone treatment in this State. The thesis will develop as a sub-theme the inter-relationship between the legal-judicial and medical systems of social control, and the impact of these two systems on the WA methadone program.

The thesis will conclude with a summary of findings and comments about the possible impact of methadone policies on heroin users.

Chapter 1: Heroin Use in Australia

1.1 Introduction

The purpose of this chapter is to provide an understanding about illicit heroin use in Australia since the 1960s, the period of Australia's contemporary heroin problem. Before undertaking this review it is necessary to indicate features of the problem we are concerned about. A history of heroin use must contend with the lack of data, and that policy-making is predicated on the implicit assumption that the drug is pharmacologically toxic and has criminogenic properties. One of the conundrums of our contemporary heroin problem is that official responses have often been driven by fear, hyperbole and/or rumour, that community attitudes severely constrain understanding the problem and that options must support the criminalization of heroin use.

The chapter will briefly outline the history of two eras of heroin policy in Australia; the era up to the 1950s when the drug was used in its pharmaceutical form, and from the early 1960s to the present, when it has been used in its illicit form. The review will concentrate on the period since the 1960s and show that over the past three decades there have been three major forms of information about the heroin problem; the views provided in the popular press by journalists about the impact of crime on the community; surveys by researchers and health and welfare organizations often concerned with selective treatment populations of heroin users; and a number of official inquiries, many of which have been concerned with the criminal law as an instrument of heroin policy.

It will be shown that these sources provide a fragmented view about heroin use, and therefore heroin policy making must contend both with slanted information from law enforcement and health and welfare agencies and from unreliable, inaccurate and biased information in the popular press based on interpretation, opinion and personal testimony. The concept that the occurrence and spread of heroin use resembles an infectious disease will be developed in this chapter. This concept will be shown to be pervasive, to link the activities of both the legal-judicial and medical systems and to have been widely adopted by many commentators as providing an explanation, through the use of medical metaphors, of the growth in and adverse consequences of heroin use. The recognition of AIDS as a serious threat to both heroin users and the community has, it will be shown, reinforced the use of the epidemiological model.

It will also be shown that the States and Territories have fragmented and inconsistent approaches and this has made it difficult to elaborate a national heroin policy. Three heroin policy options, prohibition, legalization and treatment will described. The limitations and possibilities of each will be evaluated; specifically it will be shown that recent policy developments have strengthened the relationship between drug-free approaches to treatment and the court system and that legalization of heroin remains an untested and contentious option, with limited support.

1.2 The Epidemiological Model of Heroin Use

It is suggested that the growth of heroin use in Australia can be explained by the infectious disease model and that this model is able to account for the roles of both the criminal and medical systems as complementary techniques of social control of heroin users. Conventional analysis of heroin problems has often treated these two forms of social control as opposites, as if

> *"a dichotomy had been set up between a traditional unenlightened, and punitive criminal enforcement approach that sees addiction as against the law, and a more modem, scientific, and humane medical treatment model that perceives addicts as ill and in need of professional therapeutic assistance."* (Klein, 1983: 33).

The notion that heroin use resembles the spread of infectious disease postulates that a heroin "epidemic" occurs through the conjunction of three factors - (a) a state of susceptibility in a community, (b) the introduction of the infectious agent, heroin, and (c) an element of sensory contact between users and non-users (adapted from Mackintosh & Stewart, 1979). The model posits that

heroin 'infection' involves an agent (heroin), a host (humans), a vector (eg criminal addicts) and an environment (eg vice districts).[1] The concept of a 'reservoir' of infectious vectors, ie heroin users/addicts, is also an element of this model, as it requires a starting point so that the 'disease' can 'spread' to uninfected and non immune young Australians. Epidemiological studies of patterns of the spread of heroin use in communities support the validity of the model, and that intervention should be concerned with the identification and treatment of users very early in the history of their experience with the drug (De Alarcon, 1968; De Alarcon, 1969; Greene, 1974; Hughes & Crawford, 1972; Kozel & Adams, 1986; Levengood, Lowinger & Schooff, 1973).

A key difficulty with the proposition that effort should be on the early recruitment of heroin users is that paradoxically the prohibition of heroin makes it less likely that heroin users will identify themselves to health authorities, because of the possibility of increased detection and/or surveillance by law enforcement agencies. There is persuasive evidence, which has been accepted in this paper, that the boundaries between the two major systems of social control, sometimes known as the legal-judicial system and the medical-psychiatric system, have become blurred as the number and scope of regulatory institutions and systems have increased (Cohen & Scull,1985; Edwards, 1988; Foucault, 1986; Kittrie, 1976; Lasch, 1977). One commentator has claimed that

> *"Beyond specific medical interests, and beyond police-oriented organizational efforts as well, there has been a broad policy making consensus on the need for surveillance and management. This constitutes an implicit acknowledgement that the protection of fundamental social ideologies and institutions takes precedence over special interests and particularistic policy goals."* (Klein, 1983: 33.)

The result of the increased perceived need to control deviance, in this instance the use of heroin, has meant that techniques of regulation and repression have become more encompassing, refined and more subtle, and that agencies have acquired extensive powers to intrude and undertake surveillance. For instance, legislation that authorized telephone tapping was explicitly justified as necessary to apprehend drug dealers; offences relating to the possession of heroin (and other drugs) reverse the usual onus of intent, whereby possession of specified quantities of drug is deemed to constitute the intent to commit the serious crime of dealing in drugs; and the power to conduct forcible internal body searches and enter premises without warrants are contained in most drug laws in Australia. The system of compulsory notification of suspected heroin users by doctors and the registration of methadone clients in this State, which will be discussed in a later chapter, is an example of increased control of deviance through the medical system.

> *"Medicine may be a less obvious control agent but by exercising its responsibility for regulating the entry into, conduct in and exit from the 'sick role', it plays a crucial role in the management of those types of deviance that involve incapacity to meet social expectations and norms because of illness or disability. Medicine's operation as a control mechanism has been concealed, by its characterization as a science and as a clinical treatment mode."* (Edwards, 1988: 143-4)

1.3 Problems of Inadequate Data About Heroin Use

As heroin is synthesized from the opium poppy, a plant not indigenous to Australia, the drug has always been imported into Australia.[2] During the era when heroin was legally imported into this country, until prohibited by the Federal government in 1953, information on the annual consumption of the drug could be derived from the records of the value of import duties levied on all heroin imported into Australia. By 1960 stocks of licit heroin had been largely exhausted and from that time we have no reliable measures of the extent and magnitude of heroin use in Australia.

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[1] Cf De Alarcon, 1969; Greene, 1974; Hughes, Barker, Crawford & Jaffe, 1972; Hughes & Crawford, 1972; Levengood, Lowinger & Schooff, 1973

[2] Since the 1970s the opium poppy, papaver somniferum, has been legally cultivated in Tasmania. Australia has become the second largest exporter of opium alkaloids, used as pharmaceutical raw materials for codeine and morphine. (Austin, 1986.)

The use of heroin in Australia had long been tainted by connotations of it as an addictive and dangerous drug through the criminalization of its use in most of the Australian states in the 1920s. By amendments in 1928 to the Police Act the use of heroin in concentrations greater than 0.1% in pharmaceutical preparations was prohibited. This meant that whilst medical practitioners legitimately prescribed heroin there was the threat that their conduct could be scrutinized by the police rather than by health authorities. In Western Australia for instance, responsibility for the regulation of heroin and a number of other 'dangerous drugs' was shifted in 1928 from the Pharmaceutical Society of Western Australia to the Police Department.[3]

The criminalization of heroin use means that research into the history of heroin in Australia must penetrate a veil of secrecy, with the consequence that there is meagre accurate and reliable information. There is a considerable amount of speculative material originating from the activities of interest groups. But this information may be of limited use as interest groups frequently use different measures of heroin use based on small non representative populations, such as offenders' testimonies to police, admissions to hospital emergency departments, notifications by general practitioners, mortality data, or participants in rehabilitation programs. The lack of consistency in these accounts means that opinion has often been accepted as a proxy measure for heroin use.

A researcher must make judgements about the quality and importance of information that has originated from interest groups as there has been a tendency for it to be used to substantiate claims, for instance, increased police resources to fight 'addict crime waves', additional resources to provide treatment programs to young people, or expanded educational programs to prevent drug use. This tendency was highlighted in the testimony of Dr Gerard Milner to the 1980 Australian Royal Commission of Inquiry Into Drugs, where he said there were three types of statistics on drug use. There were actual statistics, which were practically impossible to obtain; known statistics, the best that can usually be done; and declared statistics.

It was concluded from Dr Milner's testimony that the latter type of statistic, often used in public debates about drug use, are *"published by individuals or agencies with particular interests. Thus, what is published may or may not be the same as what is 'known', depending on the nature of the interest and the extent to which the reporting individual or agency is committed to it."* (Krivanek, 1988:151)

1.4 History of Heroin Use In Australia

1.4.1 Pre-l960s History

The first attempt by the Federal government to regulate the importation of opiates was by the use of the Customs Act in 1905, when it issued an order (the Opium Proclamation 1905), that prohibited the importation of opium suitable for smoking.[4] A further order, the Opium Proclamation 1914, permitted the importation of heroin and a number of drugs only for medicinal purposes. By 1920 the Federal government had issued a series of proclamations and orders which attempted to regulate the use of heroin and other opiates, by placing limits on the quantities of opiates that could be distributed by importers based on a formula of the amount of heroin the average pharmacist or medical practitioner should use in a year.

> *"The drug policy which developed from 1905 - 1920 in the Department of Trade and Customs, sought to limit opiate use to a medically-controlled environment. It did so by expanding controls upon importers, and only indirectly upon those further down in the drug chain. These controls ... were all built upon a racially-based law whose rationale had disappeared ... (because) ... the*

[3] The Police Offences (Drugs) Act,1928 inserted a new section, Part VIA, Opium and Dangerous Drugs, to the Police Act. It also repealed the Opium Smoking Prohibition Act,1913.
[4] The object of the prohibition of opium smoking was based on racist concerns about immigrant Chinese workers. (Cf Carney, 1981; Davies, 1986; Lonie, 1979; Manderson, 1987;Manderson,1988; McCoy, 1980.)

attitude of the Department throughout the period under review was that drug laws only affected a few people, and those few were Chinese." (Manderson, 1987: 20).

Compared to the shortcomings of data about illicit heroin use, it is known from annual returns of licit heroin consumption submitted to the Permanent Opium Control Board[5] in compliance with international treaty obligations that Australia had a relatively high level of per capita licit heroin use per year from the 1900s to the 1950s. For instance, an article in the Australasian Journal of Pharmacy in March 1936 contained figures that indicated that in the 1930s Australians consumed three times the total amount of heroin as in Britain, and per capita consumed over 50 times the US consumption[6] (Manderson, 1987: 28).

A report in 1936 by the League of Nations indicated that Australia had the highest per capita consumption of heroin and cocaine in the world. A further report in 1953 by a United Nations body, the Permanent Central Opium Board, indicated the following annual per capita consumption of heroin (in kilograms per million inhabitants) in Australia from 1946 to 1951: 1946 (2.42),1947 (3.3),1948 (4.68),1949 (4.3),1950 (4.52),1951 (5.25) (Bulletin on Narcotics, 1953: 49). The latter information created a local political storm; the Federal government hastily banned the importation of heroin in July 1953. One commentator summarized the findings of this report as meaning that

"Australia's heroin use had doubled in the seven years from 1946 to 1951. ... Australia was once again at the top of the list on a per capita basis of the world's heroin consuming countries .... The 1951 figure of 11.35 lbs per million people was more than seventy per cent higher than the comparable figure for 1935." (Davies, 1986: 40).

The impetus for the Australian states to set up more restrictive controls over heroin, other opiates and a number of other "narcotic" drugs stemmed from the Federal government pressure. Even though the Federal government lacked the constitutional power to regulate at a State level, when it became a signatory to a series of international conventions and treaties on drug control under the auspices of the League of Nations and later the United Nations, it was able to request the State governments to enact reciprocal legislation.

The Federal government had earlier ratified a 1925 convention, but the ratification in 1934 of the Geneva Convention 1931 played a major part in the direction of Australian policy towards heroin and other drugs. Though the United States refused to be a member of the League of Nations, it had a pre-eminent role in establishing strict controls through international treaties and conventions that defined problems associated with drug use as moral rather than medical questions. In reviewing the role of the Federal government in Australian heroin policy, and the consequences of the ratification of the 1931 Convention one commentator concluded that

"Australia imported its drugs, and it also imported its first 'drug problem'. It imported the laws which controlled drug use, and it was beginning to import the moral perspective by which drug users were viewed." (Manderson, 1987: 31)

1.4.2 History From 1960 to 1989

1.4.2.1 Introduction

To become a public social problem the use of heroin in Australia needed to acquire salience, a measure of the recognition of the issue's importance by the public, and legitimacy, the degree to which

[5] This United Nations regulatory body was renamed the International Narcotics Control Board in 1967. Australia and other signatory nations provide annual data on the consumption of licit opiates and the number of persons in treatment programs in each country jurisdiction.

[6] However it is submitted that comparison with American licit heroin consumption data was not valid, as the United States had prohibited the use of heroin in 1914, and after a number of Supreme Court cases brought by the Federal Bureau of Narcotics in 1925, medical practitioners ceased to prescribe opiates as a treatment of addicts. (Cf Kaplan, 1976; Musto,1973; Trebach, 1982.)

there was agreement that a 'real' social problem requiring attention existed (after Ross & Staines, 1972). It is not possible to precisely indicate when Australia's contemporary heroin problem became salient; however, by examining a variety of material it is possible to better understand the circumstances that led to it becoming a legitimate problem.

There do not seem to be records of heroin users in Australia undertaking organized activities to draw attention to their plight. One method of obtaining an account of heroin use could be to undertake ethnographic surveys of the accounts of individuals who used heroin in the 1960s and 1970s, however it would be extremely difficult as well as costly to obtain this form of information. There have been a small number of surveys of this kind in the United States; however very little funding is provided to this form of research into drug use. Therefore we need to largely rely on written historical materials, being newspaper reports, testimonies by direct contact workers, what one commentator has described as the *"troubled persons professions"* (Gusfield, 1989), articles in professional journals and reports of published research studies.

The available written material has been classified into three groups, (1) opinion/testimony from community groups and individuals, (2) survey research, and (3) reports from official investigations.

1.4.2.2 Opinion/testimony

References to the role of ethnic Chinese in the early 1960s and American servicemen between the late 1960s and early 1970s (see below) for introducing heroin addiction to Australia may provide an explanation of how the demand for heroin is believed to have originated. During the 1950s illicit heroin had replaced opium as the preferred opiate used by ethnic Chinese living in eastern Australia and it is believed that from this closed group of users heroin became available in the early 1960s to a wider group of users. Support for this proposition comes from Customs seizures of heroin from 1960 to 1965, which it is claimed *"generally involved Chinese traffickers dealing almost exclusively with Chinese."* (McCoy, 1980: 258).

Another source has also claimed that the activities of Chinese heroin dealers were involved in the expansion of heroin use in Sydney and that by 1970 ethnic Chinese *"started to increase the wholesaling of illicit heroin outside their own ethnic group; whereas previously they had tended to import mainly to meet the needs of their ethnic group in much the same way as they had earlier imported opium."* (Besley, 1977: 323).[7]

There is a belief that Australia's contemporary heroin problem had its origins in the social milieu of Sydney in the 1960s.

> *"Concentrated almost exclusively in the major urban vice districts, Melbourne's St Kilda and Sydney's King Cross, experimentation with marijuana and heroin began in the mid-1960s and within a few years had become an habitual pastime among the prostitutes and strongmen there."* (McCoy, 1980: 258)

In 1965 a New South Wales policeman claimed in an interview in the Sydney-based newspaper the Daily Mirror, that *"(w)e have a big problem on our hands. Years ago only a few chemists and some underworld identities peddled the stuff but now teenage boys and girls can fill any order."* (Cited in McCoy, 1980: 259).

The next stage in the history of heroin in Australia has been linked to the presence from 1966 of large numbers of American servicemen on "R & R" from the Vietnam war, *"many (of whom) ... brought*

[7] The significance of this comment of the role of the mass media in drug problems in Australia highlights its construction of what one commentator describes as myths about drug taking; "(t)he widespread appeal of the mass media rests, therefore, on its ability to fascinate and titillate its audience and then reassure by finally condemning. ... illicit drug use is custom built for this sort of treatment." (Young, 1973: 316.)

their drugs and drug habits with them and generously shared them with their new-found Australian friends." (McCoy, 1980: 260).

The majority of these servicemen spent their time, it has been claimed, in the red light districts of Kings Cross in Sydney, and St Kilda in Melbourne such that *"over a period of several years, more than a quarter of a million servicemen spent eighty million dollars principally in the Kings Cross district."* (Davies, 1986: 47) One commentator has gone so far as to estimate the number of American GIs[8] who came to Australia and were heroin addicts *"that at least 28,000 of those servicemen entering Sydney were addicts and there is no reason to believe that they did not bring heroin to Australia."* (Hirst, 1979: 28)

Curiously, the same commentator distinguishes between the purported heroin use of American and Australian servicemen in Vietnam, and claims that it was not at all likely that a similar percentage, ie 10%, of the 55,000 Australian servicemen who returned to Australia were heroin addicts, as *"(t)here are a number of psychological and sociological differences between the two countries commitments which would make addiction amongst Australians less likely."* (Hirst, 1979: 29).

This imputation of a greater tendency for heroin addiction by American as compared to Australian servicemen is extraordinary, and another example of the implicit acceptance of the infectious disease model, where the infectious vectors, in this case American servicemen-addicts, introduced the 'disease' of heroin addiction to Australia.

It would appear that by the mid 1960s heroin use had become established in the eastern States, and involved numbers of young Australian adults. In 1966 the Department of Customs and Excise in conjunction with the Australian Institute of Criminology held a seminar on drug abuse, and it was agreed on the basis of the information presented at this seminar, which has never been published, that *"there did exist a significant heroin and morphine abuse problem in Australia."* (Davies, 1986: 45)

In Gorring's (1978) view the impetus for heroin use in Australia in the late 1960s was from the activities of audacious young heroin users who travelled to South East Asia, where they purchased small quantities of the drug, which was brought back into Australia largely for non-commercial use. This view of the structure of heroin use in Australia has been qualified as only being *"an accurate assessment of the operations of heroin importers until the 1970s."* (Hirst, 1979: 33).

The growth in the availability of heroin in Australia stemmed, it is believed, from the activities of established criminal groups in Sydney in the early 1970s, who organized large scale importing of heroin from South East Asia. By the mid 1970s these syndicates had expanded into well-established inter-state operations dealing with heroin and other illicit drugs, especially marijuana.

> *"At every stage in the growth of Australia's illicit drug trade during the decade of the 1970s organized crime was heavily involved. To the extent that any small group can be responsible for any major social change, it is accurate to say that organized crime created Australia's illicit drug traffic."* (McCoy, 1980: 257).

The Mr Asia syndicate, which operated from the mid to late 1970s and was the subject of the Williams and Stewart Royal Commissions, was operated by Terence Clarke and his associates, expatriate New Zealanders who moved to Sydney and have been credited with a number of brutal murders. These inquiries as well as the Woodward inquiry into Mafia gangs based in the Riverina area of New South Wales allegedly involved with large scale cannabis growing, and credited with the death in July 1977 of Donald Mackay, a local anti drugs campaigner, involved the portrayal of foreigners as being largely responsible for causing drug use in Australia by increasing the availability of drugs.

[8] Based on an estimate by American congressmen that 10 - 15% of the American troops in Vietnam were addicts. (Hirst, 1979: 28)

The infectious disease model, it is suggested, is a conservative perspective that supports the need for supply-side measures, policies for interlocking police and surveillance systems within and without Australia, increased severity of criminal sanctions, court diversion schemes for offending heroin users, and the expansion of police resources and powers. Once accepted, supply-side solutions lead logically to sinister depictions: *"(H)eroin distribution requires a decentralized network which can operate throughout the country. Its weapons of terror and intimidation must be able to function in middleclass suburbs and country towns, in addition to the docks and red-light areas."* (Hirst, 1979: 38).

There are a number of analyses by investigative journalists into the activities of criminal groups involved with heroin dealing. (Cf Bacon, 1984; Berry, 1981; Davies, 1986; Deiley, 1980; Delaney, 1979; Drew, 1981; Hall, 1981; Hirst, 1979; Lernoux, 1984; McCoy, 1980; Smith, 1982; Thomas, 1982; Wilkinson, 1979; Wilkinson, 1981; Wilkinson, 1983; Williamson, 1982.) This form of discussion of heroin reached its zenith with the execution in Malaysia in July 1986 of two Australian men who had been arrested at Kuala Lumpar airport in November 1983 with 180 grams of heroin about to be taken back to Australia (Maiden, 1986).

1.4.2.3 Survey Research

After the mid 1970s there have been a number of well-thought out and carefully executed surveys in Australia on heroin use; however in spite of this it is difficult to make generalizations about drug use and its purported adverse consequence, as many surveys were unrepresentative as they were confined to specific populations, eg offenders, prisoners, attenders at drug treatment agencies and hospitals, etc. Another difficulty was that, as standardized definitions of drug use were rarely if ever used, it is not possible to make comparisons between surveys, between jurisdictions and across time. Material reviewed is tabulated in Appendix 1.

There is a surfeit of material comparing the outcomes of treatment modalities of small and discrete populations of heroin users; much of which concerns the individual heroin user as a pathological identity, frequently involves speculation about possible antecedent familial, environmental and individual factors, and attempts to associate medical, psychiatric, endocrinological and/or developmental variables with heroin use. A possible explanation for the emphasis for this type of research, which affirms the role of a literal army of experts to define and solve the problem has been suggested.

> *"The scientific medical model set up diagnoses of defective character, disorganized family life, sociopathic behaviour among the poor. These became signals for corrective intervention, whether by a caseworker or a cop. Individual cure or rehabilitation would depend on expertise and professionally-controlled technology."* (Klein, 1983: 40).

There is also a voluminous literature concerned with the social costs of heroin use, as in crime, patterns of multiple drug use, morbidity, and mortality. The preoccupation with individual heroin users and perceived causes of addiction is puzzling given the amount of resources directed toward treatment, prevention and law enforcement activities, as without an overall policy framework resources may be wasted, and in some circumstances official action worsen rather than alleviate the problem.

> *"Since the harms produced by illegal drug use in our society, eg crime, disease, death are almost entirely a consequence of our drug policy rather than the pharmacological effects of such drugs, we must look to the area of social policy as a causal factor in the 'drug problem', and those interests involved in creating and shaping a policy of drug control."* (Reasons, 1974: 384).

In spite of popular opinion, research has indicated that heroin use is statistically rare in Australia, and that prevalence has probably changed little since the 1970s. The community perception, measured by attitude surveys, that the level of heroin use is increasing indicates that information about heroin use may have a limited impact on policy and treatment priorities. If we exclude research in Appendix 1 concerned with specific populations, such as prisoners and attenders at drug referral centres because it

is not a valid measure of trends of heroin use in Australia and include only that which appears to have involved representative populations, the overall picture suggests that heroin use has involved no more than 2.0% of the general population and that slightly higher rates have been recorded in student populations. This research indicates the following trends:

Sydney

- 1971, students aged 17 - 19, 1.5% had used (Bell & Champion, 1977)
- 1972, 0.9% had used, 0.5% were regular users (George, 1972)
- 1973, persons aged 14 and over, 1.1% had used, 0.5% were regular users (Healy, 1975)
- 1973, students aged 17 - 19, 4.7% had used (Bell & Champion, 1977)

Melbourne

- 1972, persons aged 13 - 23, 1.5% had used, 0.9% were regular users (Krupinski & Stoller, 1973)

Canberra

- 1975, students aged 12 - 17, 1.4% had used (Irwin, 1975)

Australia

- 1985, persons aged 14 and over, less than 2.0% had used (McAllister & Moore, 1988)

The most rigorous research has been conducted in conjunction with the NCADA evaluation studies, and indicates that heroin use is associated with specific age groups and gender, is most frequent amongst young males whose usage peaks in their late 20s (McAllister & Moore, 1988; Plant et al, 1988). It has been concluded that

> *"Across the population as a whole, slightly less than 2% of individuals report ever having used the drug. However, the results show that use is strongly concentrated in specific age and gender groups. Use of the drug peaks among males in their late 20s, 9% of whom in 17 the survey reported having used heroin. By comparison, only 3% of females in the same age group reported having used it. Among those aged in their 30s or over, heroin use is virtually non-existent."* (McAllister & Moore, 1988)

There have been few surveys of heroin use in this State, and their results must be regarded as unhelpful in providing us data about the prevalence of heroin use as they have involved highly selective populations. For instance, a survey in 1972 - 1973 of 129 attenders at a number of agencies in Perth found that heroin had been used by 18 (14%) of the cases, and that morphia, a licit opiate, had been used by 35 (27.1%) of the cases. (Pougher, 1975: 44)

Another survey in 1987 of 926 Western Australian prisoners' drug use found that 19.7% of respondents self-reported heroin use, even though only 1.7% of those surveyed were imprisoned because of a heroin-related offence (lndermaur & Upton, 1988). The Honorary Royal Commission, convened in Western Australia in May 1972, though it did not offer any statistical information, stated

> *"the Commission formed the opinion that the drug scene is far more serious than had previously been imagined. While conceding that the Perth drug situation is far removed at present from the abysmal U.S. drug scene, (the latter requiring an addict to steal $10,000 p.a. in support of his habit) it must be acknowledged that there is an increasingly serious drug-problem in this State."* (Honorary Royal Commission, 1973: 13)

1.4.2.4 Official Investigations

During the 1970s and 1980s there were a series of inquiries and royal commissions in Australia, a list of which are tabulated in Appendix 2. There were two main types of inquiries, (1) a concern with the activities and consequences of organized criminal organizations in the importation and distribution of heroin and other illicit drugs, notably cannabis, and (2) investigations concerned with a broader definition and description of drug use, especially the dimensions of licit drug use. The former type of inquiry has been the predominant activity. There were also inquiries which were concerned with issues

at the State level, particularly the organization and funding of treatment services. One commentator has concluded that with the exception of the South Australian Royal Commission Into the Non-Medical Use of Drugs,

> *"our official inquiries have devoted a comparatively small part of the investigative and intellectual resources at their command to an understanding of the problem of drug dependence. They have been preoccupied with the elaboration of a sophisticated 18 technology of law enforcement for the suppression of what has remained an essentially unexamined evil."* (Leader-Elliott, 1986: 135)

There has been wide public acceptance of statements made by official inquiries as to the value of seizures of heroin (and other illicit drugs) when at the best these are estimates. Indeed, it is possible that a function of these inquiries has been to legitimate a perception that heroin use is a big problem in Australia. For instance, a careful analysis of the value and quantity of estimated heroin consumption in Australia by the Woodward and Williams inquiries indicates marked discrepancies in calculations of the cost of heroin use (Elliott, 1982; 1983).

The credibility of these inquiries must be questioned given the magnitude of differences in the annual dollar value of heroin use to the Australian community. For instance, the 1979 Woodward report calculated that 162 kgs of pure heroin were consumed in Australia, which translated into 203 kgs of imported 80% pure heroin and which cost final users $68.8 million. However, the 1980 Williams report calculated that 515 kgs of pure heroin were consumed in Australia, which translated into 644 kgs of imported 80% pure heroin and which cost final users $704 million (from Elliott, 1983: 335).

The more than 10-fold discrepancy between these two estimates is extraordinary, particularly as these inquiries have been regarded as definitive and adopted as blueprints for policy-making. This kind of distortion of the dollar value of heroin is common in police statements about the estimated value of seizure. For instance, a recent seizure of 50 kilograms of heroin in Sydney was described in the popular press as having a value of $50 million (Quekett & Carbon, 1989). The figure of $50 million may support claims by law enforcement agencies and policy makers that they are doing something about the heroin problem."This kind of discourse about heroin dealing implies the existence of a large problem, in spite of the fact that the figure is an estimate.

> *"Behind the request for a number is the half-hidden desire that the number be large: big problems justify big programs and big budgets ... In fact, we could probably specify fairly closely for many social or health problems a range of numbers that would be considered politically acceptable."* (Room cited in Dorn & South,1986: 523)

The effect of these kinds of statements is that policy is driven by hyperbole in a climate noted for its use of evocative declarations such as that heroin use constitutes 'a menace' which is an 'epidemic' that 'infects' the young and innocent, and that to 'save' society, a 'war' must be declared. Another commentator regards the desire to produce inaccurate and exaggerated numbers as a function of a desire by governments to capitalize on public concern about law and order.

> *"There is a strong interest in keeping the number of addicts high and none in keeping it correct. In that respect the estimated number of addicts is one of a class of 'mythical numbers' that is becoming the routine product of government agencies."* (Reuter, 1984: 136).

It is submitted that official investigations may be quite unhelpful in responding to heroin use. They have not been successful in putting the heroin problem into perspective, for by focussing the activities of a small number of multi-national criminal groups for example, they support policies concerned largely with supply side issues. *"We have opted almost exclusively for the royal commission ... Often the aim is to us the judicial status of the royal commission to give the findings and recommendations the weight of authority."* (Egger, 1985: 7-8.)

In spite of a number of parliamentary committees and commissions of inquiry in the 1970s and 1980s which confirmed there was a wide spectrum of harmful drug use in Australia, especially due to licit drug use, heroin use has continued to be seen as Australia's most serious and pernicious problem (McAllister & Moore, 1988). While these official inquiries legitimated harsher laws, they also confirmed that the criminal law had not succeeded in eliminating heroin use, paradoxically raising the question that use of the drug could only be controlled, not eliminated. There had been some concerns that policy should adopt a control perspective, for instance, in the 1979 Woodward inquiry it was stated that the community had come to accept

> *"the limited effectiveness of legal sanctions in deterring drug traffickers (and other criminals) and with a general acceptance of the need to avoid unrealistic expectations, or even aspirations, of total elimination of illicit drug trafficking. This result is not practicably obtainable except by extreme measures which would be intolerable in a free society."* (cited in Royal Commission On the Activities of the Federated Ship Painters and Dockers Union, 1984, volume 5: 82)

Many of the official inquiries in Appendix 2 have consistently recommended increased powers of surveillance and investigation and expansion of social control through medical and therapeutic means. Should we have expected there would have been a re-examination of the precepts of Australia's heroin policy, eg whether it is such a dangerous drug? The 1979 Sackville inquiry and the 1989 Cleeland inquiries do raise doubts about the direction that heroin policy has followed in Australia; however, there appears to have been little support so far for a re-examination of the rationale for the criminalization of heroin use.

> *"It is more consistent with the values of a humane society to regard dependence not as a self-inflicted wound, but more as an inevitable consequence of society's inability to forgo or control absolutely the availability of drugs, chemicals and pharmacological knowledge. This suggests that even where measures designed to assist drug-dependent persons, or other drug users in need of assistance, appear not to be effective, the community should not consider the apparent failure a reason to withdraw support or to revert to a punitive approach."* (South Australian Royal Commission Into the Non Medical Use of Drugs, 1979: 30)

The Cleeland report reviewed the consequences of Australia's efforts over the past two decades in dealing with the use of heroin and other illicit drugs. Compared to the views expressed in a number of the earlier inquiries, it marks a more considered and temperate perspective when it reflected that since 1970.

> *"(W)e have devoted increased resources to drug law enforcement, we have increased the penalties for drug trafficking and we have accepted increasing inroads on our civil liberties as part of the battle to curb the drug trade. All the evidence shows, however, not only that our law enforcement agencies have not succeeded in preventing the supply of illegal drugs to Australian markets ... If the present policy of prohibition is not working then it is time to give serious consideration to the alternatives, however radical they may seem."* (Parliamentary Joint Committee on the National Crime Authority, 1989: xiv),

1.5 Heroin Policy Options

1.5.1 Introduction - Problem of A National Heroin Policy

A major impediment to the development of a national heroin policy has been the limited powers of the Federal government, because it has only exclusive powers in matters related to customs and trade must rely on cooperative agreements between it and the States. By being a signatory to international treaties and conventions the Federal government has been able to influence State drug laws, however this approach has not meant uniformity of drug laws.

Because of the Australian Federal political system, power and responsibility is fragmented and governments rarely agree on or support national approaches to problem solving. In situations where

the States have exclusive powers the Federal government may rely on financial inducements to obtain support for national programs. Examples of this kind of approach are the joint State-Commonwealth hospital cost-sharing agreements and public housing programs. Another approach has been to create inter-government administrative bodies and for the States to adopt reciprocal legislation, for example the National Crime Authority and national companies and securities legislation.

The Whitlam Labor government (1972 to 1975) proposed to establish accessible community based health services through Community Health Program (CHP) grants to the States. The intention of this proposal was to improve the responsiveness of State health services to problems such as alcoholism and drug abuse, which often went untreated until serious social and medical problems arose and necessitated expensive institutional hospital care (National Hospitals and Health Services Commissions,1973: 1-2). This approach to funding community health programs was disbanded by the Fraser Liberal government (1975 to 1983).[9]

Until the National Campaign Against Drug Abuse (NCADA) in April 1985, which had the status of a Special Premier's Conference, the Federal government had not directly provided money for drug programs to .the States, except through hospital cost sharing agreements. A number of unwieldy administrative arrangements that are creatures of the NCADA, such as the Ministerial Councils of Health Ministers and Police Ministers, are needed to ensure ongoing support for the national objectives of the NCADA.

It is not clear whether the NCADA has been set up to develop national drug policies or to establish mechanisms to ensure consistent implementation of the objectives. It appears to be a high profile means of channelling Federal government money to the States to bolster their spending on existing facilities and services concerned with educational, treatment and rehabilitation programs. It has been stated that the NCADA is a cooperative arrangement between the States and the Federal government; it is not an attempt to foist particular policies upon the States nor press them to relinquish powers to the central government. (Department of Community Services and Health, 1988; Department of Health, 1985; 1987; National Campaign Against Drug Abuse, 1985; National Campaign Against Drugs Media Team, 1987.)

While this may be a comfortable political framework, an unresolved problem is that there a lack of coherence within jurisdictions and wide variations between the States, Territories and the Federal government, and without a clear overall implementation strategy it is 22 doubtful how policy objectives will be achieved. The nature of heroin policy-making is largely reactive and this may partially explain why there appears to have been a lack of coherence and consistency. Similar concerns have been voiced elsewhere *"a small increase in illegal drug use in Britain stimulated a process of rapid policy reconsideration and change has continued unabated to the present day. Because of this change, a complicated web of legal and medical constraints, treatment methods, and information controls has evolved."* (Bennett, 1988: 299)

1.5.2 Prohibition

There may be a temptation to claim that the solution is clear and simple, overturn the policy of prohibition and revert to the policy we had in this country for the three quarters of a century prior to the early 1950s, before pharmaceutical heroin was prohibited. This view may appear to have an initial logic, for it is true that the heroin problem: is a consequence of the criminalization of heroin use and we may have only succeeded in letting control over the drug slip from health and medical authorities into the grip of well-organized, highly profitable local and international crime syndicates. However as will indicated in the next section, it is clear that unregulated heroin use would be a disastrous policy option.

[9] CHP capital grants were used by the WA government to establish the Alcohol and Drug Authority's outpatient clinic and other facilities such as community psychiatric clinics. The early 1970s enthusiasm for integrated community health centres had been adopted from the USA, however the integration of methadone clinics into these centres was regarded as unsuccessful (Coghlan, Pixley & Zimmerman,1974).

The object of a policy of prohibition is the protection of society from crime attributable to the . activities of dealers and heroin addicts who either commit crime to raise income or deal in drugs. Compulsory treatment and incarceration of heroin users convicted of crime are regarded as optimal strategies; responsibility for the implementation of this option has resided with law enforcement agencies. More recently in Australia there has been an increased use of formal court-mandated orders for users to attend detoxification-oriented treatment programs and this has tended to blur some of the distinctions between law enforcement and medical treatment systems (Bester, 1981; Bush, 1986; Schlosser, 1984; Snashall, 1986; Tomasic, 1977; Williams, 1982; Williams & Bush, 1982).

We might speculate that these programs are a function of the community's ambivalence about whether drug users should be punished because they are criminals or exculpated because they are sick (Levy et al, 1972; Stimson, 1978). There has been support for compulsory treatment of heroin users amongst the general public and some commentators; however, in practice health care providers have been unwilling to provide treatment on this basis. The recommendations of the Ellis inquiry into drug and alcohol treatment strategies bear repeating in part:

> *"Compulsory treatment of drug-dependency or of alcoholism is of little benefit to anyone except the immediate contacts of the affected persons. Such compulsory provisions as we possess in the Mental Health Act should, however, be retained, because in a minority of cases early compulsion can lead to later acceptance of voluntary treatment."* (Ellis, 1971: 42.)

The operation of the WA court diversion scheme will be developed in the section concerned with treatment later in this chapter.

There are three alternative models to explain the relationship between crime and heroin use: (1) heroin use causes crime, (2) heroin use is a consequence of a criminal lifestyle, or (3) heroin use and offending are only spuriously related because they have common antecedents. (Adapted from Dobinson & Poletti, 1988.) Research indicates that a number of heroin users do commit disproportionate amounts of property crime, but that frequently these persons have well-established histories of serious offending prior to their use of heroin. (Chaiken & Chaiken, 1982; Dobinson & Ward,1985; Dobinson & Ward, 1987; Dobinson & Poletti, 1988; Leader-Elliott, 1986; Wardlaw, 1978.)

It is unwise therefore to extrapolate from data of offending by heroin users or the heroin use of offenders to the whole population of heroin users, and to claim, as has been done by a number of commissions of inquiry, that the cost of heroin use due to crime amounts to hundreds of millions of dollars per year (Cf: Elliott, 1982; 1983). An example of fallacies that arise from the use of data can be demonstrated from a study by Dobinson and Ward (1985) of the drug-using histories of 225 persons imprisoned for property offences. The study found that the average number of armed robberies was eight per year, and *"(i)f we multiply this figure by the Woodward estimate of 10,000 users in NSW, we can calculate that addicts are responsible for 80,000 armed robberies a year - about 40 times as many as are reported by police."* (Egger, 1985: 8.)

The distribution of heroin is typified by a vertical market structure with pronounced separations between the respective levels, with strict control over information to minimize penetration by law enforcement agencies. At the lowest level of the distribution network monopolistic competition exists, as in practice even though users seek to maintain access to a number of suppliers to overcome supply irregularities, buying and selling is conducted on a personal basis to reduce police surveillance. The probability of detection is highest at this level, as users must frequently purchase small amounts of heroin compared to distributors higher up who may handle large quantities infrequently. Law

enforcement therefore does play a significant role in reducing heroin consumption by creating high prices.[10]

The optimal outcome of law enforcement activity is to establish two tiers of heroin prices, a high price for inexperienced users and a low price for experienced users. The former price tends to act as a barrier to entry and will tend to limit consumption, the latter price is intended to reduce the necessity for regular heroin users/addicts to resort to crime to pay for heroin which they consume in large quantities. (Bernard, 1983; Rottenberg, 1975.)

> *"High prices might lead addicts to commit more crimes in order to secure money to meet their increased costs. However, high prices may also discourage entry into the addict population and thus lead to a long-term decrease in the amount of drug-related crime. In other words, more crime may be committed in the short-term as a consequence of price rises, but those same rises may lead to a long-term decrease in the addiction population and thus indirectly drug-related crime."* (Wardlaw, 1978: 17)

Law enforcement activities, by forcing inefficient suppliers out of business (eg imprisonment) have had the effect of creating monopolistic market structures which maximize profit and restrict output. Indeed some of the "firms" in this position may become monopsonists, ie monopoly buyers, because of their highly disciplined structure (Cf Wardlaw, 1978, eh. 4). This is not necessarily an optimal result if the demand for heroin were relatively inelastic as a monopolistic market will cause higher social costs, to the extent users resort to crime. However, as a policy preference we may want to tolerate its costs to ensure there are a few rather than many firms conducting a morally reprehensible form of business.

A key problem for the criminal justice system in dealing with heroin users was that it relied on the notion that a criminal act was a willed act, ie guilt depended on culpability (Bayer, 1978). The medicalisation of heroin use, which occurred in Britain in 1968 with the establishment of the Drug Dependency Clinics (DDCs), occurred at the time there had been a change to the perception that drug use/addiction was a treatable medical condition and not a form of mental illness. Heroin users were not criminals but individuals whose medical condition if untreated caused them to be unaware of the harmfulness of drug use to themselves and society. This attitude facilitated protective if somewhat paternalistic management of heroin users:

> *"The addict is a sick person and properly comes within the ambit of medical practice. His dependence on the drug and his craving is so strong that he is unable to behave rationally ... Punitive detention of the addict under a penal system has not been shown to be successful in curing addiction in other countries and should not be adopted hastily."* (Connell, 1969, cited in Edwards, 1979: 10).

This shift in attitudes also occurred in Australia; however, paradoxically since the 1970s there has been an increase in the severity of criminal penalties and an increase in police powers with respect to drug offences. It is possible that more severe penalties can be justified from the expansion in treatment facilities, as it is more difficult for an individual to claim that it was necessary to commit a crime because of unavailability of treatment facilities. It is suggested that punishment could have been more for the wilful refusal of the individual to accept that he/she should be saved from self-destruction through drug use than for committing minor drug offences.

The criminal. law has established a two-tiered set of drug offences; one set of lesser penalties applied to addicts/users; the other set for drug dealers, individuals portrayed as profiting from the misery of others. This structure can be seen in the *Misuse of Drugs Act 1981,* where the more serious offence,

[10] The term "effective price of heroin" has been suggested it being " ... an index of all things that make heroin difficult, inconvenient, risky, or otherwise 'costly' for individuals to consume ... (it) includes at let the following components: dollar price, amount of pure heroin, toxicity of adulterants, the expected time necessary to find heroin, the threat of arrest, and the risk of victimization by criminals." (Moore, 1977: 238.)

possession with intent to sell or supply occurs when an individual has in his/her possession a quantity of a drug that is equal to or exceeds a specified amount of a drug, ie is 2.0 grams in the case of heroin. Possession of a quantity of less than 2.0 grams of heroin means that an individual would be charged with the lesser offence of possession and will be sentenced in a summary court rather than in a higher court.

1.5.3 Legalization

The policy of legalization has as its object the improvement of the life and health of heroin users, an outcome achievable through the prescription of pharmaceutical heroin (PH) or substitutes such as methadone. The option is predicated on the belief that the medical profession would be willing and able to implement such a program; however this option involves complex issues for it involves

> *"clinical, ethical and political judgements. In part, it depends on the acceptability of the various consequences to individual patients and to society of long-term maintenance, on the extent to which treatment should be concerned with the interests of individual patients or with those of society, and on which outcomes are considered most desirable."* (Hartnoll et al, 1980: 884)

Methadone should properly be regarded as an instrument of legalization policy; however policy makers usually regard it as a treatment policy option. As will be seen in a subsequent chapter, policy makers distinguish between short-term detoxification treatment and long term maintenance methadone treatment in order to maintain the public perception that methadone is a legitimate treatment. The major argument for legalization is a belief that it will eliminate the black market for heroin, however, there is a considerable divergence of opinion about this possibility.

> *"The assumption in the 'heroin solution' that prescribing pharmaceutical heroin would do away with addict and organized crime's involvement with heroin use is questionable ... for many, delinquent behaviour preceded the onset of their drug use. Providing such people with free drugs is not going to change their outlook on life and stop them committing crimes. More likely ... they will utilize their prescriptions criminally and continue to commit other crime as well."* (Burr, 1986: 94)

In spite of enthusiasm in some quarters, proposals to provide heroin on prescription have not been regarded as likely to have much impact on the illicit market as marketers of illicit heroin are likely to open new markets and replace any consumers who obtained greater utility from the licit source (Burr, 1986). Another commentator has suggested that legalization is constructed from a naive premise, as *"(t)o assume that the legalization of drugs would maintain the current, relatively low levels of drug use when there are high rates of both alcohol and tobacco use seems rather naïve."* (Inciardi & McBride, 1989: 271.)

> *"The continued existence of the illegal heroin supply system is a serious threat to any effort to control addicts by controlling the legal supply. Any effort to raise the cost of legal heroin to addicts by requiring them to perform useful social functions, or live in undesirable conditions, or give up their freedom will lose some addicts to the illegal market. Similarly, any effort to guarantee that reformed addicts or potential addicts will not be able to obtain heroin except in legal markets will also be limited when the illegal system continues to operate."* (Moore cited in Wardlaw, 1978: 76)

The starting point for a discussion of legalization is the 'British system', from 1920 to the late 1970s, when PH was the major form of treatment in the United Kingdom. This approach was a result of the Dangerous Drugs Act in 1920, and of the findings of the Rolleston Committee of 1924. The cornerstone of the British System was a belief that *"addiction is a disease ... that may in some cases require treatment by the prescription of the drug of addiction, either as a prelude to withdrawal or as a form of maintenance of an incurable condition."* (Stimson, 1978: 55)

However, in 1965 as a consequence of the report of the Second Brain Committee, which had found that a significant growth in heroin addiction in Britain was largely due to over prescription of heroin to

addicts by private medical practitioners, a more controlled approach was attempted. In 1967 the Dangerous Drug Act restricted the prescription of heroin, and established government controlled Drug Dependency Clinics (DDCs) which were to be the principal source of PH to addicts. The significance of this change was that it was based on a different concept of addiction, the infectious disease model, which conceptualized heroin addiction as being spread by an infectious vector, drug addicts. An important object of treatment was to institute competitive prescribing so as to undercut the illicit heroin market and create a differential effective prices of heroin. The problem faced by this policy was that

> *"(i)f there is insufficient control it may lead to the spread of addiction .... If on the other hand, the restrictions are so severe as to prevent or seriously discourage the addict from obtaining any supplies from legitimate sources it may lead to the development of an organized illicit traffic."* (Second Brain Report, cited in Bennett, 1988: 308).

There is a suggestion that specialist drug treatment clinics in Britain were the outcome of concerns by medical science with the notion of public health, which in contrast to individual illness, understood society as an organic whole. Though the DDCs were created at a time of rehabilitative optimism, when therapeutic milieus were introduced into prisons and psychiatric institutions, they represented a shift towards containment as the heroin user represented a threat to public health (Smart, 1984). The DDCs have not been judged as effective in reducing heroin use; attributable to failure of both implementation and theory (Bennett, 1988).The Rolleston model, frequently represented by supporters of legalization as an example of the advantages of controlled access to PH, catered largely for stable, middle class and middle-aged heroin users. It is not a model applicable after the mid 1960s, when there has been a different population of young users who identify with a heroin sub-culture.

> *"The clinics failed to do what was expected of them, but what was expected of them was impossible. The essential causes of widespread heroin use in a large population remain hidden in the minds and emotions and intimate personal choices of countless individuals. The clinics had about as much of a chance to affect a significant number of those choices as the Anglican Church did on the matter of adultery."* (Trebach, 1982: 220).

There are a number of practical difficulties with a PH program, namely its short duration of action, 4 - 6 hours compared to 24 to 36 hours for methadone, and that it can only be administered intravenously, whereas methadone can be used orally as well as injected. If participants to PH were only permitted to use it on-site, it would reduce the acceptability of the service, and would necessitate a 24 hour service. The work of Burr (1986) indicates that a significant number of heroin users would not participate in schemes that supplied PH, as the cultural context of heroin use is a major factor in their lifestyle. A British trial of providing PH to heroin users/addicts indicates that increased numbers of individuals will attend such a program; however it was believed that such a service would have a limited treatment role.

> *"The results do suggest that there is a conflict between a policy that would maximize the numbers who achieve abstinence and a policy that would maintain greater surveillance over a higher number of drug users and ameliorate their total preoccupation with illicit drug use and criminal activity .... the ultimate outcome depends more on the individual patient's personal resources for coping that it does on the effect of treatment."* (Hartnoll et al, 1980: 883)

Two inquiries in 1981 in New South Wales canvassed the costs and benefits of the prescription of opiate substitutes to reduce crime associated with heroin use (Rankin, 1981; Rankin et al 1981). These investigations concluded that a number of pharmacological options, particularly methadone, were necessary to reduce the demand for illicit heroin, and that if methadone was used it was preferable as a maintenance rather than a short-term treatment modality. Pharmaceutical heroin as a treatment option was not supported. An attempt was made to develop a rationale for the use of PH to reduce addict-related crime, which in order to make a significant impact on addict-related crime had to be provided

on demand, on an 'over-the-counter' basis, to any person who wanted it. However, it was recognized that such an arrangement would be extremely unlikely, and therefore

> *"as one restriction after another is added, so an increasing number of heroin users will fail to be attracted away from illicit sources, the effect on the black market will be progressively weakened, and there will be a corresponding diminution of effect on individual crime."* (Rankin et al, 1981: 30)

The realization in Australia in the late 1980s that HIV 1 infection was a consequence of intravenous drug use created a new set of concerns, especially the possibility of contagion, evocative of the metaphors of the typhoid and cholera plagues of earlier times.[11] The possibility of the transmission of the HIV virus has added a new dimension to the debate about legalization (Drew & Taylor, 1988), A more subtle effect of this concern has been support for the proposition that heroin use is both a disease and a cause of disease and therefore best managed as a medical problem.

There have been strong differences of opinion between the proponents in the debate for and against legalization, involving economic and health concerns. (Hawks, 1988, 1990; Jackson, 1989; Marks, 1989; Murphy, 1988; Pilotto, 1990.) Though the British system is no longer regarded as an example of legalization, the 'Dutch system' has been referred to as an example of the tolerance of illicit drug use, a defacto legalization policy, which it is believed will ensure drug users do not become marginalised or isolated from mainstream society (Erigelsman, 1989; Liverani, 1989), The argument that PH would be a valuable instrument to reduce the spread of HIV infection is however a simplistic one.

> *"For the legalisation of heroin to be justified on the grounds that it will reduce the risk of AIDS requires that it be argued", that the legalization of heroin will, over and above the present efforts being made to educate users and to provide them with free and accessible needles and syringes further reduce the risk of AIDS."* Hawks (1990: 36)

The same commentator also argued that because the majority of heroin users were recreational users, are unknown to drug treatment services, and would be very unwilling to publicly identify themselves, the legalization of heroin would have a minimal impact on the transmission of the HIV virus.

Given the difficulties in the adoption of legalization, the provision of the synthetic long. acting opiate, methadone, has been regarded as the next best option to increase the elasticity of demand for heroin, ie so that rises in the effective price of heroin will cause a reduction in demand.[12] This drug has been provided for this purpose since the early 1960's, on prescription from low cost outpatient clinics, in the belief that some attenders will obtain secondary benefits from daily attendance through interaction with health care professionals at these facilities. The degree of compliance required by clinics will determine the extent users are willing to leave the illicit market in preference for an opiate that is orally ingested under supervision.

1.5.4 Treatment

Treatment as a policy option is principally concerned with the reduction in the incidence of heroin use. Responsibility for the implementation of this policy depends on the treatment agency; it may be professional health and welfare workers (ie medical practitioners, nurses, social workers and psychologists), or non-professional workers (ie ex-addict counsellors or volunteers). The former group of workers are mostly employed in government programs, the latter mostly in drug-free (non-government organizations) programs.

The preferred object of this option is abstinence, attained through the voluntary admission of heroin users to detoxification facilities and long-term drug-free residential programs. These modes of

[11] Burrows et al1990; Sontag, 1989.
[12] Bernard, 1983; Marks, 1989; Rottenberg, 1975; for discussion of economic model of inelasticity of demand for heroin.

treatment are predicated on the willingness of users to enter into residential programs for the purpose of using no drugs at all. In Perth there are two drug-free programs, Cyrenian House, established in April 1981, and Palmerston Farm established in June 1983. Both programs are largely reliant on government funding.[13]

It is not easy to evaluate the effectiveness of treatment on the basis that it may reduce the financial cost of heroin use to the community, as programs usually adopt discretionary admission practices to exclude 'unmotivated' individuals and persons who are not 'genuine addicts'. As a consequence misallocation of resources may occur for instance, by the preferential admission of persons with little or no criminal involvement and who use little heroin. If this happens the treatment facility may make little or no impact. It is likely that treatment programs may fail to recognize that one of their major functions is to attract and retain users from a heroin-using lifestyle to a non-heroin using one, so that they may obtain respite from the rigours of sustained heroin use rather than necessarily be 'cured'.

Also, the selective and discretionary approach to admission means that some users will not be able to obtain benefits of treatment, such as improvement in health and social functioning, because they don't measure up to the expectations of the staff. A study of street level heroin users in inner Sydney found very high levels of crime, and a pattern of participation in drug treatment programs to tide users over periods of reduced social functioning. The study concluded that

> *"in the light of how some individuals use treatment to control and regulate their drug use and the probability of re-use that we may need to re-define what is meant by 'success' in terms of treatment outcomes. …. Whereas the current objectives seem to be cessation of drug use and crime and a return to a 'normal' lifestyle, consideration should also be given to the function that treatment provides in keeping an individual's usage at a manageable level."* (Dobinson & Ward, 1987: 55)

In practice many of the admissions to residential programs occur through formal and informal diversionary schemes as a consequence of criminal proceedings. In February 1988 the Court Diversion Service (CDS) was established in this State. Diversionary schemes such as the CDS are used to effect attendance of users at treatment facilities, and usually involve the suspension or non-determination of criminal charges in exchange for the individual's agreed participation in some formal treatment program. This method of treatment has been aptly described as "coerced voluntarism" (Peyrot, 1985). This model of diversion has been defined as

> *"the disposition of a criminal complaint without a conviction, the non-criminal disposition being conditioned on either the performance of specified obligations by the defendant or his participation in obligations ... or his participation in counselling or treatment."* (Nimmer cited in Tomasic, 1977: 124-5).

Some of the advantages of diversion are that they relieve a number of problems: overcrowding of jails, congested court lists, and judicial doubts about the culpability of addicts who commit offences. (Lidz & Walker, 1977; Weissman, 1977.) These schemes have also been a method to overcome the reluctance of users/addicts to seek assistance, based on disillusionment by the public with liberal reforms in the sixties and seventies (eg prison reforms, decriminalization of offences).

The mystification and popular images that surround drug addiction have also been a factor in the development of diversion of drug offenders.

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[13] These local organizations were also supported by government funding as there was official concern about the establishment of the Odyssey House (OH) organization in Perth. There had been visits to Perth in 1980 by the Director of OH, Dr Milton Luger, at the invitation of local groups. In the Eastern States OH had established a very high public profile and had obtained significant amounts of government funding at the expense of other treatment modalities.

> *"Like the clinic, court personnel learned about drugs from the addicts. Using the tried and tested excuse-making techniques described by Matza, the addicts tended to describe their drug use to the law enforcement personnel in terms of uncontrollable needs."* (Lidz & Walker, 1977: 310).

Support for the concept of diversion is also drawn from a rehabilitative ideal constituted of different groups with common interests. This has been described as an alliance between the behavioural and medical sciences optimistic about the potential for human development, and those groups concerned to eliminate the punitiveness of the criminal justice system (Giffen, 1975). Critics of the enthusiasm for diversion have raised important issues, such as that entry into treatment by diversion does not constitute voluntary admission.

Other critics have pointed out that diversion has so-called 'net-widening' and 'mesh-thinning' effects, and results in spreading social control through a proliferation of agencies and programs (Cohen,1979). The result is a blurring of the boundaries between the courts and agencies not concerned with social control, and an increased dispersal and penetration of social control. *"(M)any of these multi-purpose centres are directed not just at convicted offenders, but are preventive, diagnostic or screening enterprises aimed at potential, pre-delinquents, or high-risk populations."* (Cohen, 1979: 346)

Also, individuals may be more severely punished if they are deemed to have failed an opportunity for rehabilitation offered to them by diversion, than if they had been dealt with solely on the basis of their original offence (Rinella, 1979). One commentator has expressed concern that the whole criminal justice system may be threatened by large scale diversion because the courts will become burdened with *"a clie*ntele of hardened, recalcitrant, difficult offenders who seem unlikely to make it in the community." (Carter, 1972: 35.) Does the transfer of a large number of people from the criminal justice system to the health system and treatment agencies result in the transfer of resources from one place to another? In a study of a diversion program in Sydney it was observed that

> *"the intention of justice personnel in the present study was to 'hand-over' the target individuals concerned to health workers thus transferring at least a partial responsibility for the problem from one institutionalised system to another."* (Williams, Bush & Reilly, 1983: 347)

Diversion schemes have the potential for extending social control over large numbers of people with concomitant losses of freedom and rights as there are few, if any, appealsagainst therapeutic decisions. The acceptance of diversion presupposes the legitimacy of the system of controls we have for drug use; the criminalization of drug use means that those persons who want to use drugs must commit offences in order to pursue that objective.

1.6 Conclusion

Two eras of heroin use in Australia were presented; the early era up to the end of the 1950s when the drug was available as a licit pharmaceutical product, and the era of our contemporary heroin problem, the past three decades when the drug has been consumed as an illicit substance. It was suggested that one of the ironies of Australian heroin policy is that in spite of prohibition in 1953, the drug has apparently become more widely used and, whereas at one time it was controlled by the medical profession, now there is no medical supervision of its use.

A notable feature of the discourse about the heroin problem has been the dominance of material that originates from law enforcement agencies and official investigations into crime syndicates. The limited influence of medical and other expert opinion and knowledge is well illustrated in the debate about the legalization of heroin; it is clear that there is little likelihood of any alteration to the policy of prohibition.

It was shown that over the past three decades Australia had gone through a number of cycles of heroin use. In the early stages there was a perception that it was a criminal problem, that could be largely solved in a positive fashion by a simple remedy, increased criminal penalties. The latter stages have

been characterized by discussions about the tragedy of heroin use for individuals and families and that it was a treatable medical problem. This cycle, which represents a change away from legal-judicial to a medical system of social control, has occurred, it is claimed because

> *"the middle class sought to protect its own children, who were increasingly involved in illicit drug use. The desire to control drug use survived, but no longer at the cost of incarcerating users for a major portion of their lives. ... the implementation of treatment served a ritual or 'ceremonial' function. It served to exemplify public values condemning drug use by requiring drug users to undergo treatment, while at the same time circumventing those values in the technical details of the requirement."* (Peyrott, 1984: 91).

It was suggested that the nature of Federal - State relations have been a key factor in limiting the possibility of developing a national heroin policy. Three possible policy options were reviewed. The first, prohibition, had considerable community support and was a dominant option that had a large measure of support for its aims, to punish people for using or otherwise being involved in heroin. The second, legalization, had very limited support and was largely untested as an option. The third option, treatment, was not effective in changing heroin users to non-users unless linked to coercive court-ordered schemes of treatment. It was indicated that court-ordered treatment was of value as a means of providing minor drug offenders with alternatives to imprisonment.

By the end of the 1980s Australia had what could be called a two-handed heroin policy humane treatment for addict-users, punishment and retribution for criminal-dealers. However, the perception of heroin as a 'dangerous drug' still remained an essential component of the policy, and enabled the community to regard those who are involved with its use as either victims or profiteers.

> *"The inference drawn from this image is that it is the duty of a modern scientifically enlightened State to protect its citizens from such dangers, and it is the duty of the citizens to submit to the protections so imposed on them for the benefit of the community as a whole."* (Szasz, 1982: 119)

2. Chapter 2: Overview of Methadone Treatment

2.1 Introduction

In this chapter the rationale for methadone treatment will be developed by a brief history of the American experience because that country pioneered the treatment, has had the most programs, has had the largest treatment population, and most of the research on the effectiveness of methadone treatment has been done in the United States. It will be shown that experimental research in the mid 1960s that involved selective populations of criminal addicts gave rise to the expectation that maintenance methadone programs would eradicate the social costs, especially crime, associated with heroin use; that by the 1970s disappointment in the results of treatment, administrative problems and unresolved philosophical concerns led to reduced support by government; and that since the 1980s the American Federal government has required States to provide short-term rehabilitative methadone programs.

The final sections of this chapter will provide an overview of methadone treatment in Australia and will indicate that until recently there was not a national approach to the use of methadone as a strategy to deal with Australia's heroin problem. It will be shown that individual States and Territories have varied markedly in their support for methadone programs compared to other forms of treatment, and that official support for methadone treatment from 1969 to 1989 has depended less on concern about the health and status of heroin users and more about the threat they were believed to pose to the community through crime or infectious disease.

It will also be suggested that future developments in methadone policy may be responsible for conflict between funding bodies, administrators, prescribers, and clients, because of trade offs from the pressure to reduce costs and develop services sensitive to the needs of special groups.

2.2 British and American Experience

2.2.1 Dole and Nyswander's Contribution

Methadone is a synthetic opiate synthesized in Germany during World War II.[14] Its original purpose was as a long-acting analgesic, ie pain relieving drug, in the place of morphine. Experimental work in 1948 at the Public Health Hospital in Lexington, Kentucky, an American Federal prison hospital, established that methadone provided substantial relief from the distress of users undertaking withdrawal from heroin and other opiates. During the 1950s at Lexington the practice was developed and involved progressively reducing doses of methadone over 1 to 3 week periods to detoxify heroin and morphine users as inpatients.

Dr Vincent Dole, a medical specialist concerned with metabolic conditions and Dr Marie Nyswander, a psychiatrist who had treated heroin users in New York, jointly experimented in 1964 with methadone as a maintenance drug, ie long-term method of treating heroin users. Dole had undertaken research into obesity in the 1950s and had found that many of his obese patients metabolized food in different ways to non-obese people. He had also observed that there were striking similarities in the craving of obese people, heroin users and cigarette smokers and a common tendency of the three groups to relapse even after long periods of abstinence. An important outcome of Dole's work was that lack of self-control, believed to be attributable to either personal inadequacy or moral insufficiency, was no longer seen as an acceptable explanatory cause of compulsive disorders like overeating or heroin use.

Dole and Nyswander believed the most effective treatment of heroin users was to maintain them on a prescription opiate. However, after initial research that involved intravenous morphine, heroin, oxymorphone and other opiates they concluded that these short-acting opiates were unsuitable as maintenance drugs because of problems with tolerance and dosage insufficiency. (Cf Brecher et al,

[14] The proprietary name of methadone in Australia is Physeptone. The Germans named it Dolphine.

1972: 137.) Reflecting some years later on this work Dole described the limitations of short-acting opiates as maintenance drugs.

> *"(T)he patients were not satisfied with the treatment for more than a few days. They became irritable between doses, demanding larger amounts of drug and becoming obsessively preoccupied with the schedule of injections. Even five minutes of delay of a dose could create a disturbance. The patients certainly had not become candidates for social rehabilitation."* (Dole, 1980: 139).

Their approach involved a six week period of inpatient methadone dosage stabilization, at the end of which time their patients were prescribed on a 'blockade' dose. Following the inpatient stabilization stage their patients were discharged from hospital and indefinitely continued consuming methadone on a dally basis. Compared to other approaches, highly favourable results from a four year study of 750 male heroin users by Dole and Nyswander demonstrated substantial improvements in health and social functioning, increased rates of employment, and reduced rates of crime in individuals who received methadone on a 37 maintenance basis (Dole and Nyswander, 1965; Dole and Nyswander, 1967; Dole, Nyswander and Warner, 1968; Dole et al, 1969).

> *"Prior to treatment 91% of the patients had been in jail, and all of them had been more or less continuously involved in criminal activities. Many of them had simply alternated between jail and the slum neighbourhoods of New York city. ... Since entering the treatment program, 88% of the patients show arrest-free records."* (Dole, Nyswander and Warner, 1968: 2710)

Methadone is slowly metabolized over a 24 to 48 hour period. Through clinical trials Dole and his co-workers found that this meant that over a 24 hour period the concentration of methadone in the blood of their patients remained at a relatively constant level, thereby eliminating much of the sharp alternation between intoxication and withdrawal that heroin users experienced, as heroin had a half-life of about 4 to 6 hours. The clinical work of Dole and Nyswander indicated that tolerance occurred when high dosage levels, in the range of 80 to 120 mgs of methadone, were reached in a treatment population.

> *"Between the limits of narcosis and abstinence there is a functional zone. If the concentration of circulating methadone remains below the level that gives rise to narcotic effects but above the threshold for withdrawal symptoms, the subject will be both alert and comfortable."* (Dole, 1980: 140)

The work of Dole and Nyswander provided an explanation of the high rate of relapse of heroin users as being due to biochemical factors. Therefore the object of their treatment was to provide medication that corrected what they believed was largely a metabolic disorder. Paradoxically, because continued usage of methadone resulted in physiological adaptation to methadone, ie the user became physically addicted, this became the cornerstone of its success. Crudely, the addictive nature of methadone retained, ie 'captured,' heroin users in the treatment program so that both primary benefits accrued to the individual, eg daily opiate intoxication and freedom from the rigours of illicit heroin use, and secondary social benefits occurred to the individual's family and the community.

The possibility that methadone would provide a pharmacological answer, a cure-all, to the serious problem of heroin and crime in New York and other American cities, was a major factor in the growth of methadone programs in the United States by the early 1970s. (Rosenbaum, Murphy & Beck, 1987.)

> *"The Dole-Nyswander Methadone Maintenance Treatment Program (MMTP) represented a startling change in philosophy. ... The addict was viewed as a patient in need of medical assistance for a kind of metabolic problem, rather than a weak-willed decadent unable to control his impulsive and anti-social behaviour .... Treatment goals do not emphasize attainment of a drug-free life but rather are centred upon social and personal rehabilitation. Thus, the MMTP places the major stress upon channelling patients into education, vocational training, and employment."* (Wilmarth and Goldstein, 1974: 4 - 5).

We should acknowledge that in America in the early 1960s there were shifts in public opinion conducive to the work of Dole and Nyswander. In America the prescription of heroin as a form of treatment was prohibited by the Harrison Act of 1914, and even though there was an effort to prescribe it and other opiates from clinics, after the Narcotics Prohibition Act 1919, these too were closed after many doctors were prosecuted (Courtwright, Joseph & Des Jarlais, 1989). American heroin policy, administered by the Federal Bureau of Narcotics, typified by the practices and views from the notorious era of its inaugural Director Harry Anslinger, relied on criminal sanctions and compulsory treatment in prison-hospitals such as those operated by the US Public Health Service at Lexington, Kentucky and Fort Worth, Texas.[15]

In 1961 a report, *Drug Addiction: Crime or Disease?* was prepared jointly by the American Bar Association and the American Medical Association, and was followed later in the same year by a White House inquiry commissioned by President Kennedy. These and other reports supported moves for the medical treatment of heroin users with prescription opiates such as methadone. There was also a belief by the late 1960s that heroin use by Blacks constituted a serious threat to social stability; fears that were heightened by racial riots in 1967 in Detroit, Chicago and other cities. The possibility of a nexus between heroin users, crime and social disorder prompted in some instances repressive law and order campaigns in New York city, for instance, in 1967 the Narcotics Control Commission that developed costly prison facilities for the compulsory detoxification of heroin users. (Cf Bar Association of New York, 1979; Brecher et al, 1972, ch. 10; Lewis, 1976.)

However, by the early 1970s a fundamental shift in social attitudes in America towards the treatment of heroin use as a medical problem and not a criminal problem established a climate of high expectations that a solution for a complex social problem was possible by the use of applied medicine. A report to the National Academy of Sciences epitomized the confidence by medical science that it could solve a tragic and costly problem that had bedevilled American society since the 1920s when the Harrison Act was used by the Federal government to prohibit the prescription of opiates to addicts (Gold stein & Addiction Research Foundation, 1975). It recommended a pharmacological treatment process, STEPS (Sequential Transitions Employing Pharmacological Supports), as an orderly and extended gradual treatment approach. The first stage, it was suggested, would be intravenous injections 3 to 4 times per day of pharmaceutical heroin at a clinic; the second stage would be daily oral methadone at a clinic; the third stage would be LAAM[16] consumed three times per week; the fourth stage would be three times per week use of Naltrexone[17] to prevent relapse to opiate use; and the final stage would be abstinence.

2.2.2 Problems

2.2.2.1 Revision of The Metabolic Theory

As methadone treatment expanded in the United States critics started to question whether the highly favourable results obtained by Dole and Nyswander and other workers were due to .the pharmacological effect of the methadone alone, or due to a combination of factors, such as therapeutic and vocational activities in conjunction with the treatment process (Bowden & Maddux, 1972; Gubar, 1978; Gossop, 1978; Kleinman, Lukoff and Kail, 1977; Peck & Beckett, 1976; Taylor, Chambers & Bowling, 1972; Wilmarth and Goldstein, 1974). Critics pointed out that the early experimental programs had selective admission criteria, involved heroin users considerably older than the average

[15] The Lexington facilities were finally closed in the early1970s; their role had been supplanted in the 1960s by drug-free therapeutic communities (TCs) like Daytop Village and Synanon. The TCs were much cheaper to operate, were run by ex-addicts and adopted the Lexington principle of segregation of addicts from the rest of society.

[16] Levo alpha acetyl methadol, a long-acting form of methadone that is used in the US; it has not been approved for use in Australia as it is considered to be an experimental drug.

[17] An opiate antagonist, administered by intra muscular injection, that produces extremely unpleasant aversive reactions in someone who subsequently consumes opiates, It is a similar principle to Antabuse treatment of alcoholism.

age of typical street users, and that participation in treatment may have produced deflated crime rates because participants could have been partially protected from arrest.

Writing in 1976 in rebuttal of their critics Dole and Nyswander pointed out that they underestimated the strong opposition to the concept of substitution of a licit opiate for an illicit opiate, even though methadone enabled enhanced social functioning. This had meant, they claimed, that the full potential of methadone had not been demonstrated because of political interference in what should have been regarded as a legitimate medical rather than moral issue. The claim of political interference is realistic because as all methadone programs in the United States were (and still are) Federally-funded and controlled by the Food and Drug Administration there was pressure from policy makers and administrators to apply stringent conditions on programs, eg detoxification rather than maintenance, disciplinary measures against drug use whilst on methadone, arbitrary durations of treatment, etc. Dole and Nyswander observe that

> *"(u)nfortunately, the field of addiction is highly political .... Methadone and other medications can be produced in large quantity, but the compassion and skilful counselling needed for rehabilitation of addicts are not replicated in the climate of bureaucracy."* (Dole and Nyswander, 1976: 2119)

The metabolic theory of addiction developed by Dole and Nyswander has been criticised as incapable of explaining a large proportion of cases in which heroin users became addicted, that is, it excluded alternative theories. The environmental theory of addiction has been considered, for example, to more adequately explain how significant numbers of American servicemen became addicted to heroin whilst on duty in Vietnam, and how on their return to the United States they did not continue to use the drug (Epstein, 1974; Robins et al, 1980).

As a result of more recent research into endorphins, opiate-like neurotransmitters that exist in the human body to combat stress and pain, it has been suggested that some individuals who have endorphin deficiencies resort to heroin and that they need regular access to methadone to function adequately as prolonged use of heroin has caused their endorphin system to malfunction (Goldstein, 1979). The metabolic theory has been combined with the endorphin theory as the basis of contemporary medical knowledge for methadone treatment.

2.2.2.2 Moral and Ideological Issues

One critic, who described methadone as a 'forlorn hope', suggested that middle class policy makers were enthusiastic about methadone because it appeared to be an inexpensive medicine believed to be capable of eradicating crime and other social problems (Epstein, 1974). Other critics claimed that methadone programs may have amounted to a form of social control over minority racial groups (Lewis, 1976; Peck and Beckett, 1976). *"Black and white who expected a powerful addictive drug like methadone to cure heroin addiction ... failed to see that at the root of American attitudes toward drug abuse, transcending politics and even race, is the animus against deviant behaviour."* (Lewis, 1976: 32.)

Another strand of criticism was that methadone treatment was unlikely to have any rehabilitative value as addicts were people preoccupied with getting intoxicated with whatever opiate was most accessible to them. (Agar, 1977, 1985; Carlson, 1976; Gerstein, 1976; Goldsmith et al, 1984; Harding & Zinberg, 1977; Soloway, 1974.) This view regarded methadone not as a treatment but as the sanctioned use of a dangerous drug and that if the State undertook to provide or fund methadone programs it would be acting like a drug dealer.

There were also criticisms of methadone programs in the United States due to inadequate administrative procedures, for instance, that without adequate supervision over daily consumption and tight controls on take away doses methadone was readily diverted into the black market, thereby adding to the volume of illicit opiates and being a cause of death of numbers of street users (Ausubel,

1983; Inciardi, 1977). There were also concerns that it had unintended medical side effects (Kreek, 1978; Kreek, 1983); or masked underlying psychiatric conditions (Kleber, 1982).

Other commentators have pointed out that methadone is one of a large number of psycho active substances made by an aggressive capitalist pharmaceutical industry, which in its own self-interest has contrived with policy makers and the medical profession to use medical means to solve complex social problems (Gorring, 1978; Smith & Kronick, 1979).

> *"The political history of drug orientation in the United States and the economic import of the sale and trade of these drugs is a study in capitalism preying on the misery it creates. If one were to investigate the importance of psychotropic chemicals to the expansion of Western culture ... one would see the escalation of the continuing war waged by imperialists ... against all disenfranchised people."* (Kane, 1978: 50)

These concerns about methadone stem, it is submitted from an underlying moral and ideological preoccupation with opiate use in spite of evidence that the social and medical costs of alcohol and tobacco use far outweigh the consequences from illicit heroin use. It would seem plausible to suggest that the supply of methadone to individuals perceived as law-breakers was tolerated under restricted conditions, but once a wider cross section of heroin users, particularly younger people, sought treatment the objectives of the programs changed from crime reduction to improved health and social functioning. If social functioning did improve when large numbers of individuals received an opiate such as methadone on a long-term basis, this implied that the argument for the prohibition of heroin may be flawed as it was possible for someone to be addicted to opiates (which happened when they received methadone) and be like any other member of the community.

> *"(I)nterrupting the street life necessary to support a heroin habit was recognized as a laudable goal for which the substitution of heroin by methadone is justifiable. On the other hand, as treatment proceeded and involved more and more clients, there was a reaction against continuing programs that cast society in the role of supplier of drugs to drug addicts. Prescribing methadone to addicts initially won and then lost its validity among the public."* (Keeley, 1979: 446).

2.2.2.3 Social Control Function

The British addiction researcher Dr Gerry Stimson observed that the DDCs, which by the 1970s largely prescribed methadone rather than pharmaceutical heroin, were environments characterized by frequent high levels of conflict between staff and clientele. This problem, it was suggested, was due to divergence of views as to whether the purpose of methadone programs was a treatment for people with medical problems, or a chemical form of social control to reduce crime and prevent the spread of heroin use. Stimson noted

> *"that addict patients are likely to see that they have a need for the drugs they are addicted to and that it is the function of the clinic to help them by providing them with a legal and regular supply, whilst the clinic staff see that prescribing is not a right but at the discretion of the medical staff, and that the function of the clinic is to control and treat addiction. Thus the situation is ripe for conflict between staff and patients."* (Stimson, 1978: 60)

Stimson also noted that DDCs developed rules and procedures intended to reduce disagreements between staff and to minimize conflict with clientele; however, this was at the expense of individualized interaction with clientele and compromised principles governing doctor-patient relationships. He also found variations in prescribing policies between clinics, some of which he described as being conservative. Although the meaning of this term was not defined it is apparent from his review that he meant the adoption of procedures that sought to control the possibility of cheating, deception and dose diversion by clientele, no replacement or advance doses, and the active use of punitive regimes, such as dosage reduction, if illicit drug use was detected. There had been similar concerns in the United States in the early 1970s about the consequences of methadone programs that

emphasized coercion and control, whereby treatment was regarded as conditional and that program staff were to be given a wide measure of discretion.

The control approach tended to see treatment as a short-term palliative crisis management measure to deal with an acute medical need (ie inaccessibility to heroin), rather than as the long-term engagement of a marginalized group with complex medical and social problems. By contrast the perception that heroin users were individuals with medical problems meant that treatment was understood as a negotiated voluntary arrangement predicated on the need for a positive relationship between a community of heroin users and the methadone program, with the object of support rather reform of heroin users. However, these views were in the minority. One group of commentators cautioned that

> *"(i)f those persons responsible for providing direction in the treatment setting appear to favour the abstinent client or to discourage long-term use of methadone, the methadone client may feel it necessary to leave treatment before he has derived full benefit from the treatment available."* (Brown et al, 1974: 218)

2.2.2.4 Program Attributes

There is a divergence of opinion about the importance of staff attitudes and prescribing policies and procedures on overall client outcome and program effectiveness. One point of view sees treatment policy as a given, that clinic staff know what is best, and that methadone programs are dealing with people who without supervision will sabotage the treatment process. Therefore, the problem is how to improve the efficiency and skill of staff in controlling a client group believed to be immature, easily frustrated, impulsive and in need of authority structures. (Curet et al, 1985; Davidson, 1977.) An example of this perspective is encapsulated in the following view.

> *"(T)he methadone client alone must demonstrate continuously his or her trustworthiness and ability to assume responsibility if he or she is to receive the assistance sought. The methadone client must not only be subject to routine and observed urinalyses, that client must ingest methadone hydrochloride at the clinic under observation and conform to frequently changing rules."* (Brown et al, .1975: 218)

Methadone programs that emphasized the control aspect of treatment developed techniques of surveillance, particularly the use of frequent urine sampling to ensure compliance, and procedures to either admit or exclude. In these clinics an adversarial environment was implicit in relations between clientele and staff. Not only was policy a cause of conflict between clinics and their clientele, it could be a feature of relations between groups of staff. For instance, some staff may support a philosophy of cure and accordingly *"rigidly defend the rules of the program against what they see as manipulating patients and soft-headed staff who over identify with the addict (and) ... assert that the rules are necessary to insure constructive change and guarantee that the program will not just dispense another addicting drug and become a 'federally funded dealer'."* (Heiman, 1979: 99)

The alternative, and it is submitted, preferable point of view is one that acknowledges that methadone programs have attributes and policies which determine overall client outcome and program effectiveness. This is a potentially rich area for study, as it would have the advantage of providing policy makers with information to support programs and policies that provide the best outcome. The difficulty is for agreement on what is the best outcome: Is it retention in or detachment from treatment?

> *"The treatment community, especially those in methadone maintenance, continue to disagree about whether retention in a program or detachment from treatment ought to be the goal of the enterprise .... If retention is the goal ... clinic style can prove counterproductive .... If ultimate detachment (rather than detention) is considered an acceptable treatment goal, the impact of clinic style on client perspective seems crucial."* (Rosenbaum, 1985: 394 - 395).

There is research into attitudes of staff, the concordance between staff and client attitudes and prescribing policies and procedures which supports these concerns (Atlas, 1982; Brown et al 1972; 1974; Chappel, 1973; Soverow et al, 1972). The possibility of changes in policy causing adverse client outcomes has been documented; for instance there have been a number of notable studies of outcomes of former participants in Californian methadone programs which instituted changes in methadone policy to reduce the size of their treatment population and curtail the length of stay in treatment. The Bakersfield study confirmed higher rates of re-addiction to heroin and that there was a net transfer of costs to the criminal justice system as a result of restrictive policy changes (McGlothlin & Anglin, 1979; 1981).

Similar adverse social, medical and personal costs have also occurred in populations of clientele from other Californian programs that instituted the 'two year rule' (Rosenbaum, 1985; Rosenbaum, Irwin and Murphy, 1988; Rosenbaum, Murphy & Beck, 1987). Severe restrictions on admission to methadone treatment programs in Sweden and strict policies of discharge for non-compliance found much higher rates of mortality for those individuals excluded from treatment through restrictive policies (Gronbladh, Ohlund & Gunne, 1990).

The Californian researcher Marsha Rosenbaum (1985) has developed the notion of clinic style, a typology based on an empirical evaluation of program philosophy, which identified three types of style, the medical, reformist and libertarian models of treatment. The medical model, based on the metabolic theory, regards treatment as a long-term, even life long process, and holds the purpose of the program is to provide medical treatment to heroin users/addicts. The reformist model, built around a rehabilitative approach, provides methadone on a conditional basis with the object of the attainment of a drug-free state within a short time frame. The libertarian model holds that the purpose of methadone treatment is to provide opiates to people who would otherwise be forced to acquire them illegally. The rules and procedures of clinics studied varied according to the particular style they supported; for instance, the medical model maintained that treatment was a cooperative relationship between prescriber and client, whereas the reformist model viewed treatment as something that was imposed. The latter view held that

> *"(c)lients are often considered deviants who have trespassed and now need to radically change their behaviour in order to enter conventional life. Complete change of life style is the only way. Yet also inherent in the staff posture H' is a basic cynicism and mistrust of the motives of clients, who are often seen as untrustworthy, devious, and generally capable of an array of antisocial acts."* (Rosenbaum, 1985: 388).

The Rosenbaum research is valuable because it demonstrates that clinic style has identifiable outcomes, and because it supports the proposition that evaluation of methadone treatment must incorporate an analysis of prescribing policy, or, to use Rosenbaum's descriptor, clinic style.

2.2.3 Recent Developments

The heroin-using populations studied in the 1960s evaluations of methadone treatment were predominantly male; however by the 1980s there was a marked increase in the proportion and number of women in methadone treatment. The obstetric and gynaecological needs of women have meant that methadone programs have started to develop a more comprehensive health care function; originally methadone programs were designed and adopted policies for a population of male offending heroin users. In the United States policy makers have attempted to restrict or even deny methadone to pregnant women because of moral questions about methadone-addicted babies being born. The influence of "right-to-life" and other moral conservatives on this issue would result in the bizarre outcome that it would be preferable for pregnant women to use heroin rather than obtain proper ante-natal care in conjunction with their methadone treatment.

> *"Babies born addicted to methadone are part of a topic that raises the ire of the critics of methadone maintenance treatment .... A tacit assumption of many protesters is that if the pregnant*

woman were refused methadone, then she might be motivated to become 46 abstinent ... The realities of the opioid-addicted pregnant woman are in fact quite different, and the choice is usually between use of street drugs and participation in a program." (Zweben & Sorensen, 1988: 278).

There is a substantial amount of research that indicates that women and their babies obtain significant advantages from methadone treatment (Finnegan, 1983), and that because women have special needs, such as frequently being sole parents and being in exploitive situations like prostitution, methadone treatment provides the best opportunity for social stability. (Rosenbaurn, 1985a, Rosenbaum, 1985b.) In a definitive and exhaustive 750 page review in 1983 the National Institute on Drug Abuse concluded that participants in all modalities of drug treatment had greater likelihoods of improvement the longer they stayed in treatment, but that

"(o)f all the available modalities for treating opiate addicts, the methadone modality has consistently retained the greatest proportion of admissions for the longest period of time . ... The evidence presented regarding methadone maintenance indicates that while patients remain in treatment, their illicit opiate use and criminal behaviour are significantly reduced. Most studies indicate that employment increases as well, albeit less dramatically than the other indicators." (Cooper et al, 1983: xv)

Up to the early 1980s in the United States there were both methadone programs which supported a rehabilitative philosophy, ie that a drug-free state was an achievable objective, and those that supported a maintenance philosophy, ie that methadone was a life-long treatment modality. However, current American policy now supports the rehabilitative philosophy, in spite of the contradictions this means for AIDS prevention and services to pregnant heroin users. (Cf Drucker, 1986; Murphy & Rosenbaum, 1988; Rosenbaum, Murphy & Beck, 1987; Zweben & Sorensen, 1988.) Many recipients of methadone in the US have been members of racial minorities and other marginal social groups, and this may have also been a factor in declining support for methadone maintenance treatment.

Methadone treatment programs have been adversely affected by health and welfare spending reduction policies of the Reagan Presidency. This phenomenon resembles the so called "fiscal crisis of the state" where demand for public services outstrips the revenue raising capacity of the State (O'Connor, 1973) and where unorganized and powerless groups, such as heroin users bear the brunt of cuts in government programs. In California time limited methadone treatment has been introduced, ostensibly as a rationing device, whereby after two years of treatment clients must either attend proprietary (private) programs or cease treatment altogether.[18]

It is unclear whether the spectre of AIDS amongst heroin and other intravenous drug users and its spread thereby into the heterosexual community will enable methadone programs to be expanded and funded as basic community health programs. There is evidence that AIDS is a very serious problem amongst heroin users in the United States. For instance, 53% of RIV1 infected women in the US are intravenous drug users (lVDUs), 22% of whom were infected by an IVDU partner; 54% of paediatric case of RIV1 infection are of children born to women who are IVDUs; in New York city 80% of paediatric cases involve children born to women who are IVDUs (Drucker, 1986).[19] As will be seen in the next section, public health concerns about AIDS have also been a significant factor in the expansion in methadone treatment in Australia since 1985.

[18] Some commentators have claimed that fee-for-service methadone programs will improve the client-prescriber relationship because clients will cease to be passive recipients of a government service. (Cf Worden, 1985.)
[19] In New York city there are 1,500 children born annually to women in methadone programs, there is an estimated 4 - 5 times that number of children born to addicted women not in any treatment. (Drucker, 1986.)

2.3 Australian Experience

2.3.1 The National Methadone Policy

Australia has not adopted the American approach of a national methadone policy, which controls programs at the state level through Federal funding contingent on compliance with uniform rules and procedures (Laurence & Novitch, 1980). The division of powers between the States and the Federal government means that though the Federal government now underwrites the bills for methadone treatment, it has no express powers to regulate the conditions under which methadone may be prescribed or dispensed. For instance, if a State or Territory did not establish a methadone program it is unlikely the Federal government would have any power to establish one.[20] As the determination of crucial components of a methadone policy are exclusive powers of the States, for instance, to authorize doctors to prescribe methadone, the power to de-register medical practitioners, and enforcement of admission, prescribing and dispensing procedures, the Federal government's power is at the best persuasive and must be reliant on cooperative joint arrangements with all the States and Territories.

The Federal government's financial support of methadone treatment involves the cost of linctus methadone supplied to the States under the Pharmaceutical Benefit Scheme and by underwriting the cost of testing urine samples at private and public pathology laboratories. In New South Wales public methadone programs are partially funded through the NCADA; in Victoria, Queensland and New South Wales where private medical practitioners are authorized to prescribe methadone, the Federal government bears the cost through Medicare benefits for consultation fees charged by private prescribers. Because the costs of methadone treatment vary between programs and between States because of different mixes of private and public prescribers and of high-cost discretionary policies, such as urine surveillance, there has been increased concern about the comparative cost of methadone treatment in Australia (Baldwin, 1986; McKay and Associates, 1989; Swensen, 1990a).

It is unclear if the fiscal crisis of the state that has occurred in Australia will result in fee for service methadone programs as has already been the case in the United States. Recently the Federal government indicated that instead of the present system of block grants, it is considering funding the States on the basis of a fixed amount per participant per year, and that any costs beyond that amount will have to be borne by the States (McKay and Associates, 1989). The purpose of this proposal is cost containment with open-ended cost situations in programs which have been described as ‘click-clack therapy’ programs, and where private laboratories charge very high pathology fees for urine testing. [21]

Until recently there seemed little need for an Australian national methadone policy, however the advent of AIDS demonstrated the need for a coordinated approach towards the treatment of intravenous drug users. The first step towards a national approach was the release in 1977 of a document by the Mental Health Standing Committee of the National Health and Medical Research Council (NHMRC), National Policy On Methadone, which was approved in November 1977 at the 84th Session of the Council.

This policy may have been intended to resolve some of the disagreements that had arisen between and within the States over a number of issues, for example, high versus low dosages, withdrawal (short term) versus maintenance (long-term) treatment, minimum standards of patient conduct, use of sanctions for the use of non-prescribed drugs, methods of detection of non-prescribed drug use, and admission criteria. The authority of the NHMRC would have been a major factor in developing what amounted to a voluntary code of conservative practice for doctors involved in the prescription of methadone. However, this policy was careful not to advocate the expansion of methadone treatment.

[20] Tasmania and the Northern Territory have not established methadone programs.
[21] Click-clack therapy, a term coined by Reilly, 1988, refers to the sound of the Medicare billing machine as it impresses Medicare Card details onto the bulk-billing charge slip.

"Methadone treatment has only a relatively small place in the treatment of narcotic addiction. It should always be only one element in a total approach and its use should be restricted to relatively few, well selected, cases." (Section 3.1, National Policy On Methadone, NHMRC, 1977).

The policy specifically recommended a dosage in the range of 80 to 120 mgs, which was described in the report as a high dosage, not a blockade regime. A key point of the NHMRC document was the need for careful selection and screening prior to admission, preferably by a demonstrable physical addiction to heroin, if necessary verifiable by the use of the opiate antagonist Naloxone, a requirement of prior failed treatment attempts, and a minimum period of opiate use, 12 months in the case of short-term treatment, two years in the case of persons admitted to long-term treatment. It was expressly stated that methadone should not be prescribed to persons under 18 years of age. There were a number of omissions from the report, for instance, procedures for individuals with special health needs, such as chronic liver disease, or protocol for the management of pregnant women.

The next phase in the development of a national methadone policy was under the sponsorship of the Federal government, The NHMRC policy of 1977, which had become moribund, was revised in 1985 by the Department of Community Services and Health as the National Methadone Guidelines (NMG). In 1987 and 1989 there were further reviews of the 1985 policy. (Greeley & Gladstone, 1987; Fleischman, 1987.) The 1985 NMG had a positive statement that the objective of methadone treatment was to improve overall health and social functioning.

"While a drug free state is the ideal long term objective of methadone programs, in practice programs may be judged to be effective in terms of diminished illicit drug use, reduced risk of premature death, improved physical health, improved social functioning and decreased criminal activity." (Department of Health, 1985b)

The 1985 NMG advised prescribers that "Some long-term medical conditions which cause particular risk to the patient and to others would commend the relaxation of normal acceptance criteria. These are pregnancy, chronic hepatitis, persistent hepatitis B antigenaemia, and clinical evidence of AIDS.

The 1987 NMG set out five objectives of methadone treatment, four of which were the same as in the 1985 NMG; the addition was *"to decrease the spread of viruses associated with intravenous drug use."* An important addition to the 1987 policy was a policy for methadone use in prisons. Methadone has now been introduced into prisons in New South Wales and Victoria as an AIDS preventive strategy.

The Western Australian Select Parliamentary Committee Inquiring Into the National HIV/AIDS White Paper (1990) supported a similar policy in this State; however this recommendation has not been acted upon so far. Conventional practice in Western Australia has been to treat any person addicted to heroin or prescribed methadone who is admitted into a prison by detoxification without the use of medication. At present in this State methadone treatment is only provided in prisons to individuals who are on methadone at the time of entry to prisons and who are antibody positive. HIV infected persons in WA are segregated from other prisoners.

In June 1987 the 103rd session of the NHMRC endorsed a report from its Mental Health Committee Working On Methadone Programs, which supported the 1985 NMG. The object of this report was to canvass medico-legal issues, in particular that methadone was not a form of social control, because it was a consented procedure between an individual patient and his/her prescriber. The 1989 draft NMG indicates that the case of methadone as a principal AIDS preventive measure finally occurred. The introduction to the latest revision suggests that methadone treatment now has a dual function, not only to reduce the social costs of heroin use, but also to control the spread of an infectious disease in the community.

"The spread of HN infection amongst opioid users and from them to other community members has prompted attention to a harm minimisation role for methadone treatment. In this way methadone

maintenance is not only being considered as a treatment strategy for opioid dependence but as a preventative strategy to minimize the spread of HN infection." (Department of Community Services and Health,1990a).

2.3.2 Phases of Methadone Treatment

New South Wales was the first state in which methadone was prescribed to heroin addicts, it has had the largest methadone treatment population, and has had the most comprehensive system of metropolitan and regional methadone clinics. Though there is some information about methadone programs in a number of the States and the Australian Capital Territory (Bolton, 1984; Jagoda, 1980, Powell, 1979, 1980; Robertson, 1979); the most comprehensive material originates from New South Wales. According to Reilly (1988) there have been four phases of methadone treatment in New South Wales, and these have been adopted as providing the best overview of the history of methadone treatment in Australia. In the Eastern States at least, the other jurisdictions have closely followed the trends in heroin addiction and treatment approaches in New South Wales. It is generally believed that Western Australia follows most trends in the Eastern States after a time lag, and this would also appear to be the case with the response to heroin addiction (see Chapter 3).

2.3.2.1 1969 To The Mid 1970s (Phase 1)

The main features of this phase were the development of small methadone programs, initially established by private psychiatrists and later by State health authorities. Programs were specialized medical facilities that rarely undertook other forms of treatment to heroin addicts; non-methadone forms of treatment were provided by other health care facilities and organizations. There was little if any regulation of these-programs, they used high daily blockade doses of methadone along the lines recommended by Dole and Nyswander, In this phase heroin addiction was regarded as a disease and the treatment of the problem was regarded as a prerogative of the medical profession.[22]

The first documented use of methadone in Australia as a treatment for heroin users was by Dr Stella Dalton, a private psychiatrist, in Sydney in 1969. (Wodak, 1985.) She prescribed pharmaceutical heroin in the United Kingdom and after her return to Australia established in 1969 the Wayback Committee, an organization concerned with treatment for people with problems from the use of alcohol and other drugs. A hallmark of Dr Dalton's program at Wisteria House, a ward of the Parramatta Psychiatric Centre, was high daily doses of methadone, a so-called blockade regime, for long-term maintenance treatment of heroin users on similar principles as Dole and Nyswander (Connexions, 1989). In the early 1970s methadone treatment expanded rapidly and by the end of 1976 about 1,980 persons had participated in public and private methadone programs in New South Wales. It was also introduced in the early 1970s in Victoria, Queensland, South Australia and Western Australia. The states had a number of options:

- not to permit methadone treatment' at all, the approach adopted by Tasmania and the Northern Territory;
- to establish a fully State-run methadone program, an approach adopted for example, in Western Australia after 1977;
- to permit a completely privately-run program; or
- a mixture of public and privately run programs, the approach adopted in New South Wales, Victoria and Queensland.

By 1976 favourable evaluations of methadone treatment had been reported (Dalton, Duncan and Taylor, 1976; Reynolds & Magro, 1976; Reynolds, Di Giusto & McCulloch, 1976). A two year follow- up study by the New South Wales Health Commission indicated favourable improvements in the health and social function of 116 former heroin users in a New South Wales program; however, in spite of these benefits the authors of this research cautioned that

[22] This approach had been the basis of the British approach to heroin addiction (Bennett, 1988); it was probably influential in the Australian approach to the problem.

"in terms of the achievement of total abstinence there is a low success rate in the short term; not enough long-term studies have been carried out to make conclusive statements about outcome in terms of the eventual achievement of abstinence. However, methadone has helped to make addicts more socially productive, stable and healthy (for example, increased employment rates, reduced crime rates, reduced mortality rates)." (Reynolds & Magro, 1976: 562).

Another follow-up study, of the first 50 participants in the Wisteria House program, indicated marked improvements in social functioning had also occurred. *"Results show that ... 88% had no new criminal convictions and 75% remained drug free, apart from taking methadone during the follow-up period (mean, 12.5 months). Five of the 36 patients were free of all drug addictions, including methadone."* (Dalton, Duncan & Taylor, 1976: 755).

2.3.2.2 Mid 1970s To Early 1980s (phase 2)

The main features of this phase were the introduction of tight controls by government over the activities of private prescribers and restricted provision of methadone treatment by State health authorities. In some jurisdictions, particularly New South Wales, the major emphasis of policy was to fund drug-free rehabilitation programs run by non-government welfare organizations.

In spite of the favourable results of research, there was disquiet about a treatment which did not have abstinence from opiate use as the principle measure of effectiveness. By the mid1970s there was a belief that methadone was not regarded by its target population as a treatment but as an avenue to obtain alternative (licit) opiates. Paradoxically the capacity of methadone programs to readily attract large numbers of heroin users, compared to detoxification and drug-free programs, was not interpreted as a measure of the success of the treatment. On the contrary, increased enrolments in methadone alarmed policy makers, who attempted to blame doctors for too readily prescribing to heroin users. In an editorial in the Medical Journal of Australia in 1976, Dr Gerald Milner, a psychiatrist with the Victorian Alcohol and Drug Dependent's Persons Service, maintained that the growth in the number of people receiving methadone was caused by over-prescribing.

"(C)urrent prescribing trends of methadone in Australia are disturbing in that they indicate possibly casual and certainly much inadequately supervised treatment of narcotic users (consumption rates for methadone are climbing in most States in a fashion disproportionate to any possible increase in the numbers of 'therapeutic addicts' ... so there must be much prescribing of narcotics for narcotic-dependent persons by family doctors)." (Milner, 1976: 553).

The possibility that the growth in numbers in methadone treatment was an indicator of the magnitude of heroin use, and that methadone treatment could be a treatment of first choice, was not addressed in this or other criticisms. A 1976 review of the performance of programs by the New South Wales Health Commission urged restrictions on methadone treatment because of concerns about the administration of programs and because it was believed methadone treatment undermined alternative drug-free programs.

"There is an obvious need to reduce the numbers of clients entering the methadone program ... This reduction in methadone clients would necessarily imply the diversion of some clients into alternative programs (which) could be partly achieved by more critical assessment of clients before they are prescribed methadone (so that) only clients who are physically dependent on opiates are prescribed methadone. A further reduction in numbers could be achieved by adherence to the additional requirements that alternative forms of therapy must have been shown to have failed." (Reynolds, Di Giusto & McCulloch, 1976: 6).

The report from the Joint Committee of the New South Wales Parliament which investigated drug use and treatment approaches in that State, delivered a scathing review of methadone treatment, which it claimed had

"become an alternative means of drug dependence to many, it has lent itself to abuse by both users and prescribers, it has not been matched by back-up vocational rehabilitation programs and it has stifled initiative in exploring alternative means of treatment to meet the needs of the individual. The Committee would like to see its use phased out altogether .... The Committee cannot endorse a health policy which seeks almost entirely to replace one form of drug dependence with another." (Joint Select Committee, 1976 - 1978: 102).

In 1979 favourable results of an eight year follow-up of the first 50 persons in Australia treated with methadone were reported. Conclusions from this study, which contrast with the views of the Joint Select Committee, bear repeating in part here.

"We would like to state our belief that a patient who is a success should be one who cooperates to a reasonable extent with the treatment program, who remains in fair physical and psychiatric health with no, or only sporadic, drug usage, and who mayor may not be receiving methadone from authorized sources .... According to these, very free, criteria, success was achieved by 31 of 43 patients (72%)." (Dalton and Duncan, 1979: 154).

In New South Wales up to 1975 methadone treatment policy was one of a limited regulation of prescribers, however, from 1976 to the early 1980s methadone treatment was severely restricted by the Wran Labor government,[23] which instead funded detoxification facilities, drug-free rehabilitation programs ('drug free therapeutic communities') and supported self-help groups, treatment modalities that were philosophically opposed to methadone treatment. (Cf Reilly, 1988.) There was limited support for methadone treatment outside of New South Wales and because other States appeared to have a smaller heroin problem, there was a limited opportunity for a national approach. The other States also adopted measures to restrict the growth in methadone programs; compared to other modalities there were few supporters of methadone, it was a treatment that was begrudgingly tolerated.

There is a possibility that some of the other States programs came under pressure from heroin users displaced from New South Wales methadone programs, though this issue does not seem to have been publicly discussed. A similar phenomenon, it is asserted, happened in the 1970s when large numbers of heroin users fled from New Zealand to Australia after a policy of compulsory treatment and vigorous law enforcement was instituted, as *"(d)rug addicts are possibly the most mobile of all population groups in Australia, moving freely from city to city evading law enforcement."* (Bell, 1980: 36).

2.3.2.3 Early 1980s - 1985 (Phase 3)

The main features of this phase were pressure on governments from heroin addicts unable to get admitted to methadone programs and from policy analysts and researchers to liberalize admission polices and adopt non-punitive methods to deal with clientele whose performance in treatment did not conform to official expectations. During this phase these pressures plus community concern about rises in crime rates believed to be caused by heroin addicts forced governments to permit limited growth in methadone programs.

The reluctance of some State governments, New South Wales in particular, to expand methadone treatment meant that by the early 1980s there was mounting concern about the failure of rehabilitative drug-free oriented programs to have made an impact on heroin use, in spite of the development of quasi-compulsory treatment approaches through court diversionary schemes (Kerr et al, 1985). Support for the expansion of methadone treatment as a measure to reduce crime caused by heroin use was supported by the Rankin inquiries of 1981, which as indicated earlier, had attempted to develop the case for pharmaceutical heroin as a treatment, and by research of the New South Wales Bureau of

[23] In 1981 there were only 601 people in methadone treatment in New South Wales, of whom 427 (71%) participated in Dr Stella Dalton's methadone program. (Rankin et al, 1981.) Between 1981 and 1984 there were between 600 and 700 people in methadone programs in New South Wales.

Crime Statistics and Research that had found there was an association between heroin and other drug use and property crime. (Dobinson & Ward, 1985.)

In Western Australia there had been concern in the late 1970s about crime and the rate of imprisonment, which had led to an inquiry in 1981, the Dixon Inquiry, by a retired Chief Crown Prosecutor. In his report Mr Dixon stated *"if one could reduce the dependence on alcohol and drugs there would be a truly dramatic decline in the rate of imprisonment."* (Committee of Inquiry, 1981: 130).

However, compared to the Rankin inquiries in New South Wales, this inquiry arrived at a different view about the use of methadone to reduce the rate of crime due to heroin addicts. Mr Dixon, in his wisdom, supported critical comments about methadone treatment from *"one of the professional staff of the WA Alcohol and Drug Authority"* and from the testimony of *"two very intelligent young people who were both in prison and quite independently each expressed grave doubts not only as to the efficiency of the methadone treatment but also the wisdom of using it at all."* (Committee of Inquiry, 1981: 132).

It was apparent by the mid 1980s that the rehabilitative oriented programs had been unsuccessful in containing the heroin problem and that demand for methadone treatment exceeded supply. However as this strategy would involve direct Federal funding, particularly in New South Wales, there was the need for a comprehensive and coordinated national approach to the heroin problem.

> *"Drug problems are a national issue. Patterns vary with location but events in one location influence those in others. Resources and ideas need to be shared ... In the overall context of drug abuse, attempts to restrict supply will not be successful on their own, though considerable resources have already been and will continue to be applied in attempts to limit supply. It is time for a more concerted effort at reducing demand."* (Department of Health, 1985a).

2.3.2.4 1985 To 1989 (Phase 4)

There were three main features of this phase; the first was the development of a national approach to Australia's heroin problem; the second was the use of Federal funds to expand treatment programs, develop preventive programs and provide training to health and welfare workers; and the third, which developed in the late 1980s, was concern about the spread of HIV infection in Australia by intravenous drug users. The third. feature has meant that methadone treatment and the medical profession, as in the first phase, are dominant elements in the national strategy to deal with Australia's heroin problem.

In April 1985 the Federal government through the National Campaign Against Drug Abuse (NCADA), undertook direct funding of State drug treatment programs, with the result that methadone treatment programs were expanded in some of the states, particularly in New South Wales and Victoria.[24] The impact of Federal funding and a more favourable climate towards methadone programs from 1985 meant that the number of participants in methadone treatment in Australia rose from 2,203 at February 1985 to 6,597 at June 1989. It is notable that 61% of the June 1989 treatment population was in New South Wales, whereas in February 1985 only 32% of the Australian treatment population was in New South Wales programs (see Table 1).

Since 1985 methadone treatment has been regarded as a policy instrument to reduce the spread of HIV infection by needle sharing and unsafe sexual practices between intravenous users of heroin (Cf Burrows, et al 1990; Department of Community Services and Health, 1989; Western Australian Select Parliamentary Committee, 1990).

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[24] Another important consequence has been the development of a program of research into drug and alcohol problems, including evaluations of methadone and other treatment modalities. (Cf Batey, 1988; Batey, 1989; Greeley, J. & Gladstone, W., 1987; Mandelberg, 1988; Monheit, 1990; Prescott, 1987; Reilly, et al1987; Waldby, 1988.)

2.3.3 Issues In The 1990s

The philosophies from the mid 1970s to the mid 19808, predicated on rehabilitative intervention and abstinence, if necessary by court-ordered treatment of offending heroin users, over-emphasized outcomes such as abstinence and offending rates. Another weakness in the rehabilitative approach was that it ignored the high levels of morbidity associated with heroin use, such as Hepatitis B (Ostor, 1977) and discriminated against heroin users with special needs, such as users who were parents, who were mostly females (Cf Submission of the Obstetric Social Workers Group in the Inner-Metropolitan Area to New South Wales Joint Committee Upon Drugs, 1978, Annexure E). It is likely there had been a marked change in the demographic profile of the 1980s treatment population, who unlike that of the 1970s appear to be less involved in crime, came from a middle class background, were better educated, and there were more females.

It is submitted that the change in the public image of heroin addiction in the 1980s was encapsulated by the revelation by the Prime Minister, Mr R. J. Hawke, that his oldest daughter was a heroin addict. A recent commentator has concluded that methadone treatment populations in the 1980s

"tend to be older with a higher ratio of women to men, more likely to have children and to have come from higher socio-economic backgrounds ... Programs need to focus more on resolving family, emotional, legal, social and health problems rather than worrying about the odd dirty urine." (Reilly, 1988: 25).

In Australia the treatment needs of pregnant heroin users were recognized as early as the mid-1970s (New South Wales Joint Committee Upon Drugs 1976-78: 141-143). The only known example of a methadone program explicitly for women heroin addicts started in 1979 at the Crown Street Women's Hospital in Sydney, which was transferred to the King George Hospital in 1982, and which by 1986 had 150 women enrolled in it (Waldby, 1988). The increase in the number of women heroin users in methadone programs may be because females are more disposed to participate in methadone programs, or that programs discriminate in their favour, or that there has been an increase in the number of female heroin users.[25]

Only recently have there been some discussion about the needs of women in methadone treatment. (Ministerial Task Force to Review Obstetric, Neonatal and Gynaecological Services in WA, 1990; Swensen & Webb, 1989.) In methadone programs women's obstetric and gynaecological needs are usually a low priority compared to concerns about rates of offending and non-prescribed drug use. A recent Australian review of the problems faced by female heroin users stated

> *"it was becoming increasingly evident to workers in the field that the problems and difficulties faced by (pregnant) women far exceeded the problems for medical management presented by the effects of narcotic use on the foetus, yet both Australian and American research was restricted almost exclusively to the medical. Where research ventured into more sociological areas, it often perpetrated a judgemental and even hostile attitude towards this group of women."* (Waldby, 1988: 1).

Up to the present methadone policy has been the exclusive domain of practitioners, leading to the criticism that policy making only serves professional rather than community interests. In a recent discussion paper from the Department of Community Services and Health it was stated that

> *"clinicians working in these services became the most influential local experts in methadone programs, set the local service standards and have largely influenced the subsequent development of Australian methadone treatment policy. In this there may have been some conflict between their roles as expert advisers to government and as service providers dependent on government funding.*

[25] The proportion of females in the Western Australian methadone monthly treatment population increased from 29% in January 1978 to 43% at June 1989 (Swensen, 1989a)

In short, methadone treatment practice has been more provider than public policy driven, and it has had no direct client input." (McKay & Associates, 1989: 7).

This concentration of decision-making and policy-making power is puzzling as one of the objects of methadone treatment is to increase accessibility so that addicts are not treated in hospitals for more serious medical conditions that arise when heroin addiction is untreated, and because the origins of heroin addiction appear to be largely social and environmental. In 1974 and 1975 the ADA received Community Health Program (CHP) capital funding to establish a number of its clinical facilities.[26] However, a weakness ever since the CHP has been a pronounced lack of consumer input in methadone programs, even though health services targeted at other disadvantaged groups, have developed mechanisms for participation by community and client representatives in policy and evaluation.

It is submitted that consumer and community input has been absent in methadone programs because they have been regarded as medical systems of social control of deviant individuals rather than as 'legitimate' health services for individuals with special needs. It is possible that methadone treatment will be re-defined as an opportunity to

"establish a dynamic relationship between community groups and local doctors and other health professionals" (however we should recognize) *"the imposition by health professionals and planners of traditional health values and direction* (has) *contributed to the failure of groups to take up prevention as a priority ... the fact cannot be overlooked that most communities, when asked about health care needs, still give an ill-health response, relating health to sickness, hospitals and doctors."* (Better Health Commission, 1986: 77).

In addition to the dominance by service providers in policy making, methadone policy evaluation has been neglected. It is submitted because methadone research is excessively concerned with individual pathology it reaffirms a conservative perspective that the individual user is the cause of and responsible for the alleviation of his/her circumstances.[27] This has meant that as organisational practices and methadone policies and procedures have not often been accepted as legitimate topics for research, there are serious gaps in our knowledge about methadone programs and about their impact on the behaviour and attitudes of treatment populations.

The final sentence of the 1989 draft NMG states that methadone programs should consider the provision of condoms and sterile needles/syringes to prevent the spread of HIV infection. This is clearly a weighty responsibility, and bears a parallel to the high expectations in the 1960s and early 1970s that methadone treatment would reduce crime. The previous history of disappointment and disillusionment with methadone treatment may be repeated if HIV infection continues to increase amongst IV drug users. The difficulty faced by methadone programs in reducing HIV transmission is that the highest risk groups are those who have only recently become users, a group believed to have high frequencies of needle sharing and who do not usually regard themselves as 'addicts', a pejorative term reserved for those who have joined methadone programs (Cf Dolan, 1989; Miller et al 1990; Wolk et al, 1990).

"It is therefore interesting to reflect that 20 years ago, the acceptance in expansion of methadone programs for opiate addiction was a direct result of public concern about crime. Today that concern is being overtaken by fear of the spread of HIV infection." (Monheit, 1990: 19).

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[26] The Annual Report of the ADA for the year ended 30 June 1975 reports at p, 2 that "the objectives of the ADA constitute an approved project under the Australian Community Health Program and the Authority's capital and operating costs of the administration and the clinic are met on a shared basis with the State."

[27] The view that priorities for methadone research in Australia should be about client variables is reflected in two recent publications (Heather & Tebbutt, 1989; Prescott, 1987).

2.4 Conclusion

The history of methadone treatment indicates that when first applied by Dole and his colleagues in the United States in the mid 1960s as a maintenance drug it was a radical approach to the management of heroin addiction. AB a radical approach methadone treatment overturned the dogma of half a century of American policy that had criminalized heroin use and expressly prevented medical practitioners from prescribing opiates as a mode of treatment. It was suggested that the subsequent experience of methadone treatment in the USA indicates that it had not been adequately implemented and was expected to be a solution for complex and intractable social problems, like crime, not able to be solved by a pharmacological fix alone.

The perception that methadone constituted a technological fix and that it would rehabilitate addicts resulted in disillusionment in the United States about its efficacy as a treatment of heroin addiction. Over the past decade perceptions of "failure" in the 1970s have resulted in restrictions on methadone treatment, the consequences of which have been aggravated by budget cuts and a morally conservative climate. It would appear that American methadone policy had so far failed to develop a significant role in the prevention of AIDS or as a health care service for groups with special needs.

It was indicated that in Australia methadone had been provided with minimal restrictions until the mid 1970s; then over the next ten years treatment was restricted by governments in favour of funding of drug-free programs run by non-government welfare organizations; but that after increases in crime and heroin use the number of persons in treatment was permitted to increase moderately up to 1984. It was shown that since 1985 the NCADA and AIDS have been major factors in changing official attitudes to methadone treatment in Australia and as a result the number of participants in treatment has increased, particularly in New South Wales.

The review showed that historically there has been great variability in policy, and until recently there had not been an Australian national methadone policy. Over the past five years the Federal government has increased its role through funding of methadone in a number of jurisdictions and this may, it is suggested, mean that pressures may be applied to the States and Territories to develop more uniform and cost-effective methadone programs.

It was also suggested that the increased participation of women in treatment may mean that programs will be forced to change from control of individual clients to providing services to improve the overall health and social functioning of clients and their families. It is possible that this suggestion could mean that methadone programs could expand social control over a larger population of individuals given there is a history of social control of females in other client groups. (Cf Dominelli & McLeod, 1989; Pascal!, 1986.)

3. Chapter 3: Case Study of the WA Methadone Program

3.1 Introduction

As has been shown earlier in this paper heroin use has been recognized as a problem in this State for nearly 20 years, but knowledge about people who used this illicit drug was at the best highly selective and based on that small population of individuals who had contact with the police, had medical problems, or became involved in treatment programs. As it is believed the majority of heroin users are 'invisible' because they fail to come to official attention, this poses particular difficulties for policy makers and researchers. It can be claimed, therefore, that heroin policies are largely based on the attributes of an uncharacteristic population of heroin users, the 'visible' population of heroin users who attend treatment programs.

This limitation on the depth of information about heroin users means that we should place a premium on knowledge about specific treatment programs. It would be desirable, for instance, to know which types of policies and which modalities of treatment are comparatively more successful in engaging and in retaining the greatest number of heroin users. This kind of knowledge would mean that policy makers could develop programs and implement treatment policies which are both cost effective and used by the largest proportion of the heroin using population.

The Western Australian methadone program has operated continuously from 1973 to the present and is a significant, if not the most important institution in this State that has knowledge about and experience with the population of visible heroin users. As it is extremely unlikely that any other health and welfare program in this State has had contact with nearly as many heroin users, a study of methadone treatment will be able to tell us a great deal about the history of heroin use in WA and indicate the impact this problem has had on health and law enforcement agencies. The history of the WA program will also provide information about the establishment and growth of the Alcohol and Drug Authority (ADA) and its relationship with the private medical profession, other drug treatment agencies, policy makers and health authorities.

The object of this chapter is to undertake a case study of the history of methadone treatment in Western Australia. A brief overview of the origins of methadone treatment will be provided, followed by statistical information about the number of annual new admissions from 1973 to 1989, the size of the annual treatment population from 1978 to 1989, the size of the quarterly treatment population from 1978 to 1989 and annual methadone consumption data from 1974 to 1989.

The case study will be supported by material that outlines the use of methadone in this State from 1973 to 1989 and also reviews the admission, prescription and dispensing policies and procedures that occurred within this time frame. Seven distinct phases of the WA methadone program will be discussed in detail; three of which extend over periods of four or more years, three are much shorter and range from 10 months to 16 months in length, the seventh and final phase which started in August 1989 has continued up to December 1989, when this study ended. See Table 1.

The format of the presentation of each phase will consist of a tabulation of the criteria for admission, prescription and dispensing of methadone, followed by analysis and discussion of departmental reports, policy statements and comments by public figures and interest groups that occurred during that phase. After 1977 it is not possible to separate the ADA from the operation of the WA methadone program, therefore discussion and analysis of the role of this organization will be included in each phase. As the ADA was not given a monopoly over methadone treatment until August 1978, content of the first two phases will encompass the formation of the ADA and the role of private prescribers; subsequent phases will examine the history of methadone treatment in Western Australian as a fully publicly controlled program under the auspices of the ADA.

Table 1: Number of persons in methadone treatment programs by jurisdiction, February 1985 - June 1989

Jurisdiction	At February 1985	At June 1989
New South Wales	840	4,029
Victoria	150	641
Queensland	819	1,005
Western Australia	224	450
South Australia	120	365
Australian Capital Territory	50	82
Total	**2,203**	**6,597**

3.2 Overview

3.2.1 Brief History

The first reference to the development of a methadone treatment program in Western Australia was made in a report by the Director of the Mental Health Services (MHS), who between July and November 1971 visited nine countries, inspected treatment facilities, and consulted with a wide range of authorities about alcohol and other drug use problems. At this time he also visited Dr Stella Dalton's Wisteria House program in Sydney, and reported favourably on her program. (Ellis, 1971.)

The Williams Honorary Royal Commission conducted hearings in 1972 and 1973 into alcohol and other drug problems in Western Australia and had recommended that a detoxification centre for "hard" drug users be established in Perth. In the report drug use in America was referred to as a kind of reference point of doom, as were a number of treatment approaches, however methadone treatment was not mentioned. This omission was perhaps a little surprising as methadone had been promoted at this time in the US as an effective method of breaking the linkage between crime and addiction. (See previous chapter.) In the report reservations were expressed that if a treatment centre was established it would be costly and *"probably intensify the local problem by attracting interstate and overseas drug-users."* (Honorary Royal Commission, 1973: 22)

This is a remarkable statement if interpreted as meaning that a Western Australian detoxification centre would have been such an outstanding success as to attract drug users from around the world. The possibility that a methadone program would attract users from other states which either restricted or did not provide methadone would have been a more realistic concern; as has been indicated earlier in this paper heroin addicts are believed to be very mobile and sensitive to treatment policy changes.

Methadone was first prescribed in latter part of 1973 in Western Australia in psychiatric inpatient settings to aid the detoxification of addicted heroin users, and soon afterwards was used by a small number of private psychiatrists and medical practitioners as an outpatient treatment.[28] In November 1974 the ADA was established as a statutory organization directly responsible to the Minister of Health; it was expressly created as a body separate from the Health Department of WA (HDWA)[29], the Mental Health Services (MHS), and other health services and hospitals. In the 12 months prior to the ADA's establishment methadone had been prescribed by private prescribers to about 30 individuals in Perth (see Table 1).

Methadone treatment was referred to in a 1975 policy document, *The WA Government Strategy In The Management of Alcohol and Other Drugs of Dependence*, by the Medical Director of the ADA. This 19 page document was largely concerned with alcoholism, however there was one paragraph about methadone.

[28] The exact date of the first use of methadone is not precisely documented in available records.
[29] The Health Department of WA was previously known as the Public Health Department; in this paper both departments will be referred to by the present name.

"A methadone program has been established for some patients dependent on opiates .... Methadone therapy however, is regarded only as an adjunct to intensive counselling and supportive techniques. A time limit on methadone substitution is part of the patient's contract. Regular random urine sampling is obligatory." (Pougher, 1975: 4).

Subsequent official and departmental reports about methadone treatment in Western Australia arose in response to situations of concern about adequacy of controls over its use (Farrelly et al, 1977; Porter, 1981) or in the context of overall drug and alcohol policy. (Alcohol and Drug Authority, 1982; Select Committee, 1984.) In the late 1980s a number of reports were produced by the ADA that were specifically concerned with the role of methadone treatment in the prevention of AIDS (eg Swensen 1989a; 1989b; 1990b). There have been two specific reviews of methadone policy in this State; the first (Porter, 1981) outlined six eras of methadone policy up to 1981; the second (Swensen, 1989) found that from 1973 to 1989 there had been seven identifiable phases of policy that could be distinguished from one another by their adherence to a number of liberal or conservative practices and procedures.

3.2.2 Statistical Information

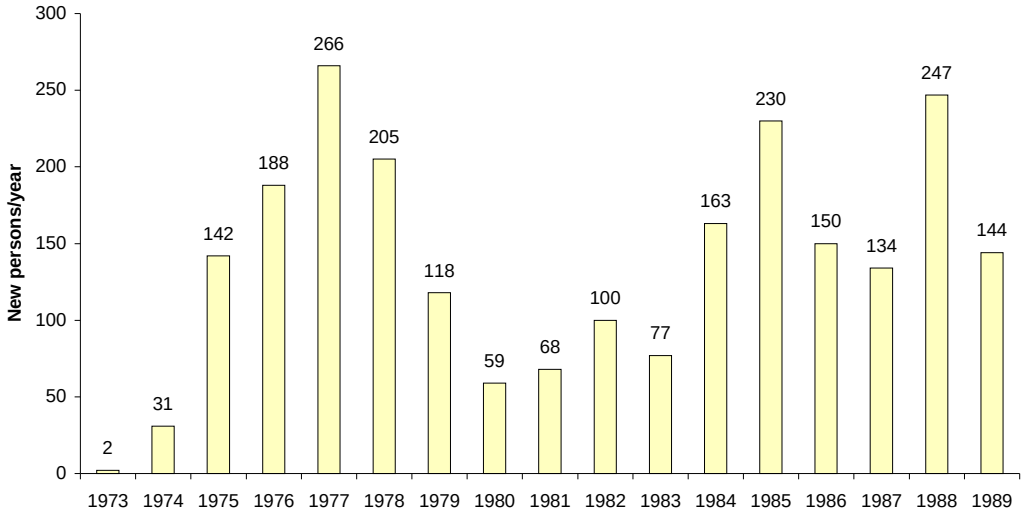
There are some difficulties with obtaining accurate information about the number of individuals who have received methadone treatment in this State. Firstly, because the HDWA is responsible by law for authorizing doctors to prescribe methadone as a treatment for heroin addiction it only has a register of names and the dates of authorization, but not ongoing treatment data. Secondly, prior to 1978 most of the methadone in Western Australia was prescribed by private prescribers and dispensed by retail pharmacies.[30] Doctors and chemists were not required to provide any statistical returns, and until the ADA assumed complete responsibility for methadone treatment in 1978, there were no data about methadone treatment except for the annual number of HDWA authorizations.

Thirdly, the ADA data are available in two levels of detail; from 1978 to 1985 as the total number of persons treated per month; from 1986 to the present as the number of persons in treatment at the end of each month and at the end of each quarter, broken down by gender, type of admission, age and length of stay.[31] Fourthly, data on the annual consumption of methadone in WA and all other jurisdictions is collated by the Commonwealth Department of Community Services and Health (DCSH) through responsibilities of the Federal government as a signatory to United Nations international drug treaties and conventions to monitor the consumption of drugs of addiction; data for this State is available from 1974 to 1989.

Methadone treatment has involved significant numbers of individuals, by the end of 1989 more than 2,300 different persons had participated in methadone treatment in this State (Table 1). There has been an uneven pattern of new admissions to the WA methadone program each year, the major features of which are apparent in Figure 1: three peaks, the first in the mid to late 1970s, the second in early to mid 1980s, and the third in the late 1980s, and a marked decline in the early 1980s. The highest ever annual total, 266 persons, was reached in 1977; but this figure may be inaccurate as in 1977 the HDWA required private medical practitioners to notify all persons to whom they had prescribed methadone. Some of these notifications were for individuals who had obtained few prescriptions rather than formally participate in treatment.

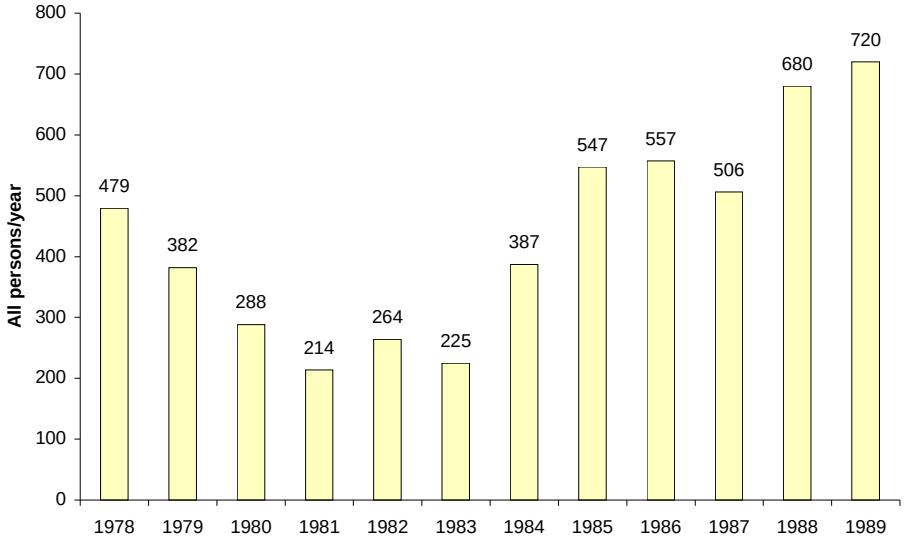
[30] The Health Department does not provide methadone treatment.
[31] This data conforms to a National Methadone Data Set, developed by the Commonwealth Department of Community Services and Health.

Figure 1: Annual admissions to WA methadone program, 1973 - 1989



The total number of persons in the methadone program each year from 1978 to 1989 has shown a pattern of peaks and troughs, with marked increases since the mid 1980s (Figure 2).

Figure 2: Annual total of persons treated in WA methadone program, 1978 - 1989



The less marked variations in the total treatment population in the years 1985 to 1989 are due to an increased proportion of readmitted clients compared to new clients in treatment. There have been a number of pronounced changes within short periods of time in the size of the quarterly treatment population from 1978 to 1989 (Table 3) which are plotted in Figure 3.

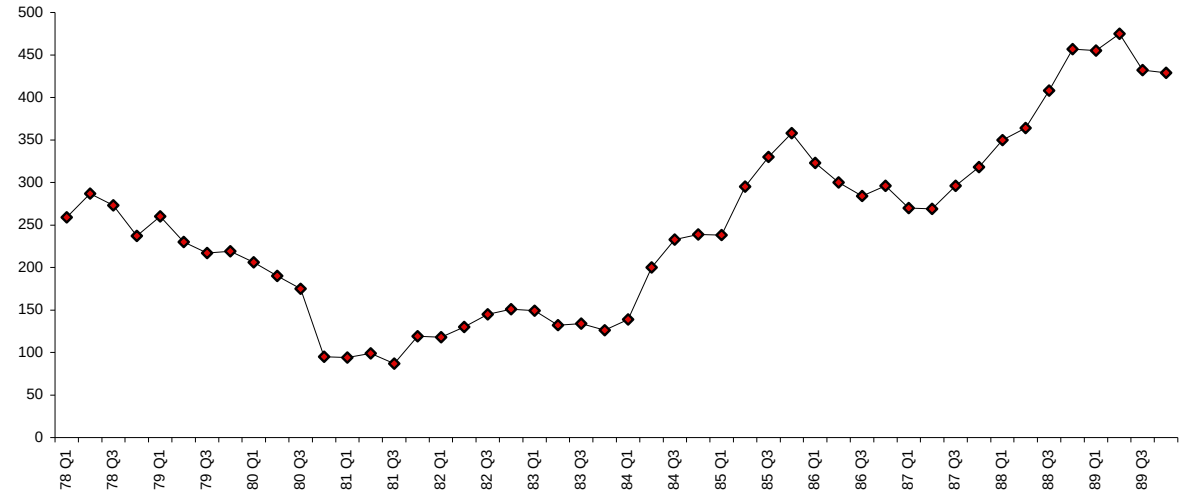
Table 3: Annual admissions to WA methadone program, 1973 - 1989

Year	New	Cumulative	Year	New	Cumulative
1973	2	2	1982	100	1,179
1974	31	33	1983	77	1,256
1975	142	175	1984	163	1,419
1976	188	363	1985	230	1,649
1977	266	629	1986	150	1,799
1978	205	834	1987	134	1,933
1979	118	952	1988	247	2,180
1980	59	1,011	1989	144	2,324
1981	68	1,079			

For instance:

- there was a peak of 273 in the September 1978 quarter;
- the lowest monthly total was 87 in the September 1981 quarter;
- there was a drop of 80 persons in treatment from the September quarter 1980 to the December 1980 quarter;
- there was a peak of 358 in the December 1985 quarter;
- there a drop to 269 by June 1987; and
- the highest ever peak of 475 was reached in the June 1989 quarter.

Figure 3: Quarterly WA methadone treatment population, 1978 - 1989



The annual consumption of methadone in Western Australia from 1974 to 1989 closely follows, as would be expected, variations in the size of the annual methadone treatment population (Tables 4 and 5). For instance, the peak in 1977, when 5.986 kgs of methadone were consumed in this State, of which 5.013 kgs was as tablets, coincides with the time when private prescribers provided large quantities of tablets to addicts. The restricted use of the linctus formulation of methadone in WA as the only treatment of addicts after 1977 is apparent in the data in Tables 4 and 5. There is an apparent lower rate of growth in the consumption of methadone in WA after 1985 than would have been expected given the increases in the size of the annual treatment population since 1985. A possible explanation for this feature could be the consumption of substantially lower mean doses compared to period 1977 to 1979. It is assumed that the consumption of methadone tablets after 1978 does not represent consumption attributable to the addict treatment population.

3.3 Phases of Methadone Treatment

3.3.1 Phase 1: 1973· May 1977 - Maximum Liberality

This phase had the following characteristics:

- no maximum daily dosage
- minimal admission criteria, on basis of individual medical practitioner's judgement as to whether an individual had a pre-existing opiate addiction
- unsupervised consumption of daily doses, ie addicts able to collect daily doses of methadone for an extended period known as take away doses, with attendant likelihood of intravenous self-administration and/or sale and supply to other opiate experimenters/addicts
- multiple dispensing locations, enabling use by addicts of aliases to collect multiple doses
- multiple prescribers, facilitating addict selectivity of prescriber to avoid sanctions and also we of multiple aliases
- methadone dispensed in tablet form

The first phase could be referred to as one of maximum liberality as there were minimal controls and an individual could attend any private medical practitioner, ie a GP or a psychiatrist, who could at his/her discretion prescribe any Schedule 8 drug, for a number of reasons, such as to medically manage opiate-related withdrawal sickness, as a substitute for illicit heroin use, or in conjunction with a therapeutic program, eg acupuncture or psychotherapy. Attendance at private practitioners did not require clients to bear the cost of the consultation if the doctor bulk-billed. It is believed that private prescribers routinely bulk- billed methadone consultations. Privately prescribed methadone was dispensed at retail pharmacies, and this meant that recipients obtained large quantities of methadone in tablet form, eg a week's supply at one time.

3.3.1.1 Role of the Alcohol and Drug Authority

From November 1974 an outpatient clinic operated by the Alcohol and Drug Authority (ADA), started to provide methadone to heroin addicts.[32] Many of the medical and nursing staff of the ADA had transferred from the MHS and the inaugural Medical Director, Dr John Pougher, was previously a psychiatrist with the MHS. It is likely through their prior experience in psychiatric institutions that these staff were conversant with the use of a mood altering medication like methadone as the basis of treatment. As some Commonwealth funding for capital works had been obtained through the Community Health Program it is possible that there was an expectation that a community-based psychiatric service would be developed by the ADA, although information is not available on this point.[33]

The ADA provided methadone without financial cost but required more frequent attendance than private prescribers and dispensed smaller quantities of take away doses of methadone.[34] This dual system of private and public prescribers apparently functioned without difficulty until August 1976, until a new Medical Director of the ADA, Dr J. Scott, was appointed. He too had previously worked as a psychiatrist with the MHS, and before 1975 worked in the United Kingdom.

The identification of particular identities with the first phase was a feature of the early history of the ADA. The tendency for personalization may be traced back to the naming of the ADA's principal

[32] It is to be noted that from November 1974 to June 1976 the ADA prescribed methadone and other oral and injectable opioid drugs (eg Morphine and Pethidine) for the treatment of heroin addicts (Porter, 1981).
[33] Coghlan, Pixley & Zimmerman (1974) had outlined a case for the integration of methadone and community mental health clinics (CMHCs), because while many methadone clients *"have severe emotional problems that have been masked by their use of heroin, the location of methadone programs in CMHCs would support the proposition that "heroin addiction will be seen as primarily a breakdown in human relationships."*
[34] The term "take away" refers to the practice of an individual obtaining multiple doses on a single day, ie tomorrow's dose(s) today.

treatment facility, Carrellis Centre. The name Carrellis was derived from the surnames of both Mr Jim Carr, Executive Officer of the Health Education Council, a branch of the HDWA concerned with public health prevention activities, and Dr Arch Ellis, the Director of the MHS. The name Carrellis Centre has continued to be used up to the present; however when the ADA established a separate facility for the methadone program in July 1980 it was named William Street Clinic, after the street in which it was located.[35]

The first Chairman of the ADA was a Liberal MP, the Hon. Ray Williams MLC, who had chaired the Honorary Royal Commission in 1972 and 1973. This appointment drew critical comments from the Labor Party's shadow spokesman on health, Mr Ron Davies,[36] who also criticized the appointment of other Board members. *"'It is morally wrong to make a political appointment. What expertise does he (Mr Williams) have to act as Chairman?'"* (Daily News 1974a).

By making an explicit political appointment it is submitted the Government contributed to a situation where a health service that had been set up to treat people with alcohol and other drug problems, undertake research and develop educational programs was vulnerable to attacks on its credibility and treatment approaches without being able to defend itself. As will be shown, on a number of other occasions the treatment policies of the ADA were severely criticized, particularly by Labor parliamentarians.

There is the possibility that the creation of the ADA encroached on the domain of other groups. For instance, in January 1975 there were criticisms by both the officer in charge of the Police Drug Squad, Detective Sergeant Des Ayers, and the Executive Officer of the Health Education Council, Mr Carr of a referral/information service set up by a group of volunteers (Sunday Times, 1975a). Mr Carr was particularly harsh in his criticism.

> *"'I would urge anyone with a drug problem who is considering seeking advice from one of these soft-boiled things, to be very cautious.' Mr Carr said the concept of a self-help drug centre was contradictory. It could not work like Alcoholics Anonymous because there was a vast difference between alcohol and drug addiction ... 'People with an alcohol problem can be helped by others with alcohol problems. But it is illogical and fallacious to apply this to drug addiction."* (Daily News, 1975a).

The comments of Mr Carr suggest a number of issues were at stake, including the prestige and pre-eminence of the ADA, the notion that heroin and other illicit drug users were a group who had to be controlled, that illicit drug users were deviant people who should not be trusted, that the credibility of the medical profession and other professional groups was to be supported, and that a medical approach was paramount in the treatment of people who used heroin and other illegal drugs. Mr Carr's pointed endorsement of self-help in the treatment of alcohol users indicates that the ADA had been careful not to offend Alcoholics Anonymous (AA).[37] At this time there was no organization that represented recovered heroin users; Narcotics Anonymous (NA) was established in Perth in the early 1980s.

In the Daily News in January 1975 both Mr Ayers and Mr Carr were reported as advising people to go to the ADA and not the centre. In March 1975 the organizer of this centre, described as a 'self-confessed former drug user,' was charged with a number of offences, including stealing women's clothing. He was referred to in a newspaper report at the time of his arrest as a 'transvestite'. (Sunday Times, 1975b) The castigation of this organization and the eventual humiliation of its organizer may be construed as serving as an example to others that there were 'rules' to be followed and that only certain groups would be credentialed as being competent helpers.

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[35] Since mid 1980 Carrellis Centre has treated only individuals whose problems are due to the use of alcohol or prescription drugs.
[36] He had been the Minister for Health in the former Tonkin Labor government.
[37] In the ADA's residential programs attendance at AA meetings was compulsory; it employed a full-time AA counsellors and welfare officers.

The first newspaper report of methadone treatment in WA was in May 1975, in a Sunday Times article, about the range of alcohol and drug problems that had been seen at Carrellis Centre since it had opened. The photo that accompanied the article was a side view of a well built tattooed male swallowing a dose of methadone with a caption that referred to him being 'watched' by a nurse. The article also made reference to 'four young, long-haired men' waiting for their dose of methadone at the dispensary at Carrellis Centre. These statements about the ADA's methadone treatment program and the physical characteristics of heroin addicts in treatment suggest that there was a public perception that its major purpose was as a system of social control and supervision of heroin users. In a newspaper interview in December 1975 to coincide with the ADA's first anniversary, Dr Pougher reflected on the ADA's methadone program, which he said

> *"had been started for those who could not be weaned off their craving for drugs ... The methadone regime was strict and dependents had to attend daily in the first three or four weeks. The quantity of methadone allowed was gradually reduced. When the' methadone program was started a year ago, nearly all the people on it were unemployed ... Now so many had jobs they came for it in the evening."* (Martin, 1975).

Up to the end of 1975 newspaper reports about methadone treatment did not acknowledge the fact that private medical practitioners had treated heroin addicts since 1973. It is submitted that these discourses in the popular press supported the perception that the ADA was a small but energetic organization engaged in a type of David and Goliath battle against an ever increasing heroin problem. The image of the ADA's adversarial relationship with its target treatment population was also echoed at times in its relationship with the general community. For instance, in May 1976 a group of West Perth residents were reported as having petitioned the Perth City Council to not approve the conversion of a building in West Perth to a detoxification hospital for alcohol and illicit drug users (Sunday Times, 1976a).

In August 1976 the ADA changed its methadone policy to a conservative one; this was a short sighted, if cavalier approach to policy making, and over the next six to nine months a considerable amount of effort was needed to defend it until finally abandoned in May 1977. As a consequence of the policy the ADA became peripherally involved in the management of heroin users and prescribed very little methadone. Clientele excluded from the ADA program attended instead private GPs who continued to have a liberal policy, so that within a short time there was a boom in the supply of methadone to addicts in Perth by private prescribers.

The lack of agreement on policy between the private medical profession, the ADA and the HDWA meant that private prescribers became responsible for running the State's methadone program. As a result of this approach to the use of methadone, the ADA's credibility became tarnished and over a period of time a large quantity of methadone was diverted into the illicit drug market in Perth. Methadone diverted to the black market increased the quantity of illicit opiates in Perth and contributed to the increase in opiate addiction. Another outcome of the growth in black market was the increase in the number of deaths due to methadone use, with a peak of seven methadone deaths in 1977 (Swensen, 1988). As will be shown a conservative policy was difficult to defend in practice even though it appeared to enjoy community support because it embodied a rehabilitative and coercive approach to treatment.

Over a period of time criticism of the ADA policy grew from a trickle to a flood and involved clientele, staff and members of parliament. Mr Davies, the shadow Minister for Health renewed his criticisms of the ADA and of its Chairman, Mr Williams MLC in a newspaper article in mid September 1976.

> *"'Officially, the Authority doesn't seem to care if these young people go back on the street,' said one staff member ...The Chairman of the Authority Mr John Williams said that the complaints from staff were 'a small domestic matter'... Staff members also criticized the Government for appointing Mr Williams, a sitting Liberal Party politician, as ADA chairman. 'This important job should be*

held by a person with specialist therapeutic skills - and no interest in the coming election,' said one nurse." (Sunday Independent, 1976a.)

The conflict over the ADA's treatment policy continued to be frequently and prominently reported in the Western Australian press. In spite of a HDWA inquiry in September 1976 that recommended administrative changes, criticisms by members of parliament and mass staff resignations continued throughout 1976. (Coyle, 1976; Mayman, 1976; Roberts, 1976; Williams, 1976.) By the end of November 1976 the Labor opposition had called for the dismissal of the Medical Director, Dr Scott (West Australian, 1976c), and announced that it would, if it won government in the February 1977 election, restructure the ADA (Daily News, 1976c).

The debate between the Labor opposition and the Liberal Government, which had become an acrimonious slanging match, continued in 1977. Other adverse consequences of the differences between the ADA's conservative policy and private medical practitioners' liberal policy emerged by January 1977 (West Australian, 1977a). There were allegations by Dr Scott that private doctors were facilitating the recreational use of methadone by overprescribing, not complying with the requirement for prior authorization from the HDWA, and prescribing methadone in the tablet rather than linctus form to facilitate intravenous use. In the same article Dr Scott stated

> "when methadone was prescribed by the Authority it was administered as a syrup in daily doses under the watch of a doctor. This prevented addicts from injecting the methadone after liquefying it, or from selling it to get money to buy heroin." (West Australian, 1977b).

But some of the reported views of Dr Scott appear to contain distortions. For instance, his criticism that addicts used false names to obtain extra methadone implied that this was the fault of individual addicts; whereas the schism in methadone policy between liberal and conservative prescribers meant that private prescribers were thrust into the role of responding to the large numbers of individuals excluded from the ADA program. Dr Scott's criticism that doctors failed to obtain prior authorization from the HDWA missed the point; as the problem was due to a failure by the HDWA to both enforce the provisions of the Poisons Act and develop an efficient administrative procedure to process authorizations.

In late January 1977 Dr Gerald Tewfik, a private psychiatrist, stated that he believed that more than 300 heroin addicts were being treated by private doctors. He also made the observation that the ADA's conservative policy had only shifted the problem from the public health system to private medical practitioners. Dr Tewfik's comments are important for another reason, as he provided a perspective that helping heroin addicts was a positive and valuable activity.

> *"'They have a low morale and feel they are the scum of the earth,' he said. 'They have been unemployed for a long time. People should know they are not just louts. They are nice intelligent boys (sic). It could be your son involved. If somebody doesn't look after them the situation will become dangerous indeed."* (West Australian, 1977c).

Dr Tewfik's views contrast with the ADA's confrontationist approach which had focussed on controlling the use of methadone and abstinence as outcomes, rather than goals to improve overall health and social functioning. His comments were echoed in January 1977 by a number of other individuals, including medical practitioners and a social worker, Mr George Smith. Mr Smith's comments appear to have been the first by a non-medical professional. He had a number of important credentials to support his views, he was the Director a large well-established Christian welfare agency and had been appointed Chairman of the advisory council that had recently been created by the ADA.[38]

[38] Mr Smith's appointment to this position may have been a recognition of prior experience in Britain with heroin users; in 1970 he spent 3 months in the UK on a Churchill Fellowship at Phoenix House, a residential drug-free program. (Smith, 1971)

It seemed that the dilemma for the government at this time was whether it should intervene in what appeared to a matter of differences of opinion between medical practitioners. If the government were seen to be directing doctors on the way they should treat their patients, in this instance on how to prescribe methadone, it probably would have been accused of interference into doctor-patient relationships and the debate would have polarized as one between private and public medicine. The reluctance of government to become involved was also complicated by a number of other considerations; the HDWA and the police were becoming involved in sensitive investigations into over-prescribing, falsification of prescriptions and organized diversion of prescribed methadone; and the Chairman of the ADA belonged to the same political party as the government of the day.

Any change that restricted private prescribing meant that the ADA needed further resources to treat the large number of clients who had been under the care of private prescribers. At that time all the ADA's outpatient programs operated out of one site in West Perth, and given that heroin users lived throughout the metropolitan area, it needed to establish a number of clinics in the metropolitan area to match the access to treatment that private prescribers had provided previously. This concern was addressed by Dr Tewfik:

> *"I can understand the authorities saying that methadone should only be issued at one centre and the addict must take it on the spot, to avoid trafficking in the drug ... (But) It is impracticable for the chap on methadone, who has a job and is trying to break the habit, to travel to the West Perth centre, say from Fremantle, to get his daily dose. He soon becomes unemployed, stops at home watching TV, has no girlfriend, and gets lonely. There is not much chance of him breaking the habit."* (Martin, 1977a).

An interview with a number of heroin users in January 1977 was presented as a representation of the consumer's perspective on the experience with the ADA's conservative policy. Though a number of specific complaints were listed at the end of the article, content relied mostly on testimonies from heroin users about their introduction to the drug and the harm they perceived as arising from its use.

This particular article contained both admiration and pity for the heroin users who attended the ADA clinic in West Perth and also contained the message that these individuals were appropriately in a dependent relationship with a treatment program. There was no articulation of a mechanism for complaints to be remedied, nor analysis of the legal and political framework which justified the prohibition of heroin use in Western Australia. The article implied that heroin use was a consequence of individual pathology, and that the solution to the problem lay in the development and application of better technocratic solutions.

> *"There were about 30 of them, coming and going. They were sensitive and had a trusting, appealing, almost child-like air about them - wanting desperately to be understood by a society that rejects them but uncomprehending why this should be so. They ate sandwiches, drank coffee and soft drink and offered their cigarettes generously. They appeared to be so normal, even gentle, that it seemed rude to mention the words 'drug addict' in front of them. But they did not seem to mind. And they had an urgency to talk as if to purge their souls of a great burden."* (Martin, 19771).

It was reported that in February 1977 Dr Scott's contract would not be renewed; however in spite of his departure it was apparent that it was necessary for a formal methadone policy to be developed.

3.3.1.2 Role of Methadone Treatment To Reduce Crime

In mid 1975 there was a report of the first armed robbery of a chemist in Perth, when 10 bottles of morphine were stolen. The couple who committed the above robbery were described in some detail in a newspaper account of the incident. *"The girl, who took the drugs from the safe, was pale and thin*

and seemed genuinely upset at what she was doing .... The man was also thin and had long fair stringy hair and a pasty complexion." (Ayris, 1975a).

The references in the article to paleness and thinness implied that these two individuals had poor health, were ill and therefore in need of medical assistance. These images stand in contrast to the picture of well-behaved and healthy addicts in the story about the first year of the ADA's methadone program. In the latter part of 1975 there were a number of newspaper reports about robberies of drugs and money from chemist shops; by June 1976 concern about this phenomenon had reached the stage where metropolitan chemists were reported as having received booklets on 'hold-up drills.' (West Australian, 1976a.) The police view at this time was that Perth was experiencing a 'crime wave' caused by heroin users, and that they too were under resourced.

In an address to a Rotary Club luncheon in July 1976 the Minister for Police, Mr Ray O'Connor, supported the perception that drug use was becoming a serious problem in WA when he stated there had been *"more than a 900 per cent increase in the number of convictions for drug offences since 1969."* (West Australian, 1976b.) The rate of a 900 per cent increase was misleading for a number of reasons; in 1969 there were only 101 drug convictions; annually between 80 to 90% of drug offences in WA are related to cannabis and multiple convictions can be recorded against one individual (Hayward, 1989; Swensen, 1990c). In August 1976 the Minister for Police made further observations about drug problems in Perth in an interview about the sentencing of two addicts who had robbed a number of chemist shops. The Minister may have felt it necessary to justify the prison term by reference to the situation in the United States, but his comments also amounted to a defence of the criminal model as the most effective policy instrument against heroin use.

> *"I have a report that says half the street incidents in America are caused by drug addicts. That's half of the muggings and killings. I don't want that to happen here ... I believe that prison is the best place for them. It will give them a chance to dry out and it will prevent them from further hold-ups. It's no good sending them to the Alcohol and Drug Authority because that is an open clinic situation and they would be able to continue their crimes from there."* (Daily News, 1976a).

The timing of these statements by the Minister for Police are of some significance, as at the beginning of August 1976 there had been a drastic change in the ADA's methadone policy, when the new Medical Director, Dr Scott, introduced a two to three week long detoxification program in place of the previous maintenance policy. One of the defence lawyers in the case (above) to which Mr O'Connor referred, had claimed that his client's offences had been caused by the change in policy.

> *"Mr J. Eller, for Zanetti, said his client had been addicted to drugs for the past seven years. He blamed the treatment program at the ADA for the desperate craving for drugs which he said had led him to commit the hold-ups. Mr Eller said Zanetti claimed he had been all right while he was receiving 120 milligrams of methadone each day."* (Daily News, 1976b).

3.3.1.3 Role of the Health Department of WA

The HDWA through its powers under the Poisons Act were responsible for the regulation of pharmaceutical drugs and ensured compliance by pharmacists and medical practitioners with the law on dispensing and prescribing of drugs. The HDWA was in a position of potential conflict of interest, because as both regulator and policy maker, it could promote policies and enforce regulations that affected interests of a number of groups.

The HDWA was technically responsible for deciding who should or should not be authorized to prescribe methadone, and as there was no legislative basis to deny authorizations to private practitioners, it was seen as favouring one form of medical practice over another if it granted ADA monopoly prescribing rights. The ADA's mandate was to provide treatment to heroin (and other drug) users at its discretion, ie a client could not enforce the right to a particular form of treatment; if the

ADA adopted a conservative methadone policy it did not need to take into account the impact on the HDWA.[39]

Resolution of these problems required greater administrative cooperation between the HDWA and the ADA and support from government for a regulated methadone treatment program based on legislative amendments to rectify legal inadequacies. A number of newspaper articles in late January 1977 signified that changes had started to happen.

> *"About a month ago the Public Health Department advised the ADA that it must accept responsibility for the treatment of drug addicts. It has also indicated that stronger legal action will be taken against doctors who prescribe methadone, without authority, after January 31."* (Martin, 1977a).

An ingenious means of restricting private prescribing was achieved by an agreement between the state and federal health departments, that the Commonwealth would provide only the linctus rather than tablet form of methadone under the NHS, and that the ADA would be the only source of linctus (West Australian, 1977d). Doctors could continue to prescribe methadone but if in tablet form the client would have to pay for them at their full cost as the cost was no longer underwritten by the federal government's pharmaceutical benefit scheme.

In April 1977 the HDWA convened a working party that consisted of representatives of both organizations. The task of the working party was to investigate the use of methadone as a treatment for drug addiction, to consider the statutory framework within which treatment was conducted, and to examine the respective roles of the HDWA and the ADA. The impetus for the need for clarification of a policy framework may have also been prompted by the first reported allegations by heroin users of corruption by the Drug Squad (West Australian, 1977e).[40]

Data in the working party's report on the consumption of methadone presented a stark picture of the extent of methadone use, for instance in the last four weeks in 1976 more 10 mg methadone tablets were prescribed than were prescribed in the whole of 1972 in WA. The study also found there were 88 doctors prescribing methadone at the time in the State. Annual consumption data which is incorporated in Tables 3 and 4, shows that the quantity of methadone increased four-fold from 0.730 kg in 1974 to 3.054 kgs in 1976, and then nearly doubled to 5.986 kgs by the end of 1977. In the period 1974 to 1977 the syrup formulation constituted a small fraction of overall consumption.

This inquiry, which did not canvass for public submissions, was to be the blueprint for methadone treatment in the State. Its principal recommendation was that the treatment was to be an exclusive prerogative of the ADA. In the working party's report which was released in May 1977 there were details of a HDWA conference held in December the previous year that involved the department and a group of senior psychiatrists. It was stated that the private psychiatrists felt they had no option but to prescribe methadone because of unsympathetic treatment methods at the ADA. It was also the view of this group that there was an identifiable sizable group of what was described as 'hard-core' addicts who were so addicted to methadone they could not function without it. It was the view of the working party that *"the role of the Public Health Department in controlling methadone is ineffective and will continue to be so until there is a simultaneous change in the ADA's administrative measures and in the regulations governing methadone*." (Farrelly et al 1977: 11)

An important feature of the report was that it clearly stated that the central purpose of methadone treatment was as a public health measure to prevent the spread of heroin 78 addiction in the community. In the language of the Working Party *"drug addiction cannot be eliminated but only*

[39] This position is still true, because it is not possible to force a doctor to prescribe methadone (or any other drug), as it would vitiate informed consent and leave medical practitioners open to tortious actions.

[40] These allegations eventually resulted in the police launching prosecutions for criminal defamation; the case was to have an important impact on drug laws in the State, as at the time there were serious shortcomings in the Police Act, eg there was no legal backing for police informers, or for police to buy drugs in undercover operations.

contained, and should be handled so as to prevent large scale menaces to public Health." (p. 13). A policy of containment had been used in Western Australia for many years to manage prostitution, which though illegal, had been tolerated largely out of concern about the supposed risk to public health from female prostitutes (Cf Community Panel On Prostitution, 1990).

A similar approach to heroin use, at least at the departmental level, was apparent in the working party's report, which suggested that it was preferable to provide an opiate like methadone under medical supervision on a controlled basis rather than providing no opiates at all. It was implied that without a heroin containment policy that was based on giving an opiate substitute, the evils from heroin use, such as disease, illness, death, crime and corruption would continue. However, there was a degree of ambivalence about how to implement a public health model of containment; while the working party pointed out the pitfalls of conservative policy, it was careful to not fully endorse maintenance treatment. Long-term methadone treatment was endorsed only if it was provided to what the committee termed the 'hard core of addicts', or to individuals whose employment or family life would he so adversely affected if they were either denied methadone or had treatment curtailed.

The first phase ended in May 1977 when many of the recommendations .of the report were implemented, including the re-establishment of maintenance treatment at the ADA. It is also noted that the police had indicated their concern about the amount of dealing in methadone tablets, and during 1977 launched a number of prosecutions, one of the most notable of which was a group of individuals who had established an organized methadone tablet marketing operation (West Australian, 1977f).

3.3.2 Phase 2: June 1977· August 1978 - Moderate liberality

This phase had the following characteristics:

- no maximum daily dosage;
- minimal admission criteria, on basis of individual medical practitioner's judgement as to whether an individual had a pre-existing opiate addiction; however from October 1977 the ADA started to use Naloxone (opiate antagonist) testing as a pre-condition to admission;
- unsupervised consumption of daily doses, ie addicts able to collect daily doses of methadone for an extended period known as 'take away' doses, with attendant likelihood of intravenous (IV) self-administration and/or sale and supply;
- majority of clientele attended a centralised facility in Perth; and
- linctus methadone, no tablets
- identification photo.

In July 1977 there were 16 participants in the ADA methadone program, by the end of the next month the number had increased about nine-fold, to 141, by December 1977 there were 206 persons in treatment and by August 1978 305 persons were in treatment. (See Figure 2; ADA Annual Reports, 1978, 1979.) This was a period of sustained growth in the numbers in methadone treatment; the ADA was literally swamped by clientele.

There were two key changes made in the ADA's administrative structure during this phase. Firstly, the inaugural Chairman, Mr Williams, retired in December 1977 and was replaced by Dr L. Holman, who held a senior administrative position in the HDWA; secondly, in March 1978 Dr Richard Porter, who had previously been Director of the Tuberculosis Control Branch of the HDWA was appointed as the new Medical Director. These two appointments held significance for the methadone program, in that they cemented closer ties between the ADA and the HDWA, and supported the public health model, which emphasized disease control, rather than the emphasis on therapeutic change in the former psychiatric model.

The introduction of a moderately liberal policy by the use of identification photos, controls over admissions and removal of tablets meant that the HDWA could withdraw authorizations from private prescribers. Though most of the private prescribers accepted the HDWA's apparent legal authority to

restrict the use of methadone as a treatment of addiction to the ADA, a small number increased their prescription of tablets of another Schedule 8 drug, Palfium (dextromoramide), a short-acting synthetic opiate.

In April 1978 a Labor MP, Brian Burke MLA, claimed that the demands upon GPs for Palfium were due to organizational shortcomings of the ADA. His reported comments appeared to be less concerned with the details of the moderate liberal policy that had been introduced at this time, but more with the notion that a publicly run methadone program apparently provided a less responsible, less responsive, less friendly and less flexible service than could be provided by private prescribers. It is possible that his comments were intended to embarrass the Government for inadequately resourcing the methadone; however there are no public accounts of he or any other member of parliament arguing for an expansion of the methadone program.

> *"Attacking the ADA Mr Burke said, addicts were being let loose on Perth roads after being given large doses of methadone by the ADA. He said the addicts were treated at the ADA West Perth clinic and then left to find their own way home. Mr Burke's other criticisms included:*
> *• Addicts seem to find the atmosphere to be far too impersonal.*
> *• Difficulty existed to obtain the services after 4 pm or at weekends.*
> *• Alcoholics and drug addicts were forced to use the same waiting room at the ADA."*
> (Sunday Independent, 1978a).

In the same newspaper article Mr Burke was reported as stating that politicians should spend "one week" at the ADA's methadone clinic to see 'the misery at first hand.' A fortnight later, on the 16th April 1978, the same newspaper provided further information about the methadone program at the ADA when a Government MP, Mr T. McNeil, had taken up Mr Burke's challenge to briefly visit the ADA's Carrellis Clinic. Mr McNeil's comments provided an impression of an unsavoury and chaotic situation.

> *"Perth addicts are bottling their own induced vomit after getting drugs from the ADA. They are then using the vomit to prolong the drugs effects when they return to their home. Other drug addicts are taking drugs at the ADA but are not swallowing them. Outside they remove the drug and sell it to others."* (Sunday Independent, 1978b).

In May 1978 the Government announced it would be amending the Poisons Act to provide greater powers to restrict private prescribers of Schedule 8 drugs. The Premier of the time, Sir Charles Court, when introducing the Bill before parliament had stated

> *"It was disappointing to find that a few people in responsible positions had contributed to an undermining of control, He said several months ago a few medical practitioners became well-known for their willingness to prescribe addictive drugs to drug addicts. Prescriptions were written at such a rate that supplies availability to addicts were greatly supplemented."* (Daily News, 1978a).

During debate in August 1978 on the Poisons Act Amendment Bill Mr Burke asserted that the ADA methadone program was poorly run and that addicts who attended the ADA's West Perth clinic were involved in drug dealing. *"One of the best ways to get drugs was to go to the ADA's waiting rooms in West Perth, an Opposition spokesman claimed last night. People wanting drugs could meet there and make contact to get them."* (West Australian, 1978a). In the same newspaper report it was stated that the ADA needed to employ a security guard as there were violent fights between patients in the waiting rooms.

Compared to the previous phase the content of press coverage of the methadone program emphasized that addicts were a potentially vicious and unscrupulous group of individuals. The increased degree of regulation that had been introduced in phase two appeared to have been at the expense of increased bitterness and resentment by the methadone treatment population. This outcome is not surprisingly as

the changes brought about by phase two did mean a loss of freedom and increased control over the daily lives of the clientele. However, compared to phase three, this phase continued to allow clientele to obtain the majority of their doses as take away doses. The ADA permitted a high level of unsupervised methadone consumption as it was believed that the linctus form of methadone was not injectable.

Some of the criticisms that had been made of the ADA were justifiable, for example the restricted opening hours, as government was not prepared to fund a 24 hour operation. But criticisms about the ADA's alleged lack of control over people's behaviour after they had consumed their dose contradict concerns that the ADA program was too controlling. Complaints about behaviour due to the lack of security/supervision and the purported drug dealing were of course not activities only confined to the ADA, similar behaviour was equally likely to have occurred at GPs surgeries and retail chemist shops; these activities were more visible when increased numbers of individuals attended a central clinic.

The reluctance of Government to expand methadone may have been well founded given the amount of controversy and disruptive behaviour that had been associated with the ADA's West Perth clinic. It is possible that criticism of the ADA by Mr Burke may have been motivated by personal as well as political concerns.[41]

3.3.3 Phase 3: September 1978 - June 1979 - Moderate conservatism

This phase had the following characteristics:

- a maximum daily dose of 80 mg;
- Naloxone (opiate antagonist) testing as a pre-condition to admission;
- all doses to be swallowed on a daily basis, under supervision, at ADA premises;
- punitive sanctions were introduced for non-compliance with daily supervised consumption by withholding alternate daily doses;
- all clientele attended a centralized facility in Perth;
- linctus methadone, no tablets; and
- identification photo.

In late August 1978 after the passage of the amendments to the Poisons Act an express power was given to the Commissioner for Public Health to regulate the prescribing and dispensing of drugs of addiction. With clarification of the power of the HDWA to regulate Schedule 8 drugs, private practitioners ceased to prescribe Schedule 8 drugs as a treatment to addicts in this State. The ADA was vested with the responsibility of methadone prescription for the treatment of registered drug addicts. During this phase the ADA adopted key principles from the NHMRC's National Policy On Methadone, such as that daily doses should be in the range of 100 to 120 mgs. Much of this document, which was released in November 1977, contained principles of methadone treatment. For instance with respect to maintenance treatment it was stated

> *"The goals are to reduce mortality, to reduce ill-health, to reduce crime, to reduce the contagion of illegal drug use, to increase productivity, and to assist the individual addicted person in coping. The goal of a drug-free existence is, at least temporarily, deferred. Methadone maintenance appears to be effective because it keeps the addicted person in contact with the treatment agency; it partially satisfies the needs of the addicted person and at the same time reduces the effects obtainable from the use of other opiates; it removes the need for the addicted person to be preoccupied with obtaining and using illegal drugs; it allows the addicted person to get on with the job of organizing and living his (sic) life."* (Section 3.1.2, National Health and Medical Research Council, 1977).

[41] Mr Burke's electorate assistant, who had worked in his electoral office since the mid 1970s and was described as having used heroin for a decade, was charged for a number of drug-related offences in 1985 and in 1987 (Glenister, 1985; West Australian, 1987).

From August to September 1978 there was a drop of 32 in the number of clientele participating in the WA methadone program. In September there were 273 persons in treatment, by June 1979 numbers had declined to 230. With its clientele unable to obtain methadone or other Schedule 8 drugs from private prescribers, the ADA was able to increase the number of controls over client behaviour to both reduce diversion of methadone and its intravenous use. The strategy adopted to reduce the non-oral consumption of methadone relied on a punitive approach, namely, if a client did not swallow a dose of methadone under the supervision of dispensary staff, the next day's dose was withheld as a defacto punishment.

This approach towards obtaining compliance engendered conflict between the ADA and its clientele, and resulted in the formation of a small pressure group of methadone clientele who unsuccessfully attempted to reclaim their 'citizen's rights.' (Kusan, 1978)[42] 16 In February 1979 it was reported that *"about 60 drug addicts registered with the ADA held a protest meeting about ADA policies in relation to the methadone program."* (Daily News, 83 1979a.) It is possible that this group did influence policy; unfortunately there is no further record of this group's activities.

A newspaper interview with a paraplegic male addict and his mother who had 'battled'' to get treatment for her son further reflected the themes of dissatisfaction with methadone treatment; they argued that the ADA methadone clinic was both an unpleasant and dangerous place and that anyone who attended was likely to be contaminated by the other clientele who also obtained treatment there.

> *"And what does Brent think of all his mother's attempts to have him 'put away.' 'It used to make me angry until I started going to the ADA every day to get my quota of drugs,' he said. 'When I saw other drug addicts there - how they crawl along the wall to the counter to get their daily doses - I started to get frightened. I don't want to be like that'."* (Campbell, 1979).

In the period March to May 1979 a number of individuals were convicted of drug offences, and in the course of passing sentence, Supreme Court judges and magistrates criticized what they perceived to be a lack of appropriate treatment programs. Their comments were concerned with the need for drug-free rehabilitation programs to which they could direct individuals to be detoxified as a condition of their sentence. These concerns could be interpreted as indicating that there was a growing perception in Perth of the need for a more sophisticated array of treatment programs; it was also apparent that the judiciary and the magistracy did not perceive methadone treatment as an effective or credible form of treatment.

For instance, there was a newspaper report in March 1978 of the comments of Judge Lavan who had convicted a woman for selling heroin to clientele who were attending the ADA's methadone clinic (Daily News, 1979b). In May 1979 Professor Alan German, head of the Department of Psychiatry at the University of WA Medical School, when interviewed about the remarks of a magistrate who had sentenced a drug user, stated

> *"that the system of prosecuting and even gaoling addicts was not appropriate. Most drug addicts had problems of complex medical and social origins. They should not be treated as offenders or criminals. Professor German's comments came after Magistrate T.R. McGuigan claimed in the East Perth Court yesterday that it was futile for courts to try to rehabilitate addicts."* (West Australian, 1979a).

Mr George Smith, Director of the Christian Welfare Association, also supported the magistrate's comments for the need for drug-free treatment options for the courts (Daily News, 1979c).

A series of lengthy articles in a weekend newspaper at the end of May 1979 presented the impression that drug use in Perth was a serious problem and that *"each year hundreds of young Western*

[42] This group was known as DOPE, Drug Out Patient's Equity.

Australians get hooked on hard drugs." As the articles were constructed from interviews with jailed heroin users it was perhaps not surprising that they presented a bleak picture of heroin use leading to crime and/or premature death by overdose or suicide. The use of case testimonies gave these stories a measure of credibility and supported journalistic opinion that heroin use was both increasing and causing great harm. One of the stories did refer explicitly to methadone, the offender directly blamed the methadone program for her involvement in selling heroin.

> *"We registered with the ADA but the methadone treatment was making us feel worse. We started dealing in heroin about 18 months ago. It was easy to buy from contact we had made at the ADA clinic."* (Argo & Campbell, 1979).

The ADA accepted that an explicitly punitive component in treatment, the withholding of doses of clients who did not comply with supervised daily methadone consumption was a difficult policy to publicly justify. The ADA hired Dr Thomas Bewley, a British expert on drug treatment and policy to advise it whether the ADA's methadone policy should be liberalised or not. Dr Bewley commented that

> *"it was not possible to prevent those dependent on opiates from misusing drugs by self injection, and the disadvantages involved in trying to get patients to take all their drugs consistently under supervision outweighs the slight gains from marginally decreasing the rate of self-injection."* (cited in Porter, 1981).

Though the ADA may have had good grounds for adopting this kind of measure to reduce the diversion of methadone, it meant that individual clients could mount cases that they were being sacrificed for the sake of the attainment of a technically perfect program. The modification in the moderately conservative policy after June 1979 meant that the ADA had accepted one of the principles of the 1977 National Policy On Methadone.

> *"There is evidence from some overseas countries that highly punitive measures against addicted persons in the absence of treatment, have achieved some degree of success in eradicating certain aspects of drug abuse problems. However methods used are not 85 consistent with the moral and social values of Australian society."* (Section 2.3.1, National Health and Medical Research Council, 1977).

3.3.4 Phase 4: July 1979 . October 1980 - Moderate liberality

This phase had the following characteristics:

- a maximum daily dose of 80 mg;
- for the first two weeks methadone was to be consumed as supervised doses on ADA premises;
- after the two week period no sanctions were to be applied if any client refused to consume methadone under supervision;
- Naloxone (opiate antagonist) testing as a pre-condition to admission;
- all clientele attended a centralized facility in Perth;
- linctus methadone, no tablets; and
- identification photo.

Phase four contained a mixture of both liberal and conservative elements, ie strict and relaxed controls, within the same policy; admission policy was conservative with the use of both objective (ie Narcan) and subjective measurement of a degree of physical addiction to opiates; dispensing policy was liberal in that it did not require supervised daily consumption at ADA premises after the first two weeks of treatment; prescribing policy was conservative, the maximum dose was 80 mg per day. In spite of the liberal dispensing policy through narrow interpretation of admission criteria the number in treatment declined from 232 in July 1979 to 176 in October 1980.

In April 1980 a non-government welfare organization (NGO), the Drug Research and Rehabilitation Association, now known as Palmerston Centre, was formed in Perth by a number of churches with the object of establishing a drug-free residential treatment program in a farm setting.[43] Sponsorship arose because some of the churches employed youth workers who had experience with young polydrug users, some of whom had used heroin. The Palmerston organization employed both professional welfare staff and a number of former drug users as counsellors. It was set up as

> *"an alternative to the methadone program ... One organizer the Rev. George Davies, believes that for many addicts the hospital situation is not suitable. "Many addicts need a more personalized situation - something less intimidating than a row of beds and uniformed staff,' he said."* (Daily News, 1980a).

In October 1980 Perth's second NGO drug rehabilitation agency, Cyrenian House, was established. It was founded by Mr (Richard) Rick Hamersley, the father of a young woman who had died in Perth from the use of prescription drugs. (Cf Murray, 1980.) This rehabilitation agency provided a residential drug-free program in the Perth inner city area, and unlike Palmerston Centre, largely employed former heroin users as its counselling staff. Both agencies had in common antithetical views about methadone treatment and that often staff had been former clientele of methadone treatment.

The establishment of these two NGOs increased the range of treatment options for drug users in Perth, however, both organizations were largely reliant on funding from the ADA The ADA may have been in a position of conflict of interest, as while it supported the State's methadone program it also heavily funded two agencies that were philosophically opposed to methadone treatment. These NGOs maintained high public profiles and were the subject of a number of highly favourable newspaper articles that promoted their philosophy and activities (see below). It is reasonable to suggest that funds that may have otherwise been used to improve the effectiveness of the methadone program, for instance, to establish 24 hour multi-site operations, instead were used to establish drug-free programs.

3.3.5 Phase 5: November 1980 - March 1985 - Maximum conservatism

This phase had the following characteristics:

- daily supervised oral consumption of all doses;
- denial of methadone for non-compliance with above, by automatic detoxification regime of 5 mg per day;
- strict proof of prior use of opiates, evidenced by rigorous use of Naloxone testing and narcotic urine scans;
- a delayed assessment process, including submission of written reports to a separate 'Decision Making Panel';
- linctus methadone, no tablets; and
- identification photo.

In August 1980 a large number of amendments were made to the Regulations of the Poisons Act and when gazetted in late October 1980 became the first legislative powers that encompassed the use of methadone as a treatment of addicts. These amendments did not have a policy orientation, but were a number of machinery provisions for the authorization of prescriptions, etc. An important feature of the policy of maximum conservatism which operated in the early 1980s was the enforcement of strictly supervised dispensing conditions, whereby clients were required to consume methadone under conditions of high surveillance.

Compliance with the strict controls introduced at this time was apparently regarded by clientele as being too onerous, for as from the September 1980 quarter to the December 1980 quarter 80

[43] The farm-based program, known as Palmerston Farm, was not established until March 1983 (Butterworth, 1984; O'Mahony, 1983; Parkinson, 1983).

individuals ceased participation in the methadone program. The number of persons in treatment continued to decline and by September 1981 there were just 87 persons in methadone treatment in this State. As can be seen in Table 3 there were only slight increases in the number of clients in methadone treatment, in December 1982 there were 151 persons in treatment and in December 1983 there were 126 persons in treatment. The size of the methadone treatment population started to increase in mid 1984, from 139 persons in March 1984 to 200 in June 1984, by December 1984 there were 239 persons in treatment and in March 1985 there were 249 persons in treatment.

Compared to the earlier phases, methadone policy and the problems associated with its use as a treatment for drug addiction were less frequently reported in the press in this State after 1980. A possible reason for this may have been the existence of the drug-free programs, which compared to the cautious and qualified medical description of the process of methadone treatment, gave positive and highly optimistic accounts of cure and individual betterment of the participants in their programs. There were a number of lengthy personal testimonies in the press that graphically described the suffering, anguish and confusion of families and individual drug users before they obtained satisfactory results from participation in the drug-free programs. (Cf Ayris, 1980; Clarke, 1982; Magnus, 1981a; Magnus, 1981b; Magnus, 1981c; Murray, 1981a; Murray, 1981b.)

In 1982 there was concern about another ‘crime wave’ in Perth purportedly due to the activities of drug addicts; for instance, chemists were concerned about the apparent increase in armed robberies of late night chemists (Parkinson, 1982). A ‘citizen's group’, formed in March 1982 by the retired public relations manager of the Swan Brewery, announced that it too would be "fighting drug abuse" through raising millions of dollars which would be given to treatment agencies.

> *“The project committee was looking for the right person to be chairman of the board of management of the foundation. 'We are looking for a man (sic) of great stature who is highly respected in Western Australia, who probably has a knighthood, and who would draw other men and women of distinction into the foundation' activities,' he said.”* (Condon, 1982a).

Unfortunately the foundation has not been publicly mentioned again. Concern about crime and the prevalence of heroin use in Perth continued, for instance, in October 1982 Mr Graham Nicholls, a counsellor from the Jesus People Incorporated (JPI) youth welfare organization asserted that there were 5,000 heroin users in Perth, that organized crime was involved in the supply of heroin, and that there would be a big increase in the number of addicts needing treatment. (Paterson, 1982) However, his opinion about the number of heroin users was disputed by the police and a number of other organizations (Ayris, 1982). It is possible that these comments were related to JPI’s interests in expanding its services into the drug rehabilitation field, as in March 1983 it opened its short-term detoxification service, The Bridge. (Maher, 1983)

As the three NGO drug-free rehabilitation agencies tended to compete with one another and provided similar services to small numbers of clients, it is arguable that funding of one large organization would have been a more efficient and cost effective approach to develop the drug free treatment approach in Perth. It is unclear whether these three NGOs provided services to individuals who would never have participated in methadone treatment, ie they expanded drug treatment services, or that they provided services to individuals who would have been or were participants in methadone, ie they were an alternative treatment service. If the latter were true then it could have been an explanation for the reduction in the size of the methadone treatment population in 1983 and 1984. However, as will be shown (below) in early 1983 private GPs in Perth started to prescribe ampoules of Temgesic to addicts, and this was the more likely reason for the decline in numbers in the methadone program.

The first newspaper article since 1980 about methadone treatment was published in March 1983. In this article the nursing staff who dispensed methadone were described as *“the fixers who hand out hope.”* The pejorative use of the term "fixers" implied that the methadone program was a source of free drugs rather than a bona fide treatment (Sinclair-Jones, 1983a). In March 1983 it was reported that a group of 80 drug addicts had sent a petition to the Minister for Health, Mr Barry Hedge, requesting

reviews of the methadone program. The petition also contained specific complaints about the methadone program, in particular that daily attendance imposed very high social costs and that the conditions of very strict surveillance were demeaning.

> *"doses of methadone had to be drunk in from of staff at the clinic. And that has angered the addicts, who say the ADA's refusal to distribute take home doses disrupts their home lives and gives the ADA too much power over them."* (Sinclair-Jones, 1983b).

The Minister for Health, Mr Hodge announced on the 11th June 1983 that methadone clientele would be able to obtain methadone from metropolitan hospitals, so that they would not be required to attend the ADA's William Street Clinic. However, *"Mr Hodge has told them he will not grant their request for take home methadone doses for weekends and holidays because current procedure conforms to national drugs policy."* (Sinclair-Jones, 1983c).

The ADA did establish small dispensing units at Fremantle and Osborne Park Hospitals, however these were expensive to run as they were fully operated by ADA staff, and as they only operated for three hours per day Monday to Friday, were not popular with clientele. These units were not administered by the hospitals (who were not enthusiastic about the service), were difficult for the ADA to support, and were eventually closed. In late 1983 a new opiate substitute drug, Temgesic, was reported as having been overprescribed by private GPs to addicts in Perth. Dr Patrick (Pat) Cranley who had been using this drug since May 1983 was interviewed about this new popular drug that was prescribed in an ampoule form.

> *"Dr Patrick Cranley who says he has prescribed the drug for about 80 patients, believes restricting the drug will drive addicts to get it by alternative and illegal means. ... 'I'm treating up to 40 young addicts a day at my surgery, and they all say they will never go to the ADA They say they are treated like criminals rather than as patients,' he said .... It was proving a better method of curing heroin addiction than the methadone treatment organized by the ADA, that required addicts to take the treatment over a longer period, Dr Cranley said."* (West Australian, 1983b).

During 1984 there were a number of newspaper reports about the use of Temgesic that favourably compared it to methadone treatment. (Abbott, 1984; Mills, 1984.) By the time the HDWA prohibited the prescription of Temgesic to addicts in April 1984 it was reported that Dr Cranley had prescribed the drug to 600 addicts (Murray, 1984a).

However given that the methadone program had adopted very strict admission, prescribing and dispensing policies at this time, heroin addicts could either seek admission to the drug-free programs or adopt other strategies to manage their habits. It is unclear what impact the three drug-free programs had at this time on the apparent increase in the number of heroin users in Perth as they have never published data on utilization of their services. It is known that these organizations obtained many of their referrals via the courts, at both the pre-conviction and post-conviction stages of the court process. As these referrals were to non-custodial programs they probably involved offenders who were more involved in a wider spectrum of drug use than just heroin alone and who committed less serious crime, as the courts were unwilling to provide non-custodial options to serious offenders, eg armed robberies of chemists.

In 1984 there were a number of deaths of addicts that were attributed to the restrictions being placed on Temgesic. (Barass, 1984; Matheson, 1984; Murray, 1984c; Murray, 1984d.) In a number of these articles criticisms were also made about the ADA methadone program. For instance, in May 1984 Dr Cranley had made a submission to the Select Committee On Alcohol and Drugs, in which he was reported as having stated *"Addicts could buy heroin from cars parked outside the ADA clinic in William Street."* (West Australian, 1984a). A Stipendiary Magistrate, Mr Terry Syddall, who also gave evidence to the same Select Committee claimed that

"Eastern States criminals were coming to Perth to get on the ADA's methadone treatment program .... In written transcripts of evidence tabled in State parliament this week, Mr Syddall advocated rehabilitation programs rather than methadone treatment .... Mr Syddall said that the ADA seemed to be doing very little except pumping people with methadone." (West Australian, 1984b).

Concern about heroin-related crime continued in Western Australian newspapers in 1983 (Ayris, 1983; Brown, 1983a; Brown, 1983b; West Australian, 1983a) and in 1984 (D'Orazio, 1984; Jarrett, 1984; Lang, 1984; Murray, 1984b; West Australian, 1984a). By early 1985 it was apparent that heroin use had again become linked with crime, and that there was considerable pressure to liberalise methadone policy. However there was not unanimous support for this proposition, as there were a number of proponents among the judiciary and the magistracy for rehabilitative drug-free treatment programs.

In February 1985 there was another article that set out the pros and cons for methadone treatment, based on the experiences of three participants in the program (Ayris, 1985a). In March 1985 representatives from methadone programs in New South Wales, Queensland, Victoria, South Australia and Western Australia were convened as an expert group to review the National Policy On Methadone;[44] the National Methadone Guidelines that were developed 91 by the expert group were endorsed at a meeting of the Australian Health Ministers in May 1985.

3.3.6 Phase 6: April 1985 - July1989 - Moderate liberality

This phase had the following characteristics:

- daily supervised oral consumption of all doses;
- after two - three months daily attendance at ADA all clients may have methadone dispensed from retail pharmacies up to six days per week, and attend ADA one day per week (chemist able to charge daily fee), subject to ADA veto if client considered to be unstable or unsuitable;
- admission based on medical and social factors, evidence of intravenous opiate use verified by physical examination and drug use history, Narcan testing rarely used;
- admission on same day of presentation if client in opiate withdrawal, otherwise' methadone provided next day;
- admission at presentation if client infected with HIV1, Hepatitis B carrier, pregnant, or other serious medical condition;
- linctus methadone, no tablets; and
- identification photo.

In early April 1985 the National Campaign Against Drug Abuse (NCADA) was launched and was the catalyst for the liberalization of access methadone treatment in the Australian States that conducted programs. In April 1985, consistent with the recommendations of the National Methadone Guidelines (NMG), the ADA liberalized admission criteria by giving more weight to social factors in determining admission to the program. Both naloxone testing and urine testing were practically abandoned as methods to determine eligibility and program compliance respectively. The heightened awareness of AIDS risk factors in the client population meant that high rates of admission to methadone treatment were achieved.

There was an increase of 57 in the number of participants in methadone treatment from the March 1985 quarter to the June 1985 quarter; by the December 1985 quarter the number of participants peaked at 358 and then declined to 269 at the end of the June 1987 quarter (Table 3). It is possible that undocumented restrictions were applied after December 1985 to reduce the number of persons in treatment and that there was overcrowding. Between October 1987 and February 1988 the ADA's methadone program was temporarily transferred to another location while William Street Clinic was remodelled to increase the amount of office space. (ADA Annual Report, 1988.)

[44] This had been issued by the NHMRC in November 1977, and had not ever been revised.

There may have been concern by the Federal government that further liberalization of the 1985 NMG was necessary, as at a meeting of the Australian Health Ministers' Conference in April 1987 it was resolved that the NMG be further revised. After consultations between State representatives in September 1987, the 1987 NMG was produced; these amendments were endorsed by the Ministerial Council on Drug Strategy in November 1987. It would appear that the amendment embodied in the 1987 NMG did have an impact in WA, for in spite of being run from temporary premises, the number of participants in the WA program increased after June 1987, until 475 persons were in treatment at the end of the June 1989 quarter. In July 1989 503 individuals participated in treatment, the highest number ever in the history of the WA methadone program.

The ADA program changed to what has been described elsewhere as a 'low threshold' methadone program, the object of which is to readily provide methadone with the object of reducing the risk of transmission of HIV amongst intravenous drug users. The philosophy of this approach *"is to get in touch with drug takers, particularly those at risk of contracting and spreading HIV infection, to encourage them into 'treatment' and to move them to less risky drug taking as a first step on a road leading ultimately to abstinence."* (Fleming 1989).

The assumption of less restrictions was that if an intravenous heroin user participated in methadone treatment the relative risk of contracting or spreading the virus (if he/she were infected) was significantly diminished as methadone largely replaced craving for heroin. It is further postulated that if a client in methadone treatment were to use drugs intravenously during the course of treatment it would be at a much lower frequency if the person was not on methadone, and that he/she would be less inclined to use non-sterile needles and syringes and more inclined to adopt lower risk practices because of positive benefits that accrued from exposure to health preventive measures integrated into the individual's methadone treatment experience.

The NCADA was designed to have a broad spectrum approach to drug problems with reliance on mass media awareness campaigns, however, surveys of general community attitudes found that heroin continued to be regarded as the most serious aspect of Australia's drug problem, in spite of very low rates of prevalence of heroin use, and that tobacco and alcohol cause nearly 30 times more premature deaths that the use of all other drugs. (Cf McAllister &Moore, 1988.) The NCADA did engender a higher degree of community support than in earlier times for methadone due to the perception of the seriousness of heroin use and the possibility of the spread of AIDS via heroin users through heterosexual contact into the wider community. During 1985 there was increased concern about drug use in the range of articles in the WA popu1ar press, for instance, the sponsorship in June 1985 by WA chiropractors of an educational forum. (Ross, 1985)[45]

In Ju1y 1985 there was a report that the methadone program and other drug treatment agencies in Perth were being 'swamped' by increases in the number of clientele seeking treatment (Lague, 1985). This increase prompted specu1ation by the police that the increase was proof that there had been an increase in heroin and associated crime in Perth (Ayris, 1985b). There are no reports that tested this assumption, as an equally plausible explanation was that heroin users were more willing to attend treatment agencies because of a perception that treatment had become less conditional, less concerned with cure and more concerned with their overall health and social well-being.

A pressure group, the Citizens Against Crime Association (CACA), took up the cudgels on behalf of law enforcement agencies when it claimed to have accurately quantified the cost of heroin use.

> *"CACA's survey of drug centres produced a 'guestimate' of 3000 addicts, plus a similar number of regu1ar and occasional users, shooting up a gram over two or three days ... The cost is $500 a*

[45] It is also likely that there was an element of self-interest in this sponsorship, that chiropractic healing wanted to be regarded as a "treatment" for drug problems.

gram and this means a spending of somewhere between $250,000 and $750,000 a day; so the market may run between $50 and $90 million a year in Perth. The effects of drug-related crime include the bulk of our breaking and entering offences and armed hold ups." (McKibbin, 1985).

The CACA also criticized parliamentarians for a purported light treatment of drug offenders in an article in October 1985 that claimed *"more than half of the crimes against property seem directly related to drugs."* In the Association's view *"WA's anti-drug laws were pecu1iarly out of touch with those in South East Asian countries, many of which now had the death penalty for drug offenders."* (West Australian, 1985a) In January 1986 it was announced that the Misuse of Drugs Act wou1d be amended, the effect of which it was reported was that *"serious drug traffickers wou1d be equated with wilfu1 murderers."* (Kennedy, 1986).

While the CACA advocated increased use of the criminal law, others such as Dr Cranley argued that treatment not punishment was the most appropriate policy. He said *"If a fraction of this money was spent on compulsory rehabilitation programs, such as Cyrenian House, Holyoake, Palmerston Farm or Teen Challenge, some lasting benefit to these young people might eventuate."* (Cranley, 1985).

There is an implicit criticism in Dr Cranley's comments that methadone treatment was not a legitimate form of treatment; in his case he was prepared to abandon a key principle of treatment, voluntariness, in favour of what could be called a 'soft jail' option, ie detention in a rehabilitation centre rather than a jail.

The concern about crime and drug use supported the proposition that drug offenders needed to be coerced into drug-free treatment programs through court-ordered treatment. In September 1985 the Government announced that it would be constructing an inpatient detoxification facility, the Central Drug Unit (CDU), jointly managed by the ADA and a number of NGOs, and that one of the express functions of the centre was to operate as the location for a Court Diversion Scheme (CDS) to divert drug offenders from the court system into abstinence treatment programs (Aisbett, 1985; Treweek, 1986a).

There was continued debate. in 1985 and 1986 about the merits of providing offending drug users with treatment instead of the conventional options, such as fines, good behaviour bonds, probation, community service orders, imprisonment or parole. (Cash, 1986a; Cash, 1986a; Parker, 1985; West Australian, 1985b.) However, comments by the Chief Stipendiary Magistrate, Sir Clifford Grant, when sentencing a man for offences purported to be related to the excessive use of alcohol and cannabis, indicates there may have been concern that diversion schemes could exculpate some types of offenders from punishment. Sir Clifford said

"The courts have said time and again that if a person chooses to drink to the point where they break the law they must face the consequences. The same applies to marihuana .... You don't need probation you need discipline." (Faull, 1985).

Sir Clifford's comments indicate that the magistracy and possibly the judiciary distinguished between the familiar 'soft drugs' such as alcohol and cannabis, and 'hard drugs' such as heroin. A Supreme Court judge, Mr Justice Brinsden, was quoted in the course of sentencing a couple for a series of armed robberies as saying that

"Armed robberies committed by desperate drug addicts were increasingly common but the drug problem was not being dealt with in the best way ... In sentencing them Mr Justice Brinsden said he did not think either was violent by nature. He said they were drug addicts apparently desperate for money for more narcotics and to payoff drug debts." (West Australian, 1986a).[46]

[46] However, His Honour's comments that this man and woman were not violent are puzzling, given their first robbery involved a pharmacy where a knife was "held to the chest of a female pharmacist" and their second robbery was of a liquor store and the use of a knife (West Australian, 1986c)

It is possible that the liberalization of the methadone program may have engendered concern by the drug-free agencies that their programs were being undermined. Whereas in previous phases the object of methadone treatment was the containment of the number of persons in treatment, in this phase it was the maximization of the number of intravenous heroin users in treatment and their increased retention in treatment.

It is submitted that because it was difficult for the drug-free programs to accommodate to a climate that emphasized minimisation of harm rather than cure; court- ordered referrals would have provided a means of preserving their original philosophies. An impact of the NCADA on drug treatment programs in this State was to sharpen the dichotomy between the methadone program and the drug-free programs. Prior to the NCADA methadone treatment was seen as providing a link to the drug-free programs; admission to methadone had included a demonstration of unsuitability for a drug-free program and representatives of the drug-free agencies were permitted to attend the methadone clinic on a regular basis to recruit clientele and undertake counselling.[47]

Post-NCADA there were a number of articles that detailed the positive features of the drug free programs. A theme in most of the articles was of personal ruin through crime and brief respite in drug treatment programs as the individuals concerned struggled to escape from a cycle of relapse and cure; the exception was one individual who was 'saved' through religious conversion. (Hamilton, 1986; Kent, 1986; Treweek, 1986c; Treweek, 1986d.) There was a report on the Cyrenian House rehabilitation program in May 1987 that emphasized that drug-free treatment was a cure for the problem of drug addict caused crime.

> *"To Perth's street people and drug addicts, it is known as the toughest place to go to kick a drug habit. To Perth's judiciary it has gained the reputation of showing results. Its no frills, hard-line program is often a refuge for diehard, desperate drug addicts who find themselves in trouble with the law. Magistrates are hesitant to release known drug addicts on parole when they know that their all-consuming habit will force them back to a life of crime. Cyrenian House is frequently called upon by Perth magistrates to take in offenders as a condition of their bail. The drug addict's choice is simple: Cyrenian House or gaol!"* (Majzner, 1987).

The dichotomy between methadone treatment and other modalities of treatment was apparent in a number of articles. There was an article in January 1988 about activities of the two other drug-free NGOs, Palmerston Centre and Jesus People Incorporated (Bennett, 1988) and in an October 1988 article the ADA's methadone program was described as "a landmark for junkies." The October article emphasized that the process of treatment for the clientele who attended WSC involved close scrutiny, *"they must open their mouths to talk as proof they have swallowed it and are not intent on sneaking it outside."* (Treweek, 1988).

An article in November 1988 about Palmerston Farm portrayed a completely different picture of the treatment experience of heroin users by emphasizing their health, freedom for external control and productivity. A highlight of the Palmerston Farm article was the story of a woman who had recently given birth to a 'healthy' new born child, and reference to her period of 'Band Aid' methadone treatment before she had came to live at the farm, under a court order (Cohen, 1988).

It was claimed in April 1986 that heroin use had continued to increase in Perth, described as a *"rising tide of heroin addiction"* and that "at least 8,000 people in Perth have used heroin since the early 1970s" (Treweek 1986b.) This may have been a plausible figure, considering that it referred to nearly two decades; the figure was extrapolated from a baseline of 1600 methadone registrations to the end of 1984, and that it was believed that only one in five heroin users ever sought treatment. However, a

[47] Pre-1985 applicants for methadone treatment were frequently required to make an appointment with one of the drug-free programs, unsuitability for a drug-free program supported consideration by the Decision Making Panel for admission to methadone treatment.

more helpful discussion would have been about the current size of the heroin using population at that time, not the cumulative number of users, as the article had not factored out heroin users who were either in remission, become permanently abstinent, moved interstate, were in jail or had died.

The public perception that heroin use was a growing problem in Perth continued with a front page article in The West Australian in November 1986, which reported that there had been a sharp increase in the number of heroin deaths, from six in 1984 to 17 in 1985 (Ayris, 1986). Assertions were made about Perth's heroin problem on the basis of this information despite a lack of evidence there was a cause and effect relationship between the number of deaths due 97 to heroin and the prevalence of heroin use or that mortality may be a function of other factors than the incidence of heroin use. Ironically the Chief Forensic Pathologist, Dr D. Pocock, who provided data for the article was quoted as saying that heroin was a *"gentle drug ... I see nothing wrong with administering heroin to somebody who feels he needs it to get through life."* (West Australian, 1986b.)

There was disagreement in April 1987 between the ADA and the three non-government agencies involved in the management of the proposed new detoxification centre, the Central Drug Unit (CDU), from which the CDS would be run (Aisbett, 1987). This frustration was directed at the ADA; for instance, in January 1987 the (State) Liberal Opposition spokesman for health, Mr John Bradshaw, demanded the resignation of the ADA's Director, Professor David Hawks, because of complaints of insufficient funding for non-government treatment programs (Hardcastle, 1987). These views were supported by the Federal Liberal Opposition's chairman of its task force on drugs, Mr Jim Sharp, who was visiting Perth at the same time (Treweek, 1987).

It is suggested that concerns by judicial and magisterial officers, a number of public figures and operators of drug treatment programs involved an element of frustration due in part to delays in the development of some treatment programs, such as the CDS, which required significant amounts of capital investment and involved complex inter- agency negotiations. The methadone program was less constrained, it was already established and did not require additional resources in the short-term to increase participation in treatment. Compared to other modalities of treatment it was less expensive and more cost effective in terms of achieving the goal of involving large numbers of heroin users in treatment to reduce AIDS risk behaviours.

In February 1988 it was reported that clients of the methadone program had complained about the ADA's lack of flexibility in providing them with methadone, in particular, that the weekday afternoon closing time of 3.45 pm was rigidly enforced (Aisbett, 1988). There may have been a justifiable basis to these complaints, however, we might also have expected interest by the press from time to time in complaints from clientele of the NGOs eg unfair or capricious exclusion from treatment and restrictions on freedom. No such reports have been published.

It is submitted that there was a pattern of bias in press reporting of the activities of drug treatment programs in Perth, namely that the methadone program generated 'bad' news, while the drug-free programs generated 'good' news. The implication of this bias is that the latter treatment was good, commendable, beyond criticism, required hard work and effort, and if failure occurred it was the fault of the addict; the former treatment was bad, too easy, and if failure occurred it was likely to be the fault of the methadone program and by definition the ADA.

In late 1988 there were reports that 'homebake' heroin was being manufactured by addicts and dealers in Perth; a technique of chemical conversion of over-the-counter pharmaceutical products that contained codeine into morphine and heroin (Cash, 1988; Hellewell, 1989; Power, 1989; West Australian, 1989a). It was believed that the illicit heroin market grew in Perth as a result of the availability of homebake, and because it was believed to contain significantly higher levels of morphine and heroin than South East Asian heroin, there was more addict-related crime. During 1988 and 1989 there were many reports concerned with robberies and other crime believed to be due to the activities of heroin addicts.

At the end of July 1989 the ADA placed restrictions on the number of persons who could be admitted to the methadone program. This revision of the moderate liberal methadone policy was associated with conflict between heroin users wanting to be admitted to the methadone program and the ADA.

> *"Violence against staff at the ADA's methadone clinic has prompted a petition demanding tighter security and more resources. The petition to the Minister for Health, Mr Wilson, brought the employment of a full-time security guard to protect doctors and nurses. Staff say the William Street Clinic can barely cope with the 500 drug users registered on a methadone substitution program."* (Adshead, 1989).

3.3.7 Phase 7: August - December 1989 - Moderate conservatism

This phase had the following characteristics:

- daily supervised oral consumption of all doses;
- after two - three months daily attendance at ADA clientele may have methadone dispensed from retail pharmacies up to six days per week and attend ADA only one day per week (chemist able to charge daily fee), subject to ADA veto if client considered to be unstable or disruptive;
- admission based on medical and social factors, evidence of intravenous opiate use verified by physical examination and drug use history, Narcan testing rarely used;
- waiting list created by only allowing up to three bookings for methadone assessment per day, all assessments transferred from William Street Clinic (methadone clinic) to Central Drug Unit (drug detoxification hospital);
- admission on same day of presentation if client in opiate withdrawal, otherwise methadone provided next day;
- admission at presentation if client infected with HIV1, Hepatitis B carrier, pregnant, or other serious medical condition;
- linctus methadone, no tablets; and
- identification photo.

The introduction of a waiting list and a transfer of assessments from WSC, where methadone was dispensed, to the CDU, were the principal measures adopted to restrict the rate of admissions into methadone treatment. These measures were apparently successful, as at the end of December 1989 there were 429 persons in methadone treatment, a drop of 46 from the June quarter.

The technique of regulation of demand for health services by queuing is a common method of rationing public goods (Le Grand, J. & Robinson, 1984, ch. 2). In the case of the ADA this was a skilful method to restrict growth in the methadone treatment population, however the policy conflicts with the public health objective of reducing the untreated population of heroin users. An argument that further resources were necessary to increase the number of participants in methadone treatment to reduce transmission of HIV infection among untreated intravenous heroin users was made in submission in late 1989 to the Select Committee Inquiry Into the National HIV/AIDS Strategy White Paper (1990: 153).

In July 1989 another working party was convened to revise the 1987 NMG. The 1989 revision, which has not yet been confirmed, sets out for the first time the case for different types of methadone treatment, in particular what was described as 'low intervention' programs. *"Low intervention programs may be appropriate to maximize the utility of limited resources and ensure accessibility to treatment. These programs could be run as a stream of a comprehensive methadone program or at separate locations."* (Draft National Methadone Guidelines, 1989).

The five objectives of methadone treatment in the 1987 NMG are modified in the 1989 revision to reflect the greater emphasis on improvement of the overall health of heroin users. For instance, the phrase 'to improve physical health' was revised by the removal of the term physical, and the objective in the 1987 NMG 'to decrease the criminal activity of opioid users' was amended to read 'to improve

the social functioning of patients and reduce the social costs of illicit opioid use'. Another important change was to the 1987 NMG statement that *"doses above 80 mgs per day are usually not required" to one that states "virtually all patients are able to be maintained on doses up to 100 mg per day."*

3.4 Conclusion

It was expected there would have been only a small amount of data available to construct a case history of the WA methadone program. If official reports had been the only source of information this statement would have been true and only a very limited study could have been made. A surprisingly rich and detailed source of previously undocumented information about the history of the methadone program was found in Western Australian newspaper articles.

Many of these articles were particularly valuable as they identified the opinions and views of key administrators, public figures and interest groups about methadone treatment and its role as an instrument of policy to deal with the State's heroin problem. The advantage of this 'unofficial' material was that it gave a much sharper presentation of the issues than was apparent in official material; much of the latter was sanitized so that it contained largely uncontentious material.

The case study found that over the period 1973 to 1989 there had been seven phases of methadone treatment in Western Australia. Changes in these phases paralleled the four phases of policy in New South Wales, the major difference being that Western Australia excluded private prescribers from late 1978. A significant influence on methadone policy in this State, especially since 1985, has been the development of a national methadone policy.

The first phase, which lasted from 1973 to May 1977, showed that the methadone program was supported almost completely by a number of private prescribers. Further, it was shown that as a result of an intense battle between the ADA and private practitioners during this phase, after May 1977 responsibility for the WA methadone program was shared between the ADA and the HDWA.

In the second phase, from June 1977 to August 1978, the social control aspects of the methadone program were strengthened through the use of powers under the Health Act to notify drug addicts, and of the use by the ADA of identity photos and a centralized clinic and dispensary.

The third and fourth phases, from September 1978 to June 1979, and from July 1979 to October 1980 respectively, were shown to be periods of experimentation by the ADA with methods of ensuring that methadone was provided only to 'genuine' addicts. During these phases the negative perception of the WA methadone program continued to grow by insinuation, that it was not a bona fide medical treatment but a 'band aid' response.

Phase five, which was from November 1980 to March 1985, was a period of a very conservative methadone policy, the object of which was to maintain a tightly regulated program and support the activities of the NGOs. Private prescribers became involved in the treatment of heroin users in the latter part of this phase, mostly it was suggested, as insufficient quantities of methadone were supplied by the ADA.

It was shown that phase six, from April 1985 to July 1989, was a turning point in the history of the WA methadone program as through the NCADA methadone treatment was liberalized. This phase meant that national concerns about methadone treatment, especially its utility as an AIDS preventive measure among intravenous drug users supplanted the previous parochial approach towards the heroin problem and methadone treatment. In phase six the number of participants grew strongly, to reach a peak of just over 500 in July 1989. In August 1989, the beginning of the seventh phase, the ADA introduced measures to restrict access to methadone treatment in WA and by the end of December 1989 there were 429 persons in treatment.

It was suggested that the history of the WA methadone program was a microcosm of attitudes and values about the heroin problem in this State over the period 1973 to 1989. The first perspective was that the problem was a matter of the application of appropriate penalties and pressures to force heroin addicts to become drug-free. The second perspective was that the problem was due to an illness of an uncertain origin which if untreated resulted in damage both to the health of the addict and the health of the community.

The case history also showed that methadone treatment changed from being a local reactive approach preoccupied with the problem of crime to a coordinated national health care program for men and women with complex medical and social problems.

4. Chapter 4: Conclusion and Summary

In this paper it was shown that Australia has had two different approaches to heroin use; in the period prior to the 1950s heroin was regulated by the medical profession and the pharmaceutical industry; since the 1960s heroin has been regulated by law enforcement agencies and syndicates of criminals. The post 1960s approach has been based on the presumption that the criminal law was the most effective instrument of policy as heroin is a dangerous drug and users constitute a risk to themselves and the community. This approach to the heroin problem was shown to have been used as the justification for increasingly severe penalties, expanded police powers and has supported court diversion schemes to coerce users into detoxification treatment programs.

The history of methadone treatment shows that it had been developed as complementary to the prohibition policy; early research reported highly favourable results in reducing the rates of crime and increasing the social stability of former heroin users. However policy makers became disillusioned with methadone treatment programs; during the 1970s and early 1980s there had been pressure on methadone programs in Australia and the United States to develop short-term rehabilitative approaches to treatment.

It was suggested that many of the pressures on methadone programs have been due to moral and political concerns; factual information has not had as significant an impact on policy makers as has public opinion. The role of the print media was found to be very important, at least in Western Australia, in supporting the perception that methadone treatment was a "back door" method of providing opiates.

The thesis suggests that the concept that methadone treatment programs provide health services to heroin users has not been well understood; however since 1985 the increased awareness about AIDS has provided a rationale for methadone to be freely provided with minimal conditions, to large numbers of individuals. The irony of current policy is that whereas in the 1970s and early 1980s the object of the methadone program was to develop a system of controls over small numbers of clientele, since the mid 1980s the object of methadone treatment has been to maximize the number of participants in treatment.

The paper has demonstrated that the public health model provides a useful explanation of heroin addiction as a disease that is infectious and transmitted by addicts to the rest of the community. This model was also found to have been a very important philosophical foundation for methadone treatment and in earlier phases of methadone policy was operationalised through the concept of competitive prescribing to reduce the demand for black market heroin. Since the mid 1980s methadone programs have been re-defined as public health measures to reduce the intravenous use of heroin by treated addicts and to disseminate AIDS preventive material.

A case history of the WA methadone program was completed, and this provided detailed information about policy changes at the State level and of the dilemmas and problems that are associated with methadone treatment. A number of specific issues were identified in the case study; these included: difficulties with the use of private versus public prescribers; potential conflict of interest between the Alcohol and Drug Authority's role as direct service provider, policy advisor and funder of non-government drug-free treatment programs; difficulties in the conceptualization of the role of methadone to reduce crime or as a treatment for individuals with medical and social problems; and the sensitivity of methadone programs to external political pressure.

The study suggests that there is a more complex relationship than generally believed between methadone programs and the population of heroin users, Data provided about the WA program indicates that rates of admission and discharge to methadone treatment is largely determined, at least in the short-term, by admission, prescription and dispensing policies. Unfortunately there is insufficient data on the prevalence of heroin we to test this proposition, however, data from other

jurisdictions supports the belief that policy has a fundamental role in determining the size of methadone treatment populations.

The history of the WA methadone program illustrates some of the problems in providing a health service to marginalized social groups like heroin users, as dominant interests regard the heroin problem as being one of the application of coercive measures to stop drug use. The isolation of methadone treatment programs from mainstream health services and the fact that they may be poorly supported by government means that there is the potential for the programs to be poorly implemented. If methadone treatment in this State was developed as a service for individuals and their families with complex health, social and personal problems, it would be desirable that responsibility for treatment involved general practitioners and other health services; such an approach would mean that treatment would be accessible throughout the State rather than from just a single clinic in the metropolitan area.

The thesis raises the suggestion that methadone treatment programs are connected to larger political concerns about the criminalization of heroin use and are a means to control and monitor the activities of a deviant group. In the past concern about crime was a major factor for the development of methadone programs; it is unclear at present whether concern about AIDS will ensure that methadone programs continue to be funded by government and supported by the community.

Appendices

Appendix 1: Survey Data Concerned With Heroin Use In Australia: 1960 - 1989

Authors	Nature of survey	Findings
Sainsbury (1967)	Sydney, attenders at general psychiatric facilities	5.3% attenders were "drug dependent"
Whitlock & Lowrey (1967)	Brisbane, survey of 517 psychiatric admissions November 1966 - January 1967	5 (0.9%) users of "other drugs" (narcotics) 'barely represented in the survey
Kyte-Powell (1968)	Melbourne, statistics from Victorian CIB Drug Bureau 1952 - 1967	In 1952 - 9 opiate addicts, in 1965 - 49 opiate addicts, 1966 - 51 opiate addicts, 1967 - 56 opiate addicts. In 1966 - 217 known opiate addicts in Australia.
Rosenberg (1968)	Sydney, 50 "drug addicts" aged 30 or less, attenders at hospitals and Long Bay jail - February - October 1967	36 (72%) had used heroin, morphine and cocaine
Wheeler & Edmonds (1969)	Sydney, 100 attenders at Drug Referral Centre, Kings Cross	37 (34%) persons used opiates
Abrahams, Armstrong & Whitlock (1970)	Brisbane, 3,248 patients attending 6 medical settings, eg psychiatric units, GPs, chest X-ray clinic	3 persons "dependent on narcotics"
Davis & Milte (1970)	Australia, records of 1,293 offenders in a database of 3,880 cases, assembled since May 1969 by Central Crime Intelligence Bureau, Federal police	92 (6.5%) of cases had used heroin; 229 (15.9%) had used heroin and morphine
Rankin (1971)	Review available research from New South Wales, Queensland and Victoria	Incidence of narcotic use in Australia - 0.9% - 6.5%
Le Fevre (1971)	New South Wales, review of persons born after 1939 who attended health, child welfare, corrective services, and public and psychiatric hospitals between 1965 - 1969 and who had been diagnosed as drug users - records of 2,182 "offenders" reviewed	503 (23%) cases "had at some time, abused narcotics".
Bridges-Webb (1972)	Provincial Victorian city, Traralgon, 371 families interviewed on use of drugs	No reported heroin use.
George (1972)	Sydney, community survey in 1971 of 639 persons in 279 households	6 (0.9%) reported narcotic use, 0.5% regular users
Hennessy, Bruen & Cullen (1973)	Canberra, community survey in 1971 of 1,422 persons in 525 households	Usage of "illegal" drugs not included in survey.

Krupinski & Stoller (1973)	Melbourne, 1972, survey of 3,950 persons aged 13-23	1.5% had used narcotics orally, 1.0 % had used intravenously; 0.4% current IV users, 0.9% oral users.
Healy (1975)	Sydney, 1973, survey of 1,000 persons aged 14 years and over	1.1% had used, 0.5% current users
Irwin (1975)	Canberra, survey of 5,000 high school students aged 12-17	1.4% had used heroin
Pougher (1975)	Perth, interviews by 6 agencies, psychiatric hospital, probation and parole service, prisons, child welfare department, tertiary institutions of 129 "illicit drug takers.	18 (14%) used heroin, 35 (27.1%) used morphine. "Actual addiction to drugs was very low."
Rogers (1975)	Australia, analysis of broad range of data related to federal offenders. Detailed breakdown for 1974 by age of offenders according to drug type.	
Reynolds, Harnas, Gallagher & Bryden (1976)	Sydney, survey of 8,516 adults in 1975 who had completed a comprehensive health screening questionnaire at Medicheck Referral Centre.	Heroin or other opiate use not reported.
Bell & Champion (1977)	New South Wales, analysis of 3 drug use surveys in 1971, 1972, 1973 of students aged 17-19 (sample of 7,500 persons).	Narcotics use increased from 1.5% of respondents in 1971 to 4.7% in 1973. 1.6% current users.
Astill (1977)	New South Wales, review of police statistics from 1959 - 1975 of persons convicted annually of drug offences.	Number of narcotics offenders rose from 5 (out of total of 9) in 1959 to 559 (out of a total of 4734) in 1975.
Gibson, Johansen, Rawson & Webster (1977)	Sydney, 1975 - 1976, analysis of histories of drug use of 10,829 attenders at mobile health screening unit.	Heroin or other opiate use not reported
Hall (1977)	Australia, analysis of database maintained by Australian Crime Intelligence Center, for the years 1971 - 1975.	Narcotics offenders were 18.5% (1971), 20.6% (1972), 17.4% (1973), 12.8% (1974), 11% (1975).
Ward1aw (1978)	Australia, 1977, analysis of criminal histories of 1,319 offenders in the ACIC database, (837 cannabis, 482 "narcotics") convicted of a drug offence.	Data found majority of the offenders (2/3) had prior criminal histories and that cannabis and narcotics offenders had similar histories and demographic details.
Mant & Thomas (1979)	Adelaide, research paper prepared for SA Royal Commission	Use and review of indicator-dilution methods of estimating heroin use in Adelaide, which estimated between 500 and 1500 regular users.

Mugford (1981)	Canberra, 1978, community survey of 548 persons aged 15 years and older.	Illicit drug use not reported.
Drew (1982)	Australia, review of ABS annual mortality data, 1969 - 1978.	Deaths due to all forms of drug use were compared, numbers are reported due to drug dependence, accidental poisoning, suicide.
Dobinson & Ward (1985)	New South Wales, 1983, sample of 225 prisoners convicted of property crimes.	38% of sample dependent heroin users - main reason for their imprisonment; 73% had used heroin.
Dobinson & Ward (1987)	Sydney, 1985, sample of 134 attenders at 8 drug treatment agencies.	52% sample regularly involved in property crime, which mostly increased after onset of regular heroin use; other rates of crime where reported, eg drug selling (69%).
McAllister & Moore (1988)	Australia, November - December 1985, quota sample of 2,791 of Australians aged 14 and over; usage and perception of tobacco, alcohol, marijuana, heroin, cocaine, over the counter drugs and prescribed drugs, inhalants and hallucinogens.	Less than 2% of respondents have used heroin; usage concentrated in specific age and gender groups (males in late 20s). Heroin use was found to be an activity that occurred in young adults rather than adolescents.
Dobinson & Poletti (1988)	Sydney, 1987, survey of 143 active heroin users/sellers in inner-city area	87% sample had at least one conviction; 78% regular property crime in the past; 55% had juvenile convictions.
Marlowe, Cooke & Farmer (1988)	Adelaide, re-application of technique developed by Mant & Thomas (1979)	Estimated number of opiate users in Adelaide in the early 1980s was between 530 and 725.
Wall (1989)	Western Australia, 1980 - 1985, study of the register of notified addicts maintained by the Health Department of WA.	Characteristics of the 1,191 persons had been notified as addicted to heroin.
Joint Committee On the Crime Authority (1989)	Australia, community surveys of drug use.	33,600 persons used heroin in past 12 months, 3,360 regular users, estimated annual consumption of 350 kg, value of $699 million.

Appendix 2: Selected List of Official Investigations Into Drug Use In Australia 1971-1989

Senate Select Committee on Drug Trafficking and Drug Abuse (1971) - the Marriott report.

Western Australian Honorary Royal Commission (1973) - the Williams inquiry; examined the need for a separate statutory organization to provide treatment services, develop drug prevention programs and undertake research into drug use in Western Australia.

Senate Standing Committee on Health and Welfare (1975) - the Brown report; a follow-up to the 1971 Marriott inquiry.

Senate Standing Committee on Social Welfare (1977) - the Baume inquiry; investigated the use of alcohol, tobacco, prescription drugs and cannabis.

New South Wales Joint Parliamentary Committee Upon Drugs (1978) - the Durick inquiry; examined the extent of drug problems and reviewed the performance of drug treatment programs in New South Wales.

New South Wales Royal Commission Into Drug Trafficking (1979) - the Woodward inquiry; had been sparked by the disappearance of Donald Mackay in Griffiths due to his revelations about large scale marijuana growing in the Riverina area.

South Australian Royal Commission Into the Non-Medical Use of Drugs (1979) - the Sackville inquiry; adopted a "big picture" approach, ie policy issues from drug use. A hallmark of this inquiry was its sponsorship of well researched studies and careful examination of the social consequences of licit and illicit drug use in South Australia.

Australian Royal Commission of Inquiry Into Drugs (1980) - the Williams inquiry; involved the Federal, Queensland, Victorian, Tasmanian and Western Australian governments.

Senate Standing Committee on Social Welfare (1981) - the Walters inquiry; undertook a detailed analysis of the use of prescription drugs in Australia.

Royal Commission Into Drug Trafficking (1982) - the Stewart inquiry; was a joint inquiry of the New South Wales, Victorian, Queensland and Federal governments.

Royal Commission Into the Activities of the Federated Ship Painters and Dockers Union (1982) - the Costigan inquiry; uncovered links between the union and criminal groups involved in heroin and other drug trafficking.

Western Australian Select Committee Inquiry (1984) - the Hill inquiry; reviewed treatment services in Western Australia, in particular the relationship between the statutory and non- government services and training and educational programs for health and welfare workers.

Report on the Non-Government Drug and Alcohol Services System (1985) - the Lansley Hayes and Storer report; investigated non-government drug treatment agencies in New South Wales with the object of demonstrating "the special characteristics and attributes of the non-government services system."

Committee of Review Into Drug and Alcohol Services in New South Wales (1985) - the Kerr report; concerned with the apportionment of funding between government and nongovernment treatment services, policy questions of the availability of alcohol and other licit drugs, and of means to increase the effectiveness of programs.

Joint Committee On the National Crime Authority (1989) . the Cleeland inquiry; investigated the policy consequences associated with the prohibition of drugs in Australia.

Tables

Table 2: Phases of WA methadone policy 1973- 1989

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7
	1973 - May 1977	June 1977 - August 1978	September 1978 - June 1979	July 1979 - October 1980	November 1980 - March 1985	April 1985 - July 1989	August 1989 - December4 1990
Policy	Maximum liberality	Moderate liberality	Moderate conservatism	Moderate liberality	Maximum conservatism	Moderate liberality	Moderate conservatism
Admission criteria							
Proof of addiction	No	Yes	Yes	Yes	Yes	No	No
Preference for medical conditions	No	No	No	No	No	Yes	Yes
Waiting list	No	No	No	No	Yes	No	Yes
Prescription criteria							
Maximum dosage	No	No	Yes	Yes	Yes	Yes	No
Time limit on treatment	No	No (GPs) Yes (ADA)	No	No	No	No	No
Dispensing criteria							
Identity photo	No	Yes	Yes	Yes	Yes	Yes	Yes
Urine monitoring	No (GPs) Yes (ADA)	No (GPs) Yes (ADA)	Yes	Yes	Yes	No	No
Unsupervised doses	Yes	Yes	No	Yes	No	No	No
Methadone linctus only	No	Yes	Yes	Yes	Yes	Yes	Yes
Multiple dispensing sites	Yes	No	No	No	No	Yes	Yes

Table 4: Quarterly WA methadone treatment population, 1978 - 1989

Year & quarter	Persons	Year & quarter	Persons
1978 Q1	259	1984 Q1	139
1978 Q2	287	1984 Q2	200
1978 Q3	273	1984 Q3	233
1978 Q4	237	1984 Q4	239
1979 Q1	260	1985 Q1	238
1979 Q2	230	1985 Q2	295
1979 Q3	217	1985 Q3	330
1979 Q4	219	1985 Q4	358
1980 Q1	206	1986 Q1	323
1980 Q2	190	1986 Q2	300
1980 Q3	175	1986 Q3	284
1980 Q4	95	1986 Q4	296
1981 Q1	94	1987 Q1	270
1981 Q2	99	1987 Q2	269
1981 Q3	87	1987 Q3	296
1981 Q4	119	1987 Q4	318
1982 Q1	118	1988 Q1	350
1982 Q2	130	1988 Q2	364
1982 Q3	145	1988 Q3	408
1982 Q4	151	1988 Q4	457
1983 Q1	149	1989 Q1	455
1983 Q2	132	1989 Q2	475
1983 Q3	134	1989 Q3	432
1983 Q4	126	1989 Q4	429

Table 5: Methadone consumption, WA & Australia, 1974 - 1981

Year		Western Australia		Australia
	Formulation	Kgs	gms/1,000 population	Kgs
1974	Tablets	0.695		20.243
	Syrup	0.023		1.254
	Ampoules	0.012		0.585
	Total	0.730	0.667	22.082
1975	Tablets	1.716		19.786
	Syrup	0.300		
	Ampoules	0.012		
	Total	2.028	1.806	27.976
1976	Tablets	2.852		22.742
	Syrup	0.187		8.377
	Ampoules	0.015		1.256
	Total	3.054	2.611	32.375
1977	Tablets	5.013		21.820
	Syrup	0.969		12.932
	Ampoules	0.004		1.158
	Total	5.986	5.000	35.910
1978	Tablets	1.234		13.685
	Syrup	3.359		19.558
	Ampoules	0.005		0.759
	Total	4.598	3.762	34.002
1979	Tablets	0.495		10.475
	Syrup	3.697		20.863
	Ampoules	0.013		0.787
	Total	4.205	3.383	32.125
1980	Tablets	0.357		10.116
	Syrup	2.890		19.970
	Ampoules	0.008		0.758
	Total	3.255	2.573	30.844
1981	Tablets	0.342		10.323
	Syrup	1.231		24.816
	Ampoules	0.011		0.624
	Total	1.584	1.219	35.763

Source: Indicators of illicit drug use in WA 1981-1989

Table 6: Methadone consumption, WA & Australia, 1982 - 1989

Year		Western Australia		Australia
	Formulation	Kgs	gms/1,000 population	Kgs
1982	Tablets	0.371		10.028
	Syrup	1.915		28.675
	Ampoules	0.007		0.621
	Total	2.293	1.715	39.324
1983	Tablets	0.436		11.483
	Syrup	2.219		32.253
	Ampoules	0.003		0.656
	Total	2.658	1.948	44.392
1984	Tablets	0.548		12.107
	Syrup	3.053		36.634
	Ampoules	0.003		0.653
	Total	3.604	2.605	49.394
1985	Tablets	0.508		10.954
	Syrup	4.140		52.075
	Ampoules	0.008		0.507
	Total	4.656	3.308	63.536
1986	Tablets	0.577		13.374
	Syrup	1.870		86.804
	Ampoules	0.004		0.471
	Total	2.487	1.726	100.649
1987	Tablets	0.703		12.453
	Syrup	1.667		82.064
	Ampoules	0.007		0.313
	Total	2.377	1.705	94.830
1988	Tablets	0.755		14.043
	Syrup	2.469		98.030
	Ampoules	-		0.240
	Total	3.224	1.599	112.313
1989	Tablets	0.990		15.811
	Syrup	2.903		110.146
	Ampoules	0.002		0.286
	Total	3.895	2.442	126.243

Source: Indicators of illicit drug use in WA 1981-1989

References

Abbott, S. (1984)
"The drug you don't get hooked on." *Daily News*, 6 January 1984.

Abrahams, M.J., Armstrong, J. & Whitlock, F.A. (1970)
"Drug dependence in Brisbane." *Medical Journal of Australia*. 2: 397-404.

Adshead, G. (1989)
"Attacks spark drug clinic call for tighter security." *West Australian*, 23 August 1989.

Agar, M.H. (1977)
"Into that whole ritual thing: ritualistic drug use among urban American heroin addicts." In Du Toit, B.M. (ed.) *Drugs, Rituals and Altered States of Consciousness*. Rotterdam: AA Balkema.

Agar, M.H. (1985)
"Folks and professionals: different models for the interpretation of drug use." *International Journal of Addictions*. 20: 173-182.

Aisbett, N. (1985)
"$1 million centre for addicts." *Western Mail*, 14 September 1985.

Aisbett, N. (1987)
"Private agencies quit drug unit plan." *Western Mail*, 11-12 April 1987.

Aisbett, N. (1988)
"Addicts hit clinic's hard line." *Daily News*, 22 February 1988.

Albert, E. (1986)
"Illness and deviance: the response of the press to AIDS." In Feldman, D.A & Johnson, T.M. (eds), *The Social Dimensions of AIDS: Method and Theory*. NY: Praeger.

Alcohol and Drug Authority (1982)
Directional Statement. Perth: WA Alcohol and Drug Authority.

Alcohol and Drug Authority
Annual Reports. Perth: WA Alcohol and Drug Authority.

Alcohol and Drug Authority (1985)
Policy and Procedures For Methadone Support. Perth: WA Alcohol and Drug Authority.

Alcohol and Drug Authority (1988)
Methadone Guidelines January 1988. Perth: WA Alcohol and Drug Authority.

Argo, P. & Campbell, J. (1979)
"Hundreds of WA teenagers hooked on hard drugs. Heroin trail ends in jail." *Sunday Times*. 27 May 1979.

Ashley, M.J. (1981)
"Alcohol, tobacco, and drugs: an audit of mortality and morbidity." In Drew, L.R.H., Stolz, P. & Barclay, W.A (eds). *Man, Drugs & Society - A Current Perspective. Proceedings of the First Pan-Pacific Conference on Drugs & Alcohol, Canberra, 26 February - 5 March 1980*. Canberra: Australian Foundation on Alcoholism and Drug Dependence.

Astill, K.S, (1977)
"Fifty years of drug law enforcement in New South Wales," *Australian Police Journal*, October 1977: 195-211.

Atlas, B, (1982)
"Attitudes of staff and clients in a methadone maintenance program." *International Journal of Addictions*. 17: 597-607.

Austin, N. (1986)
"Opium: $20 m barbed wire operation." *Bulletin*, 18 March 1986, 36-37.

Australia, Department of Community Services and Health (1988b)
National Methadone Guidelines. Guidelines For The Use of Methadone In The Treatment of Opiate Dependence. Canberra: Australian Government Publishing Service.

Australia, Department of Community Services and Health (1988b)
Taking the Initiative 1986 - 87: The Second Year of the Campaign Against Drug Abuse. Canberra: Australian Government Publishing Service.

Australia, Department of Community Services and Health (1989)
National HIV/AIDS Strategy. A Policy Information Paper. Canberra: Australian Government Publishing Service.

Australia, Department of Community Services and Health (1990a)
Draft National Methadone Guidelines. Guidelines For The Use of Methadone In The Treatment of Opioid Dependence. Canberra: Department of Community Services and Health.

Australia, Department of Community Services and Health (1990b)
Statistics On Drug Abuse In Australia. 1989. Canberra: Australian Government Publishing Service.

Australia, Department of Health (1985a)
National Campaign Against Drug Abuse. Campaign Document Issued Following the Special Premiers' Conference. Canberra. 2 April 1985. Canberra: Australian Government Publishing Service.

Australia, Department of Health (1985b)
National Methadone Guidelines. Guidelines For The Use of Methadone In The Treatment of Opiate Dependence. Canberra: Australian Government Publishing Service.

Australia, Department of Health (1987)
Taking The Initiative- National Campaign Against Drug Abuse 1985 - 86 Report. Canberra: Australian Government Publishing Service.

Australia, National Hospitals and Health Services Commission (1973)
A Community Health Program For Australia. Canberra: Australian Government Publishing Service.

Australia, Parliament, Senate Select Committee on Drug Trafficking and Drug Abuse (1971)
Report. Canberra: Australian Government Publishing Service.

Australia, Parliament, Senate Standing Committee on Health and Welfare (1975)
Continuing Oversight of the Report of the Senate Select Committee on Drug Trafficking and Drug Abuse. Report No. 1. Canberra: Government Printer.

Australia, Parliament, Senate Standing Committee on Social Welfare (1977) Drug Problems In Australia : An Intoxicated Society? (Baume, M. Chairman) Canberra: Australian Government Publishing Service.

Australia, Parliament, Senate Standing Committee on Social Welfare (1981)
Another Side To the Drug Debate: A Medicated Society? Canberra: Australian Government Publishing Service.

Australia, Parliament, Joint Committee On the National Crime Authority (1989)
Drugs, Crime and Society. Canberra: Australian Government Publishing Service.

Australia, Royal Commission of Inquiry Into Drugs (1980)
Reports (A . F) (Commissioner, Williams, E.S.) Canberra: Australian Government Publishing Service.

Australia, Royal Commission of Inquiry Into Drug Trafficking (1983)
Report. (Commissioner, Stewart, D.G.) Canberra: Australian Government Publishing Service.

Australia, Royal Commission On the Activities of the Federated Ship Painters and Dockers Union. 1983)
Organized Crime. Papers presented by D. Meagher Q.C. To the 53rd ANZAAS Congress, Perth, 16-20 May 1983. Canberra: Australian Government Publishing Service.

Australia, Royal Commission On the Activities of the Federated Ship Painters and Dockers Union. 1984)
Final Report, Volume 5. (Commissioner, Costigan, F.) Canberra: Australian Government Publishing Service.

Australian Foundation on Alcoholism and Drug Dependence, Social Policy Committee (1982)
Social Policies On Drugs: Alcohol, Cannabis, Heroin. A Discussion Paper Prepared By A National Workshop, 7 - 9 April 1981, Canberra. Canberra: Australian Foundation on Alcoholism and Drug Dependence.

Ausubel, D.P. (1983)
"Methadone maintenance treatment: the other side of the coin." *International Journal of Addictions*. 18: 851-862.

Ayris, C. (1975a)
" First armed drug theft worries CIB." *West Australian*, 6 June 1975.

Ayris, C. (1980)
"The desperate junkie who cheated death." *West Australian*, 27 December 1980.

Ayris, C. (1982)
"Heroin challenge for WA." *West Australian*, 15 November 1982.

Ayris, C. (1983)
"Pressure on police over bank hold-ups." *West Australian*. 3 September 1983.

Ayris, C. (l985a)
"Methadone: does it let you off the hook?" *West Australian*, 9 February 1985.

Ayris, C. (1985b)
"Dilemma over WA heroin supplies." *West Australian*, 22 July 1985.

Ayris, C. (1986)
"Heroin toll multiplies." *West Australian.* 1 November 1986.

Bacon, W. (1984)
"Heroin and the cops connection." *National Times*, 12-18 October 1984, 3-6.

Baldwin, R (1986)
The Cost of Methadone Maintenance: A Comparison Between Public Clinics and Private Practitioners' Programs in NSW. Sydney: New South Wales Drug and Alcohol Authority.

Barass, T. (1984)
"Penthouse Pet, man, found dead." *Sunday Times*, 10 June 1984.

Bar Association of New York (1979)
"The nation's toughest drug law: evaluating the New York experience." *Clinical Toxicology*. 15: 107-119.

Bates, E. & Linder-Pela, S. (1990)
Health Care Issues. Sydney, Alien & Unwin.

Batey, R (1988)
"Methadone maintenance in practice." In Gadding, R & Rankin, D. (eds), *Proceedings of 1988 Autumn School of Studies On Alcohol and Drugs*. Melbourne: Department of Community . Medicine, St. Vincent's Hospital.

Bayer, R (1978)
"Heroin addiction, criminal culpability and the penal sanction: the liberal response to repressive social policy." *Crime and Delinquency*. 24(2): 221-232.

Bell, D.S. (1971)
"Plan for a drug-dependence service for New South Wales. II Management of the problem." *Medical Journal of Australia*. 569-573.

Bell, D.S. (1974)
"Whether to manage the drug or the addict· that is the question." *Australian Journal of Alcohol and Drug Dependence*. 1(2): 37-39.

Bell, D.S. (1978)
"Letter to the Editor: Methadone." *Medical Journal of Australia*. 6 May 1978.

Bell, D.S. (1980)
"Australia and New Zealand." In Einstein, S. (ed.) *The Community's Response To Drug Use*. NY: Pergamon Press.

Bell, D.S. & Champion, RA (1977)
"The dynamics of trends in drug use in Australia." *Bulletin on Narcotics*. 29(3): 21-32.

Bell, P. (1983)
"Drugs as news: defining the social." *Australian Journal of Cultural Studies*. 1(2): 101-119.

Bell, P. (1985)
"Drugs and the media." *Australian Alcohol/Drug Review*. 4: 235-242.

Bell, P. (1986)
"Headlining drugs: an analysis of newspaper reports of drug-related issues in the New South Wales Press, 1980 . 81." *Technical Information Bulletin*. 77: 1-8.

Bennett, C. (1988)
"Shadows over Drug Offensive. They shoot to thrill· some just end up dead." *Sunday Times*, 17 January 1988.

Bennett, T. (1988)
"The British experience with heroin regulation." *Law & Contemporary Problems*. 51: 299-314.

Ben- Yehuda, N. & Einstein, S. (1984)
"Human garbage and physical garbage: a sociological case example of institutional violence." *International Journal of Addictions*. 19(1): 1-23.

Bernard, G. (1983)
"An economic analysis of the illicit drug market." *International Journal of Addictions*. 18(5): 681-700.

Berridge, V. (1980)
"United Kingdom: problems change with social change opium use in nineteenth century England." In Edwards, G. & Arif, A (eds). *Drug Problems In the Sociocultural Context. A Basis for Policies and Program Planning*. Geneva: World Health Organization.

Berridge, V. & Rawson, N.S.B. (1979)
"Opiate use and legislative control· a nineteenth century case study." *Social Science & Medicine*. 13A: 351-363.

Berridge, V. & Edwards, G. (1981)
Opium and the People - Opiate Use In Nineteenth. Century England. London: Allen Lane.

Berry, A (1981)
"Mr Asia· how the king of the heroin trade reached the end of the road." *Daily News*, 15 July 1981.

Besley, MA (1977)
"A national strategy for drug control." *Journal of Drug Issues*. 7(4): 319-332.

Best, J. (1987)
"Rhetoric in claims- making: constructing the missing children problem." *Social Problems*. 34: 101-121.

Bester, A (1981)
The Sydney Drug Diversion Program: The First Two Years. Sydney: Bureau of Crime Statistics and Research, Department of Attorney General and Justice.

Better Health Commission (1988)
Looking Forward To Better Health. Volume I. Canberra: Australian Government Publishing Service.

Blackmore, R.D. (1981)
"The phantom statistics." In Drew, L.R.H., Stolz, P. & Barclay, W.A (eds). *Man, Drugs & Society -A Current Perspective. Proceedings of the First Pan- Pacific Conference on Drugs & Alcohol, Canberra, 26 February . 5 March 1980*. Canberra: Australian Foundation on Alcoholism and Drug Dependence.

Blackwell, J. (1988)
"The saboteurs of Britain's opiate policy: overprescribing physicians or American-style 'junkies'." *International Journal of Addiction*. 23: 517-526.

Blewett, N. (1987)
National Campaign Against Drug Abuse: Assumptions, Arguments and Aspirations. Nineteenth Leonard Ball Oration, 11 March 1987. Canberra: Australian Government Publishing Service.

Bolton, M. (1984)
"The use of methadone in Queensland." *Australian Alcohol/Drug Review*. 3 (1): 41-44.

Bowden, C.L. & Maddux, J.F. (1972)
"Methadone maintenance: myth and reality." *American Journal of Psychiatry*. 129: 95-106.

Brecher, E.M. & the Editors of Consumer Reports (1972)
Licit and Illicit Drugs. Boston: Little Brown.

Bridges-Webb, C. (1972)
"Drug medication in the community." *Medical Journal of Australia*. 1: 675-679.

Brill, L. (1973)
"Introductory overview . historic background." In Chambers, C.D. & Brill, L. (eds). *Methadone: Experiences and Issues*. NY: Behavioral Publications.

Brown, B.S., Bass, U.P., Gauvey, S.K & Kozel, N.J. (1972)
"Staff and client attitudes toward methadone maintenance." *International Journal of Addictions*. 7: 247-255.

Brown, B.S., Janesen, D.R. & Berm, G.J. (1975)
"Changes in attitude toward methadone." *Archives of General Psychiatry*. 32: 214-218.

Brown, L. (1983a)
"Drug city - Perth's elite funds big heroin trade." *Sunday Independent*, 12 June 1983.

Brown, L. (1983b)
"The hard drug furore." *Sunday Independent*, 16 October 1983.

Brown, R. (1977)
"Federal drug-control laws: present and future." *Federal Law Review*. 8: 435-452.

Brown, V.A., Manderson, D., O'Callaghan, M. & Thompson, R. (1986)
Our Daily Fix: Drugs In Australia. Sydney: Australian National University Press

Bulletin on Narcotics (1953)
"History of heroin. " *Bulletin on Narcotics*. 5(2): 3-16.

Bulletin on Narcotics (1953)
"Legal trade in narcotics in 1951." *Bulletin on Narcotics*. 5(1): 48-54.

Burr, A. (1986)
"A British view of prescribing pharmaceutical heroin to opiate addicts: a critique of the 'heroin solution' with special reference to the Piccadilly and Kensington market drug scenes in London." *International Journal of Addictions*. 21(1): 83-96.

Burrows, D., Dickie, M., Langenberg, J. & Wodak, A (1990)
AIDS and Intravenous Drug Use- Overcoming the Obstacles to Change. Report of Proceedings and Recommendations of a National Workshop, Canberra, 1-2 May 1989. Canberra: AGPS.

Bush, R. A ed. (1986)
Exploring The Alcohol and Drug Crime Link: Society's Response. Canberra: Australian Institute of Criminology.

Butterworth, M. (1984)
"Farm therapy for drug addicts." *West Australian*, 24 April 1984

Campbell, J. (1979)
"Mother's brave war on drugs. Son seeks cure." *Sunday Times*, 29 July 1979.

Carlson, K. (1976)
"Heroin, hassle, and treatment: the importance of perceptual differences." *Addictive Diseases*. 2: 569-584.

Carlson, K.A (1977)
Identifying the stranger: an analysis of behavioural rules for sales of heroin. In Du Toit, B M. (ed.), *Drugs, Rituals and Altered States of Consciousness*. Rotterdam: AA Balkema.

Camey, T. (1981)
"The history of Australian drug laws: commercialism to confusion?" *Monash University Law Review*. 7: 165-204.

Carter, R M. (1972)
"The diversion of offenders." *Federal Probation*. 36(4): 31-36.

Cash, R. (1986a)
"Lock up my daughter· father." *West Australian*, 26 April 1986.

Cash, R. (1986b)
"Addict ordered to seek heroin help." *West Australian*, 2 May,

Cash, R. (1988)
"Home-made heroin seized." *West Australian*, 15 December 1988.

Chaiken, J.M. & Chaiken, M.R. (1982)
Varieties of Criminal Behaviour. Santa Monica, CA Rand Corporation.

Chambliss, W.J. (1977)
"Markets, profits, labour and smack." *Contemporary Crises*. 1(1): 53-76.

Clarke, D. (1982)
"The house of hope . addicts shown a new life." *West Australian*, 15 May 1982.

Coghlan, AJ., Pixley, L. & Zimmerman, R.S.
"Community health concepts and methadone maintenance: are they compatible?" *Community Mental Health Journal*. 10(4): 426-433.

Cohen, J. (1988)
"Cleaning up addictions." *West Australian*, 12 November 1988.

Cohen, S. (1979)
"The punitive city: notes on the dispersal of social control." *Contemporary Crises*. 3: 339-363.

Cohen, S. & Scull, A (eds) (1985)
Social Control and the State. London, Basil Blackwell.

Collins, E. (1982)
"A hospital-based drug screening program." *Australian Drug/Alcohol Review*. 1: 52.

Committee of Inquiry Into the Rate of Imprisonment (1981)
Report. (Dixon, O. Chairman) Perth: Government Printer.

Community Panel On Prostitution (1990)
Final Report. Perth: Minister for Police.

Condon, V. (1982a)
"Citizens declare war on drugs· foundation plan." *Daily News*, 5 March 1982.

Condon, V. (1982b)
"The problem nobody can ignore· fighting the drug battle." *Daily News*, 10 March 1982.

Connexions (1989)
"Methadone: through a glass darkly." *Connexions*. September/October 1989: 11-24 & November/December: 2-9.

Conrad, P. (1975)
"The discovery of hyperkinesis: notes on the medicalisation of deviant behaviour." *Social Problems*. 23: 12-21.

Cook, G.A. & Flaherty, B.J. (1981)
"The analysis of street drugs· New South Wales, 1978." In Drew, L.R.H. et al (eds). *Man, Drugs and Society - Current Perspectives. Proceedings of the First Pan- Pacific Conference on Drugs and Alcohol, 26 February . 5 March 1980*. Canberra: Australian Foundation on Alcoholism and Drug Dependence.

Cooper, J.R., Altman, F., Brown, B.S. & Czechowicz, D. (eds) (1983)
Research On the Treatment of Narcotic Addiction - State of the Art. Rockville, MD: National Institute on Drug Abuse, Department of Health, Education and Welfare.

Courtwright, D.T., Joseph, H. & Des Jarlais, D.C. (1981)
"Memories from the street: oral histories of elderly methadone patients." *Oral History Review*. 9: 47-64.

Courtwright, D.T., Joseph, H. & Des Jarlais, D.C. (1989)
Addicts Who Survived. An Oral History of Narcotic Use In America 1923-1965. Knoxville: University of Tennessee Press.

Cowling, J. (1981)
"Press treatment of the drug issue in Western Australia." *Media Information Australia*. August 1981: 43-47.

Coyle, K. (1976)
"Alcohol Drug Authority staffing is serious." *Daily News*, 13 October 1976.

Cranley, P. (1985)
"Letter to Editor: Drug addicts in prison need to be rehabilitated." *West Australian*, 2 September 1985.

Cross, M. (1984)
"A case for legal heroin." *New Scientist*, 20 September 1984: 10-11.

Curet, E., Langrod, J., Page, J. & Lowinson, J.H. (1985)
"Issues of transference in methadone maintenance treatment." *International Journal of Addictions*. 20: 435-448.

Daily New s (1974a)
"MP hits drug appointment." *Daily News*, 22 November 1974.

Daily News (1975a)
"Pusher threat to drug centre." *Daily News*, 25 January 1975.

Daily News (1976a)
"Prison is best for addicts: O'Connor." *Daily News*, 4 August 1976.

Daily News (1976b)
"Drug raiders get 6 years." *Daily News*, 3 August 1976.

Daily News (1976c)
"Labor to change the ADA." *Daily News*, 29 November 1976.

Daily News (l978a)
"Bill to curb drug abuse." *Daily News*, 4 May 1978.

Daily News (l979a)
"Methadone policies under fire." *Daily News*, 20 February 1979.

Daily News (1979b)
"Heroin pushing a problem at centre." *Daily News*, 8 March 1979.

Daily News (1979c)
"Drug users need new help." *Daily News*, 25 May 1979.

Daily News (1980a)
"Natural High - new hope for drug addicts." *Daily News*, 16 April 1980.

Dalton, M.S., Duncan, D. & Taylor, N. (1976)
"Methadone blockade in the treatment of opiate addiction: a follow-up study." *Medical Journal of Australia*. 1: 755-75 6.

Dalton, M.S. & Duncan, D.W. (1979)
"Fifty opiate addicts treated with methadone blockade - eight year follow-up." *Medical Journal of Australia*. I: 153-154.

Davidson, V. (1977)
"Love and hate in methadone maintenance." *American Journal of Psychoanalysis*. 37: 163-166.

Davies, S. (1986)
Shooting Up Heroin -Australia. Sydney: Hale & Iremonger,

Davis, J.M. & Milte, K.L. (1970)
"Drug use in Australia - a survey." *Australian and New Zealand Journal of Criminology*. 3: 131-141.

De Alarcon, R. (1968)
"Prevalence & early detection of heroin abuse." *British Medical Journal*. 2: 549-553.

De Alarcon, R. (1969)
"The spread of heroin abuse in a community." *Bulletin On Narcotics*. 21(3): 17-22.

Deiley, R. (1980)
"The heroin homicides." *Australian Playboy*. April 1980: 109-116.

Delaney, B. (1979)
Narc! Inside the Australian Bureau of Narcotics. Sydney: Angus & Robertson.

Dingle, A.E. (1980)
"The truly magnificent thirst: a historical survey of Australian drinking habits." *Historical Studies*. 19: 227-249.

D'Orazio, M. (1984)
"Heroin rife on Perth streets." *Daily News*, 9 May 1984.

Dobinson, 1. & Ward, P. (1985)
Drugs and Crime. A Survey of NSW Prison Property Offenders 1984. Sydney: New South Wales Bureau of Crime Statistics and Research, Attorney General's Department.

Dobinson, 1. & Ward, P. (1987)
Drugs and Crime- Phase II. A Study of Individuals Seeking Drug Treatment. Sydney: New South Wales Bureau of Crime Statistics and Research, Attorney General's Department.

Dobinson, 1. & Poletti, P. (1988)
Buying and Selling Heroin. A Study of Heroin User/Dealers. Sydney: New South Wales Bureau of Crime Statistics and Research, Attorney General's Department.

Dolan, K. (1989)
"HIV & AIDS. Intravenous drug use in New South Wales, Australia." *International Journal on Drug Policy*. 1(1): 22-26.

Dole, V.P. (1980)
"Addictive behaviour." *Scientific American*. 243(6): 136-143.

Dole, V.P. & Nyswander, M.E. (1965)
"A medical treatment for diacetylmorphine (heroin) addiction. A clinical trial with methadone hydrochloride." *Journal of American Medical Association*. 193: 80·84.

Dole, V.P. & Nyswander, M.E. (1967)
"Heroin addiction . a metabolic disease." *Archives of Internal Medicine*. 120: 19-24.

Dole, V.P. & Nyswander, M.E. (1976)
"Methadone maintenance treatment· a ten year perspective." *Journal of American Medical Association*. 235: 2117·2119.

Dole, V.P., Nyswander, M.E. & Wamer, A. (1968)
"Successful treatment of 750 criminal addicts." *Journal of American Medical Association*. 206: 2708-2711.

Dole, V.P., Robinson, J.W., Orraca, J., Towns, E., Searcy, P. & Caine, E. (1969)
"Methadone treatment of randomly selected criminal addicts." *New England Journal of Medicine*. 280: 1372-1375.

Dominelli, L. & McLeod, E. (1989)
Feminist Social Work. London: Macmillan.

Dorn, N. & South, N. (1986)
“Criminology and economics of drug distribution in Britain: options for control.” *Journal of Drug Issues*.16(4): 523-535.

Drew, L.R.H. (1982)
"What do we know about reducing drug-related problems?" *Australian Alcohol/Drug Review*. 1(1): 36-42.

Drew, L.R.H. (1982)
"Why are we concerned about drug use?" *New Doctor*. 25: 20-26.

Drew, L., Grigor, J. & Pols, R. (1987)
Report of the Mental Health Committee of NH & MRC Working Group On Methadone Programs. Canberra: National Health and Medical Research Council.

Drew, L.R.H. & Taylor, V.K. (1988)
The Second AIDS Epidemic - Spread Via Needle-Sharing to the General Community. Canberra: Department of Community Services and Health.

Drewe, R. (1981)
"Mr Asia: the deadly Australian connection exposed." *Bulletin*, 15 September: 82-88.

Drucker, E. (1986)
"AIDS and addiction in New York City." *American Journal of Drug and Alcohol Abuse*. 12: 165-81.

Dunne, J.W. (1983)
"Drug smuggling by internal bodily concealment." *Medical Journal of Australia*. 2: 436-439.

Duster, T. (1970)
The Legislation of Morality - Law, Drugs and Moral Judgement. NY: Free Press.

Editorial (1971)
"Drug trafficking and drug abuse." *Medical Journal of Australia*. 1: 1151-1154.

Edwards, A (1988)
Regulation and Repression. Sydney: Allen & Unwin.

Edwards, G. (1978)
"Some years on - evolutions in the 'British system' ." In West, D.J. (ed.), *Problems of Drug Abuse In Britain. Papers presented to the Cropwood Round-Table Conference, December 1977*. Cambridge: Institute of Criminology, University of Cambridge.

Edwards. G. (1979)
"British policies on opiate addiction: ten years working of the revised response and options for the future." *British Journal of Psychiatry*. 134: 1-13.

Ehrenreich, B. & J. (1974)
"Health care and social control." *Social Policy*. 5(1): 26-40.

Elliott, LD. (1982)
“Heroin: mythologies for law enforcers.” *Criminal Law Journal*. 6: 6-43.

Elliott, LD. (1983)
“Heroin myths revisited: the Stewart report.” *Criminal Law Journal*. 7: 333-345.

Ellis, A.S. (1972)
Investigation Into Drugs and Alcohol 1971. Perth: Mental Health Services.

Engelsman, E.L. (1989)
"Dutch policy on the management of drug-related problems." *British Journal of Addictions*. 84: 211-218.

Epstein, E.J (1974)
"Methadone: the forlorn hope." *The Public Interest*. 36: 3-24.

Farrelly, FG., Jee, J.F, Griffiths, W. & Parker, G.F. (1977)
Report of the Working Party Established To Investigate the Drug Methadone and Its Use In the Community. Perth: Alcohol and Drug Authority.

Faull, S. (1985)
"Alcohol, drugs no mitigation, says chief SM." *West Australian*, 29 November 1985.

Finnegan, L.P. (1983)
"Clinical perinatal and developmental effects of methadone." In Cooper, J.R., Altman, F., Brown, E.S. & Czechowicz, D. (eds). *Research On the Treatment of Narcotic Addiction . State of the Art*. Rockville, MD: National Institute on Drug Abuse, Department of Health, Education and Welfare.

Fleischman, S. (1987)
Report From the National Methadone Workshop, 30-31 March 1987. Sydney: NSW Drug & Alcohol Authority.

Fleming, P. (1989)
"A low threshold methadone programme." *Drug link*. March/April 1989.

Friedman, S.R., Des Jarlais, DC., Sotheran, J.L., Garber, J., Cohen, H. & Smith, D. (1987)
"AIDS and self-organization among intravenous drug users." *International Journal of Addictions*. 22: 201-219.

George, A. (1972)
"Survey of drug use in a Sydney suburb." *Medical Journal of Australia*. 2: 233-237.

Gerstein, D.R. (1976)
"The structure of heroin communities in relation to methadone maintenance." *American Journal of Drug & Alcohol Abuse*. 3: 574-587.

Gibson, J., Johansen, A., Rawson, G. & Webster, 1. (1977)
"Drinking, smoking and drug-taking patterns in a predominantly lower socioeconomic status sample - comparison with Medicheck sample." *Medical Journal of Australia*, 2: 459-461.

Giffen, J. (1975)
"The criminal courts and the control of addictions." In Friedland, M.L. (ed.) *Courts and Trials: A Multidisciplinary Approach*. Toronto: University of Toronto Press.

Glenister, L. (1985)
"Pretty girl pulls fake note trick." *Sunday Times*. 2 June 1985.

Goldman, F. (1981)
"Drug abuse, crime and economics: the dismal limits of social choice." In Inciardi, J.A. (ed.), *The Drugs-Crime Connection*. Beverly Hills, CA: Sage.

Goldsmith, DS., Hunt, D.E., Lipton, D.S. & Strug, D.L. (1984)
"Methadone folklore: beliefs about side effects and their impact on treatment." *Human Organization*. 43: 330-340.

Goldstein, A. (1979)
"Recent advances in basic research relevant to drug abuse." In DuPont, R., Goldstein, A. & O'Donnell, J. (eds) *Handbook On Drug Abuse*. Rockville, MD: National Institute on Drug Abuse.

Gorring, P. (1978)
"Multinationals or mafia: who really pushes drugs?" In Wilson, P.R. & Braithwaite, J. (eds). *Two Faces of Deviance*. St Lucia, Queensland: University of Queensland Press.

Goldstein, A. (1976)
"New approaches to the treatment of heroin addiction: STEPS (Sequential Treatment Employing Pharmacological Supports)." *Journal of Psychedelic Drugs*. 8: 191-198.

Goldstein, A. & Addiction Research Foundation (1975)
The Status of Methadone Maintenance. Report to the Committee on Problems of Drug Dependence, National Academy of Science.

Gould, L.C. (1974)
"Crime and the addict: beyond common sense." In Inciardi, J.A. & Chambers, C.D. (eds). *Drugs and the Criminal Justice System*. Beverly Hills, CA: Sage.

Great Britain, Ministry of Health (1961)
Drug Addiction, Report of the Interdepartmental Committee. (Chairman Lord Brain): London: HMSO.

Great Britain, Ministry of Health (1965)
Drug Addiction, The Second Report of the Interdepartmental Committee. (Chairman Lord Brain). London: HMSO.

Greeley, J. & Gladstone, W. (eds) (1987)
Methadone Programs In Australia » Policy and Practice. Proceedings from the National Methadone Workshop, 30-31 March 1987. Sydney: National Drug & Alcohol Research Centre, University of NSW.

Greene, M.H. (1974)
"An epidemiologic assessment of heroin use." *American Journal of Public Health* (Supplement). 64: 1-10.

Gronbladh, L., Ohlund, L.S. & Gunne, L.M. (1990)
"Mortality in heroin addiction - impact of methadone treatment." *Acta Psychiatrica Scandanavica*. 82: 233-237.

Gubar, G. (1978)
"Methadone: blessing or curse?" *Federal Probation*. 42: 15-21.

Gusfield, J.R. (1963)
"Symbolic crusade." Reprinted in Traub, S.H. & Little, C.B. (eds), *Theories of Deviance*. Itasca: Peacock (1985).

Gusfield, J.R. (1967)
"Moral passage: the symbolic process in public designations of deviance." *Social Problems*. 15: 175-188.

Gusfield, J. (1975)
"Categories of ownership and responsibility in social issues: alcohol abuse and automobile use." *Journal of Drug Issues*. 5(4): 285-303.

Gusfield, J.R (1981)
The Culture of Public Problems. Chicago: U. Chicago P.

Gusfield, J.R (1989)
"Constructing the ownership of social problems: fun and profit in the welfare state." *Social Problems*. 36: 431-441.

Haines, G. (1976)
The Grains and Threepenn'orths of Pharmacy: Pharmacy in N.S.W.1788 - 1976. Kilmore: Lowden Publishing.

Haines, H.H. (1979)
"Cognitive claims- making, enclosure, and the depoliticization of social problems." *Sociological Quarterly*. 20: 119-130.

Hall, M.C. (1977)
"Illicit drug abuse in Australia· a brief statistical picture." *Journal of Drug Issues*. 7(4): 311-318.

Hall, R. (1981)
Greed: The Mr Asia Connection. Sydney: Pan.

Hall, S. (1974)
"Deviance, politics, and-the media." In Rock, P. & McIntosh, M: (eds), *Deviance and Social Control*. London: Tavistock.

Hamilton, J. (1986)
"Addicts· battle to break the circle." *West Australian*. 14 June 1986.

Hanson, B., Beschner, G., Walters, J.M. & Bovelle, E. (eds) (1985)
Life With Heroin: Voices From The Inner City. Lexington, MA: Lexington Books.

Hardcastle, S. (1987)
"Opposition calls for ADA inquiry." *Sunday Times*. 18 January 1987.

Harding, W.M. & Zinberg, N.E. (1977)
"The effectiveness of the subculture in developing rituals and social sanctions for controlled drug use." In Du Toit, B.M. (ed.) *Drugs, Rituals and Altered States of Consciousness*. Rotterdam: AA Balkema.

Harney, M.L. (1964)
"Trial and failure of the ambulatory treatment of (opiate) drug addiction in the United States." *Bulletin on Narcotics*. 16(2): 29 . 40.

Hartnoll, RL., Mitcheson, M.C., Battersby, A, Brown, G., Ellis, M., Fleming, P. & Hedley, N. (1980)
“Evaluation of heroin maintenance in controlled trial." *Archives of General Psychiatry*. 37: 877-884.

Hawks, D. (1988)
"The proposal to make heroin available legally to intravenous drug abusers." *Medical Journal of Australia.* 149: 455-456.

Hawks, D. (1990)
"Heroin: the implications of legalization," *Modern Medicine*. February 1990, 34-39.

Hayward, L. (1989)
Indicators of illicit Drug Use In Western Australia 1981 - 1988. Perth: Health Department of WA.

Healy, P. (1975)
Use of Psychotropic Drugs In Australia. *Informed Opinion*. 14.

Healy, P. (1978)
Patterns of Drug Use In Australia: 1970-1977. Sydney: Drug Education Unit, Health Commission of New South Wales.

Heather, N. & Tebbutt, J. (eds) (1989)
The Effectiveness of Treatment for Drug and Alcohol Problems - An Overview. Canberra: Australian Government Publishing Service.

Heien, D.M. & Pittman, D.J. (1989)
"The economic costs of alcohol abuse: an assessment of current methods and estimates." *Journal of Studies On Alcohol*. 50: 567-579.

Hellewell, W. (1989)
"Court warned of home-bake drugs threat." *West Australian*. 22 February 1989.

Helmer, J. (1977)
"The connection between narcotics and crime." *Journal of Drug Issues*. 7(4): 405-418.

Hennessy, B.L., Bruen, W.J. & Cullen, J. (1973)
"The Canberra Mental Health Survey· preliminary results." *Medical Journal of Australia*. 1: 721-728.

Hess, A.G. (1980)
"Historical and theoretical considerations for drug use intervention." In Einstein., S. (ed.), *The Community's Response To Drug Use*. Sydney: Pergamon,

Himmelstein, J.L. (1978)
"Drug politics theory: analysis and critique." *Journal of Drug Issues*. 8(1): 37-52.

Hirst, D. (1979)
Heroin In Australia. Melbourne: Quartet.

Holahan, J.F. (1972)
"The economics of heroin." In Wald, P.M. et al (eds) *Dealing With Drug Abuse - a Report to the Ford Foundation.* NY: Macmillan.

Hughes, E.C. (1962)
"Good people, dirty work." *Social Problems*. 10: 3-11.

Hughes, P. H. & Crawford, G.A. (1972)
"A contagious disease model for researching and intervening in heroin epidemics." *Archives of General Psychiatry*. 27: 149-155.

Inciardi, J.A. (1977)
Methadone Diversion: Experiences and Issues. Rockville, MD: National Institute On Drug Abuse, US Department of Health, Education and Welfare.

lnciardi, J.A. & McBride, D.C. (1989)
"Legalization: a high risk alternative in the war on drugs." *American Behavioral Scientist*. 32: 259-289.

Indermaur, D. & Upton, K (1988)
"Alcohol and drug use patterns of prisoners in Perth." *Australian New Zealand Journal of Criminology*. 21: 144-167.

Irwin, R.P. (1975)
"The Australian National University drug education project." In Pang, H., Scully, G. & Stolz, P. (eds). *Alcohol and Other Drug Dependencies In the Australian Capital Territory*. Canberra: Council of Social Services.

Jackson, 1. (1989)
"Heroin: the case against legalization." *Australian Medicine*. 1(7): 165.

Jaffe, J.H. (1971)
"Narcotic analgesics." In Goodman, L.S. & Gilman, A. (eds), *The Pharmacological Basis of Therapeutics*. NY: Macmillan.

Jarrett, 1. (1984)
"Drug addict's crime spree." *Daily News*. 30 October 1984.

Johnson, B.D. (1975)
"Righteousness before revenue: the forgotten moral crusade against the Indo-Chinese opium trade." *Journal of Drug Issues*. 5: 304-326.

Johnson, B.D. (1977)
"How much heroin maintenance (containment) in Britain?" *International Journal of Addictions*. 12: 361-398.

Kane, M.E. (1978)
"Substance abuse and the myth of rehabilitation." *State and Mind*. 6(4) & 7(1): 50-52.

Kaplan, J. (1976)
"A primer on heroin." *Stanford Law Review*. 27: 801-826.

Keeley, KA. (1979)
"Recent policy changes favouring abstinence from methadone." *Contemporary Drug Problems*. 6: 445-454.

Kennedy, P. (1986)
"Pusher equals killer under proposed laws." *West Australian*. 14 January 1986.

Kent, M. (1986)
"Double life of heroin addict." *Morley/Mirrabooka Weekly*. 8 July 1986.

Kerr, C.B., Challenor, W., Morey, S., Sargent, T. & Whitlam, F. (1985)
Final Report of Committee of Review Into Drug and Alcohol Services in New South Wales. Sydney: New South Wales Department of Health.

Kirby, M.D. (1983)
Drugs, Problems of reform and living It Down. Address to National Drug Institute, Brisbane, 19 May 1983. Canberra: Australian Law Reform Commission.

Kittrie, N.N. (1976)
The Right To Be Different: Deviance and Enforced Therapy. NY, Penguin

Kleber, H.D. (1982)
"The interaction of a treatment program using opiates for mental illness and an addiction treatment program." In Vereby, K. (ed.) *Opioids In Mental illness: Theories, Clinical Observations and Treatment Possibilities.* Annals of New York Academy of Sciences, Volume 398. NY: New York Academy of Sciences.

Klein, D. (1983)
"Ill and against the law: the social and medical control of heroin users." *Journal of Drug Issues*. 13(1): 31-55.

Kozel, N.J. & Adams, E.H. (1986)
"Epidemiology of drug abuse: an overview." *Science*. 234: 970-974.

Kleiman, P.H., Lukoff, LF. & Kail, B.L. (1977)
"The magic fix: a critical analysis of methadone maintenance treatment." *Social Problems*. 25: 208-214.

Kramer, J.C. (1972)
"A brief history of heroin addiction in America." In Smith, D.E. & Gay, G.R (eds), *It's So Good, Don't Even Try It Once: Heroin In Perspective*. Englewood Cliffs, N.J.: Prentice-Hall,

Kramer, J.C. (1978)
"Social benefits and social costs of drug control laws." *Journal of Drug Issues*. 8: 1-7.

Kramer, J.C. (1979)
"Opium rampant: medical use, misuse and abuse in Britain and the West in the seventeenth and eighteenth centuries." *British Journal of Addiction*. 74: 377-389.

Kreek, M.J. (1978)
"Medical complications in methadone patients." In Kissin, B., Lowinson, J.H. & Millman, RB. (eds) *Recent Developments In Chemotherapy of Narcotic Addiction*. Annals of New York Academy of Sciences, Volume 311. NY: New York Academy of Sciences.

Kreek, M.J. (1983)
"Health consequences associated with the use of methadone." In Cooper, J.R, Altman, F., Brown, B.S. & Czechowicz, D. (eds). *Research On the Treatment of Narcotic Addiction : State of the Art*. Rockville, MD: National Institute on Drug Abuse, Department of Health, Education and Welfare.

Krivanek, J. (1988)
Heroin: Myths & Reality. Sydney: Alien & Unwin.

Krupinski, J. Stoller, N. (1973)
Drug Use By the Young Population In Melbourne. Melbourne: Mental Health Authority of Victoria.

Krupinski, J., Stoller, A & Graves, G.D. (1977)
"Drug use among the young population of the State of Victoria: a metropolitan and a rural city survey." *Journal of Drug Issues*. 7(4): 365-376.

Kusan, G. (1978)
"Addicts disturbed by new changes in treatment." *Southern Focus*. September 1978.

Kyte-Powell, R (1968)
"The magnitude of the problems in the community and possible solutions." *Medical Journal of Australia*. 2: 1070-1071.

Lague, D. (1985)
"Addicts fill clinics for treatment." *West Australian*. 13 July 1985.

Lang, J. (1984)
"Crime linked to drugs." *Daily News*. 30 September 1984.

Lansley Hayes and Storer Consultants (1985)
A Report On the Non-Government Drug and Alcohol Services System In New South Wales. Sydney: Network of Alcohol and Drug Agencies.

Lasch, C. (1979)
Haven In A Heartless World - The Family Besieged. NY, Basic Books.

Laurence, J.D. & Novitch, M. (1980)
“Joint Revision of Conditions for Use of Methadone for Treating Narcotic Addicts.” *Federal Register*. 45: 62694-62718.

Leader-Elliott, LD. (1986a)
"Heroin in Australia: the costs and consequences of prohibition." *Journal of Drug Issues*. 16(2): 131-152.

Leader-Elliott, LD. (1986b)
"Prohibitions against heroin use: can they be justified?" *Australian & New Zealand Journal of Criminology*. 19: 225-250.

Leech, K (1981)
"John Petro, the junkies' doctor." *New Society*. 56: 430-432.

Le Fevre, C.G. (1971)
"A factual study of drug dependence and drug abuse during 1965 - 1969 in New South Wales: a summary." *Medical Journal of Australia*. 395-397.

Le Grand, J. & Robinson, R. (1984)
The Economics of Social Problems - The Market Versus The State. London, Macmillan.

Lernoux, P. (1984)
"Blood money." *American Penthouse*, April 1984, 68-70, 72, 172-177.

Levengood, R., Lowinger, P. & Schooff, K. (1973)
"Heroin addiction in the suburbs - an epidemiologic study." *American Journal of Public Health*. 63: 209-214.

Levin, G. et al (1972)
"Narcotics and the community: a system simulation." *American Journal of Public Health*. 62: 861-873.

Levine, S. & Kozloff, M.A (1978)
"The sick role: assessment and overview." *Annual Review of Sociology*. 4: 317 - 43.

Lewis, D.L. (1976)
"Colour it black: the failure of drug abuse policy." *Social Policy*. 6(5): 26-32.

Liddy, M.J. (1978)
Epidemiology of Fatalities Related to the Abuse of Narcotic Analgesic Drugs in N.S.W.& A.C.T., 1974·1977. Sydney: Division of Analytical Laboratories, N.S.W. Health Commission.

Lidz, C.W. & Walker, A.L. (1977)
"Therapeutic control of heroin: differentiating legal and psychiatric controls." *Sociological Inquiry*. 47: 294-321.

Liverani, M.R. (1989)
"Drugs - time for law reform?" *Financial Review*, 21 July 1989.

Lonie, J. (1979)
A Social History of Drug Control in Australia. Adelaide: South Australian Royal Commission Into The Non-Medical Use of Drugs.

Lorber, J. (1967)
"Deviance as performance: the case of illness." *Social Problems*. 14: 300-310.

Ma, H. & Edmonds, C. (1969)
"Drug referral centre." *Medical Journal of Australia*. 2: 289-294.

Mackay, I. R., Sinclair, C., Wilkinson, P. & Travers, D. (1974)
Drug Dependence In Victoria. Report of the Study Group of the Victorian Foundation on Alcoholism and Drug Dependence. Melbourne: Victorian Foundation on Alcoholism and Drug Dependence.

Mackintosh, D.R. & Stewart, G.T. (1979)
"A mathematical model of a heroin epidemic: implications for control policies." *Journal of Epidemiology and Community Health*. 33: 299-304.

Magnus, J. (1981a)
"The addicts: Hold-up man said 'thanks'." *Daily News*, 26 March 1981.

Magnus, J. (1981b)
"The addicts: Dad doesn't know." *Daily News*, 27 March 1981.

Magnus, J. (1981c)
"The addicts: Blind man's buff." *Daily News*, 30 March 1981.

Maher, J. (1983)
"Young addicts find a shelter." *West Australian*, 5 March 1983.

Maiden, A.N. (1986)
"Death and drugs in Malaysia." *Time*, 21 July 1986: 15-16.

Majzner, M. (1987)
"The house of hope." *Daily News*, 26 May 1987.

Mandelberg, T. (1988)
"Methadone: magic or madness?" *Australian Drug and Alcohol Review*. 7: 209-215.

Manderson, D. (1987)
Proscription and Prescription - Commonwealth Government Opiate Policy 1905 - 1937. Canberra: Australian Government Publishing Service.

Manderson, D.R.A. (1988)
"Iatrogenesis? Medical power and drug laws 1900-30." *Australian Drug and Alcohol Review*. 7: 455-465.

Manderson, D.R.A. (1988)
"The first loss of freedom: early opium laws in Australia." *Australian Drug and Alcohol Review*. 7: 439-453.

Manning, N. (1987)
"What is a social problem?" In Loney, M. (ed.) *The State of the Market : Politics and Welfare in Contemporary Britain.* London: Sage.

Mant, A. & Thomas, B. (1979)
Estimating the Prevalence of Opiate Use In South Australia. Adelaide: South Australian Royal Commission Into Drugs.

Marks, RE. (1974)
"The heroin problem: policy alternatives in dealing with heroin use." *Journal of Drug Issues*.4: 69-91.

Marks, R. (1988)
A Freer Market For Heroin In Australia: Alternatives to Subsidizing Organized Crime. Sydney: Australian Graduate School of Management, University of New South Wales.

Marks, R. (1989)
"Heroin: the case for legalization." *Australian Medicine*. 1(7): 164.

Marlowe, R, Cooke, R & Farmer, A. (1988)
Estimates of the number of regular illegal opiate users in South Australia: an update and evaluation." *Community Health Studies*. 12(3): 314-321.

Martin, C. (1975)
"Drug recovery centre planned." *West Australian*. 1 December 1975.

Martin, C. (1977a)
"Perth's heroin addicts." *West Australian*. 21 January 1977.

Marx, G.T. (1984)
"Notes on the discovery, collection, and assessment of hidden and dirty data." In Schneider, J.W. & Kitsuse, J.I. (eds). *Studies In the Sociology of Social Problems*. Norwood, N.J.: Ablex Publishing.

Matheson, A. (1984)
"Addicts die after drug clampdown." *Weekend News*, 2-3 June 1984.

Mauge, C.E. & Dragan, D.K. (1978)
"Heroin maintenance: the second time around." *Drug Abuse & Alcoholism Review*. 1(3): 2-10.

Maxfield, B.F. (1979)
Country Profile » Australia. Paper presented at World Health Organization Workshop On Prevention and Treatment of Drug Dependence, Bangkok, 5 . 10 November 1979. Hobart: Tasmanian Alcohol and Drug Dependency Board.

Mayman, J. (1976)
"Patients back ADA staff." *Sunday Independent*. 19 September 1976.

McAllister, 1. & Moore, R. (1988)
Drugs and Public Opinion: the Sociology of Drug Use In Australia. Canberra: Department of Community Services & Health.

McAuliffe, W.E. (1982)
"A test of Wikler's theory of relapse: the frequency of relapse due to conditioned withdrawal sickness." *International Journal ofAddidions*.17: 19-33.

McAuliffe, W.E. & Gordon, RA (1974)
"A test of Lindesmith's theory of addiction: the frequency of euphoria among long-term users." *American Journal of Sociology*. 79: 795-840.

McCoy, A W. (1972)
The Politics of Heroin In Southeast Asia. NY: Harper & Row.

McCoy, AW. (1980)
Drug Traffic: Narcotics & Organised Crime In Australia. Artarmon, NSW: Harper & Row.

McGlothlin, W.H. & Tabbush, V.C. (1974)
"Costs, benefits, and potential for alternative approaches to opiate addiction control." In Inciardi, J.A & Chambers, C.D. (eds), *Drugs and the Criminal Justice System*. NY: Sage.

McGlothlin, W.H. & Anglin, M.D. (1979)
"Effects of closing the Bakersfield methadone clinic." In Harris, L.S. (ed.), *Problems of Drug Dependence 1979*. Rockville, MD: National Institute on Drug Abuse, Department of Health, Education and Welfare.

McGlothlin, W.H. & Anglin, M.D.(1981)
"Shutting off methadone - costs and benefits." *Archives of General Psychiatry*. 38: 885-892.

McRay & Associates (1989)
Review of Funding of Methadone Programs In Australia. Canberra: Department of Community Services and Health.

McKeganey, N. (1988)
"Shadowland: general practitioners and the treatment of opiate-abusing patients." *British Journal of Addiction*. 83: 373-386.

McKibbin, M.R. (1985)
"Letter to Editor: Guesses in survey of drug centres." *West Australian*, 2 September 1985.

McKinlay, J.B. (1981)
"A case for refocussing upstream: the political economy of illness." In Conrad, P. & Kern, R. (eds), *The Sociology of Health & Illness*. NY: St. Martin's Press.

McMinn, 1. (1980)
"The big business of drug rehabilitation." *Australian Penthouse*. November 1980, 67-72.

Miller, M., Ross, M., Wodak, A & Gold, J. (1990)
"Risk taking in injecting drug users in Sydney." *National AIDS Bulletin*. 4(10): 12· 6.

Mills, M. (1984)
"Addicts try to kick the habit." *Sunday Independent*. 8 January 1984.

Milner, G. (1976)
"Guest editorial· methadone." *Medical Journal of Australia*. 2: 551-553.

Ministerial Council On Drug Strategy, Department of Health (1985)
Guidelines For The Use of Methadone In the Treatment of Opiate Dependence. Canberra: Australian Government Publishing Service.

Ministerial Council On Drug Strategy, Department of Community Services and Health (1988)
National Methadone Guidelines. Guidelines For The Use of Methadone In the Treatment of Opiate Dependence. Canberra: Australian Government Publishing Service.

Ministerial Task Force to Review Obstetric, Neonatal and Gynaecological Services in Western Australia (1990)
Volume II Working Party Reports. (Michael, CA, Chairman). Perth: Health Department of Western Australia.

Molotch, H. & Lester, M. (1975)
"Accidental news: the great oil spill as local occurrence and national event." *American Journal of Sociology*. 81: 235-260.

Mondzac, A.M. (1984)
"In defence of the reintroduction of heroin into American medical practice and H.R. 5290 . The Compassionate Pain Relief Act." New England Journal of Medicine. 311: 532-535.

Monheit, B. (1990)
"Methadone: life, death and IV drug use." *Substance*. August: 17-19.

Moore, M.H. (1973)
"Policies to achieve discrimination on the effective price of heroin." In *Papers and Proceedings of the American Economic Association*: 63: 270-277.

Moore, M.H. (1976)
"Anatomy of the heroin problem: an exercise in problem definition." *Policy Analysis*. 2(4): 639-662.

Moore, M.H. (1977)
Buy and Bust: The Effective Regulation of An Illicit Market In Heroin. Lexington, MA: Lexington Books.

Mugford, S. (1981)
"The structure and history of the international traffic in drugs: some implications for the construction of social policy." In Drew, L.R.H., Stolz, P. & Barclay, W.A. (eds), *Man, Drugs & Society - A Current Perspective. Proceedings of the First Pan-Pacific Conference on Drugs & Alcohol, Canberra, 26 February - 5 March 1980*. Canberra: Australian Foundation on Alcoholism and Drug Dependence.

Mugford, S. (1981)
"Patterns of drug use in Canberra, Australia in 1971 and 1978." In Drew, L.R.H., Stolz, P. & Barclay, W.A. (eds), *Man, Drugs & Society -A Current Perspective. Proceedings of the First Pan-Pacific Conference on Drugs & Alcohol, Canberra, 26 February . 5 March 1980*. Canberra: Australian Foundation on Alcoholism and Drug Dependence.

Muirhead, J.H. (1978)
"Legal and illegal use of drugs from a judge's point of view." *Australian Crime Prevention Council Quarterly Journal*. 1(4):18-20.

Murphy, K (1988)
"Heroin: why don't we just legalize it?" *Bulletin*, 6 December 1988: 66-74.

Murphy, S. & Rosenbaum, M. (1988)
"Money for methadone II: Unintended consequences of limited duration methadone maintenance." *Journal of Psychoactive Drugs*. 20(4): 397-402.

Murray, K. (1980)
"Girl's drug death· a father's anguish," *Daily News*, 28 October 1980.

Murray, K. (1981a)
"Epitaph for a daughter." *Daily News*, 8 May 1981.

Murray, K. (1981b)
"Cyrenian House· where addicts can feel at home." *Daily News*. 23 December 1981.

Murray, K. (1984a)
"Doctor supplied 24,000 shots," *Daily News*, 10 May 1984.

Murray, K. (1984b)
"Fear that addicts may turn back to heroin." *Daily News*, 10 May 1984.

Murray, K. (1984c)
"Drugs kill Perth beauty queen." *Daily News*, 9 June 1984.

Murray, K. (1984d)
"Tragic story of double ,suicide," *Daily News*, 15 June 1984.

Musto, D.F, (1973)
The American Disease - Origins of Narcotic Control. New Haven: Yale University Press,

National Campaign Against Drug Abuse (1986)
The Drug Offensive - The $100 Million Commitment, Canberra: Australian Government Publishing Service.

National Campaign Against Drugs Media Team (1987)
The Drug Offensive - What Its Doing For Australia? Canberra: Australian Government Publishing Service.

National Health and Medical Research Council (1977)
National Policy on Methadone. Canberra: NHMRC.

New South Wales, Health Commission (1989)
Description of Methadone Treatment Programs In New South Wales. Sydney: Division of Drug And Alcohol Services, New South Wales Health Commission.

New South Wales, Parliament, Joint Committee Upon Drugs (1978)
Progress Report and Minutes of Proceedings, 1976-78. (Chairman, Durick, V.P.) Sydney: Government Printer.

New South Wales, Parliament, Royal Commission Into Drug Trafficking (1979)
Report. (Commissioner, Woodward, P.M.). Sydney: Government Printer,

Newman, R.G. (1986)
Evaluating Methadone Treatment. Paper presented at 15th International Institute On the Prevention and Treatment of Drug Dependence, Amsterdam, 9 April 1986.

Nuehring, E. & Markle, G.E. (1974)
"Nicotine and norms: the re-emergence of a deviant behaviour." *Social Problems*. 21: 513-526.

Offenbach, D. & Dolan, K. (1978)
"Drug control· the failure of the law." In West, D.J. (ed.). *Problems of Drug Abuse In Britain. Papers presented to the Cropwood Round-Table Conference, December 1977*. Cambridge: Institute of Criminology, University of Cambridge,

O'Mahony, k. (1983)
"The way out· farm for addicts." *Sunday Independent*, 12 June 1983.

Ostor, AG. (1977)
"The medical complications of narcotic addiction." *Medical Journal of Australia*. 1: Part 1:410-415, Part 2: 448-451, Part 3: 497-499.

Parker, L. (1985)
"Gaol gives addicts no hope: lawyer." *Daily News*, 2 December 1985.

Parkinson, G. (1982)
"Fear of hold-up stalks chemists." *West Australian*, 23 January 1982.

Parkinson, G. (1983)
"Community plan to aid addicts." *West Australian*, 14 February 1983.

Parssinen, T.M. (1983)
Secret Passions, Secret Remedies: Narcotic Drugs In British Society 1820-1930. Manchester: Manchester University Press.

Pascall, G. (1986)
Social Policy » A Feminist Analysis. London: Tavistock.

Paterson, P. (1982)
"Drug men tell of heroin flood." *Western Mail*, 1 -2 October 1982.

Peachey, J.E. (1986)
"The role of drugs in the treatment of opioid addicts." *Medical Journal of Australia*. 145: 395-399.

Pearson, G., Gilman, M. & McIver, S. (986)
"Heroin use in North of England." *Health Education Journa*l. 45: 186-189.

Peck, D.G. & Beckett, W. (1976)
"Methadone maintenance: a review and critique." *British Journal of Addiction*. 71: 369-376.

Pedic, F. & Flaherty, B. (1989)
Early Warning Indicators of Changes In Drug Use: A New South Wales Perspective. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Permanent Central Opium Board (1953)
"Legal trade in narcotics in 1951." *Bulletin on Narcotics*. 5(1): 48-54.

Peyrott, M. (1984)
"Cycles of social problem development: the case of drug abuse." *Sociological Quarterly*. 25: 83-96.

Peyrott, M. (985)
"Coerced voluntarism: the micropolitics of drug treatment." *Urban Life*. 13: 343-365.

Pfohl, S.J. (1977)
"The 'discovery' of child abuse." *Social Forces*. 24: 1-23.

Pilotto, L. (1990)
"Heroin· a perspective: legal or not?" *Modern Medicine*. March 1990.

Plant, A., Macaskill, P., LO, S.K. & Pierce, J. (1988)
Report of the Evaluation of the Anti-Heroin Campaign. Sydney: Department of Public Health, University of Sydney.

Porter, RM. (1981)
A Concise History of the Western Australian Alcohol and Drug Authority's Response To Drug Addiction: the Role of Methadone. Perth: WA Alcohol & Drug Authority.

Potas, L (1983)
Sentencing Drug Offenders In New South Wales. Canberra: Australian Institute of Criminology.

Potas, L & Walker, J. (1983)
Sentencing the Federal Drug Offender: An Experiment in Computer-Aided Sentencing. Canberra: Australian Institute of Criminology.

Power, B. (1989)
"Two seized in home-made heroin raid." *West Australian*, 10 February 1989.

Preble, E. & Casey, J.J. Jr (1972)
"Taking care of business: the heroin user's life on the streets." In Smith, D.E. & Gay, G.R. (eds). *It's So Good, Don't Even Try It Once - Heroin In Perspective*. Englewood Cliffs, N.J.: Prentice-Hall.

Prescott, J. (1987)
Issues and Priorities In Methadone Research. Kensington, NSW: National Drug & Alcohol Research Centre, University of New South Wales.

Pougher, J. (1975)
"Non medical drug-taking by the under 30 age group in Perth, Western Australia." *Australian Journal of Alcohol and Drug Dependence*. 2(2): 41-45.

Pougher, J.C.E. (1975)
The W.A. Government Strategy in the Management of Alcohol and Other Drugs of Dependence. Perth: W.A. Alcohol and Drug Authority.

Powell, K.C. (1979)
"A review of methadone programs." In Santamaria, J. (ed.), *Proceedings of 1979 Autumn School of Studies On Alcohol and Drugs*. Melbourne: Department of Community Medicine, St. Vincent's Hospital.

Powell, K.C. (1981)
"Methadone programs as facilitators of change." In Drew, L.R.H. et al (eds). *Man, Drugs and Society - Current Perspectives. Proceedings of First Pan-Pacific Conference on Drugs and Alcohol, Canberra, 26 February. 5 March 1980*. Canberra: Australian Foundation on Alcoholism and Drug Dependence.

Prescott, J. (1987)
Issues and Priorities In Methadone Research. Kensington, NSW: National Drug and Alcohol Research Centre, University of New South Wales.

Quekett, M. & Carbon, D. (1989)
"Big swoop yields $50m triad heroin." *West Australian*. 13 May 1989.

Queensland, Alcohol and Drug Dependence Services, Department of Health (1987)
Queensland Methadone Program, Policies and Procedures Manual. Brisbane: Department of Health.

Rankin, J.G. (1971)
"The size and nature of the misuse of alcohol and drugs in Australia." In Kiloh, L.G. & Bell, D.S. (eds). *Proceedings of the 29th International Congress on Alcoholism and Drug Dependence, Sydney, February 1970*. Melbourne: Butterworths.

Rankin, J. (1981)
The Use of Methadone In New South Wales For the Management of Opiate Dependent Individuals: A Review and Recommendations For Change. Sydney: Division of Drug and Alcohol Services, Health Commission of New South Wales.

Rankin, J., HoIst, v., McKnight, J., Moait, S. & Rae, A. (1981)
Report of the New South Wales Committee of Inquiry Into the Legal Provision of Heroin and Other Possible Methods of Diminishing Crime Associated With the Supply and Use of Heroin. Sydney: Division of Drug And Alcohol Services, New South Wales Health Commission.

Reasons, C. (1974)
"The politics of drugs: an inquiry in the sociology of social problems." *Sociological Quarterly*. 15: 381-404.

Reilly, D. (1988)
"Methadone: a perspective on methadone services in NSW." *Connexions*.

Reilly, D., O'Connor, D., Wodak, A. & Clarke, C. (1987)
Methadone Treatment: A Profile of Clients In A New South Wales Program. Sydney: New South Wales Drug and Alcohol Authority.

Reiman, J.H. (1979)
"Prostitution, addiction and the ideology of liberalism." *Contemporary Crises*. 3: 53-68.

Reinerman, C. (1983)
"Constraint, autonomy, and state policy: notes toward a theory of controls on consciousness alteration." *Journal of Drug Issues*. 13: 9-30.

Reuter, P. (1984)
"The (continued) vitality of mythical numbers." *The Public Interest*. 75: 135-147.

Reuter, P. (1985)
"Eternal hope: America's quest for narcotics control." *The Public Interest*. 79: 79-95.

Reuter, P. (1988)
"Can the borders be sealed?" *The Public Interest*. 92: 51-65.

Reynolds, L, Harnas, J., Gallagher, H. & Bryden, D. (1976)
"Drinking and drug taking of 8,516 adults in Sydney." *Medical Journal of Australia*. 2: 782-785.

Reynolds, 1. & Magro, D. (1976)
"The use of methadone as a treatment tool for opiate addicts: a two year follow-up study." *Medical Journal of Australia*. 2: 560-562.

Reynolds, 1., Di Giusto, J. & McCulloch, R. (1976)
A Review of New South Wales Health Commission Treatment Services for Narcotic Dependent Persons. Sydney: Division of Health Services Research, New South Wales Health Commission.

Rinella, V.J. (1979)
"The addiction diversion debate: an ethical dilemma." *Contemporary Drug Problems*. 8: 355-367.

Roberts, P. (1976)
"No breach over addicts says ADA." *Weekend News*, 22 November 1976.

Robertson, J.F. (1979)
"Methadone maintenance . the experience of the alcohol and drug services of Victoria." In Santamaria, J. (ed.). *Proceedings of 1979 Autumn School of Studies On Alcohol and Drugs*. Melbourne: Department of Community Medicine, St. Vincent's Hospital.

Robins, L.N., Helzer, J.E., Hesselbrock, M. & Wish, E. (1980)
"Vietnam Veterans three years after Vietnam: how our study changed our view of heroin." In Brill, L. & Winick, C. (eds) *The Yearbook of Substance Use and Abuse, Volume 1I*. NY: Human Sciences Press.

Rogers, M.J. (1975)
Narcotic Crime Seminar, Japan 1975. Report by Australia. Canberra: Australian Government Publishing Service.

Room, R. (1988)
"The dialectic of drinking in Australian life: from the Rum Corps to the wine column." *Australian Drug & Alcohol Review*. 7: 413-437.

Rosenbaum, M. (1985)
Getting Off Methadone. Final Report to the National Institute on Drug Abuse. San Francisco, CA: Institute for Scientific Analysis.

Rosenbaum, M. (1985)
"A matter of style: variation among methadone clinics in the control of clients." *Contemporary Drug Problems*. 12: 375-400.

Rosenbaum, M., Murphy, S. & Beck, J.(1987)
"Money for methadone: preliminary findings from a study of Alameda county's new maintenance policy." *Journal of Psychoactive Drugs*. 19(1): 13-19.

Rosenbaum, M., Irwin, J. & Murphy, S. (1988)
"De facto stabilization as policy: the impact of short- term methadone maintenance." *Contemporary Drug Problems*. 15 (4): 491-517.

Rosenberg, C.M. (1968)
"Young drug addicts: addiction and its consequences." *Medical Journal of Australia*. 1031-1033.

Rosenberg, C.M. (1969)
"Young drug addicts: background and personality." *Journal of Nervous and Mental Disease*. 148: 65-73.

Ross, L. (1985)
"Anti-drug film launched." *West Australian*, 22 June 1985.

Ross, R & Staines, G.L. (1972)
"The politics of analysing social problems." *Social Problems*. 20: 18-40.

Rottenberg, S. (1975)
"The clandestine distribution of heroin, its discovery and suppression." In Mansfield, E. (ed.). *Microeconomics: Selected Readings.* NY: Norton.

Sackville, R (1981)
"Drug use and social policy." In Drew, L.R.H., Stolz, P. & Barclay, W.A (eds). *Man, Drugs & Society: A Current Perspective. Proceedings of the First Pan-Pacific Conference on Drugs & Alcohol, Canberra, 26 February - 5 March 1980*. Canberra: Australian Foundation on Alcoholism and Drug Dependence.

Saint, E.G. (1969)
Alcohol and Society. Second Ball Oration.

Sainsbury, M.J. (1967)
"Drug dependence in admission centre patients." *Medical Journal of Australia*. 2: 18.

Sandland, RL. (1984)
Methods of Estimating The Number of Heroin Users In New South Wales. Sydney: New South Wales Drug and Alcohol Authority.

Saper, A (1974)
"The making of policy through myth, fantasy and historical accident: the making of America's narcotics laws." *British Journal of Addiction*. 69: 183 - 93.

Schlosser, D. (1984)
An Investigation of Court Referrals and Voluntary Referrals At Bourke Street Drug Advisory Service: Summary Report. Sydney: New South Wales Drug and Alcohol Authority.

Schoenfeld, AC., Meier, RF. & Griffin, R.J. (1979)
"Constructing a social problem: the press and the environment." *Social Problems*. 27: 38-61.

Senay, E.C. (1985)
"Methadone maintenance treatment." *International Journal of Addictions*. 20: 803-821.

Senay, E.C. (1988)
"Methadone and public policy." *British Journal of Addiction*. 83: 257-263.

Simrell, E.V. (1970)
"History of legal and medical roles in narcotic abuse in the United States." In Ball, J.C. & Chambers, C.D. (eds). *The Epidemiology of Opiate Addiction In the United States*. NY: CC Thomas.

Sinclair-Jones, M. (1983a)
"The fixers who hand out hope to addicts." *Western Mail*, 12 March 1983.

Sinclair-Jones, M. (1983b)
"Addicts call for better deal." *Western Mail*, 19 March 1983.

Sinclair-Jones, M. (1983c)
"Relief for addicts to become easier." *Western Mail*. 11 June 1983.

Skene, L. (1986)
"Chemicals and the law - retribution or rehabilitation?" *Australian Drug and Alcohol Review*. 5: 169-174.

Smart, C. (1984)
"Social policy and drug addiction: a critical study of policy development." *British Journal of Addiction*. 79: 31-39.

Smith, D. (1982)
"What heroin does to you." *National Times*. 5-11 December: 5-7.

Smith, G. (1971)
"Radical treatment for drug addicts." *Royal Perth Hospital Journal*. Fourth quarter: 217-221.

Smith, TA & Kronick, RF. (1979)
"The policy culture of drugs: Ritalin, methadone and the control of deviant behaviour." *International Journal of Addictions*. 14(7): 933-944.

Snashall, Red. (1986)
Pre-Trial Diversion For Adult Offenders. Canberra: Australian Institute of Criminology.

Soloway, LH. (1974)
"Methadone and the culture of addiction." *Journal of Psychedelic Drugs*. 6: 91-99.

Sontag, S. (1978)
Illness As Metaphor. NY: Farrar, Straus & Giroux.

Sontag, S. (1989)
AIDS and Its Metaphors. Harmondsworth: Penguin.

South Australia, Royal Commission Into the Non-Medical Use of Drugs (1979)
Final Report. (Commissioner: Sackville, R) Adelaide: Royal Commission Into the Non-Medical Use of Drugs.

South Australia, Royal Commission Into the Non-Medical Use of Drugs (1978)
The Social Control of Drug Use: A Discussion. Paper. Adelaide: Royal Commission Into the Non-Medical Use of Drugs.

Soverow, G., Rosenberg, C.M. & Ferneau, M.A (1972)
"Attitudes towards drug and alcohol addiction: patients and staff." *British Journal of Addiction*. 67: 195-198.

Spector, M. & Kitsuse, J.L (1973)
"Social problems: a re-formulation." *Social Problems*. 21: 145-159.

Spitzer, S. (1975)
"Toward a Marxian theory of deviance." Reprinted in Traub, S.H. & Little, C.B. (eds). *Theories of Deviance*. Itasca: Peacock (1985).

Stephens, RC. & Smith, RB. (1976)
"Copping and caveat emptor· the street addict as consumer." *Addictive Diseases*. 2: 585-600.

Stimson, G.V. (1973)
Heroin and Behaviour. Diversity Among Addicts Attending London Clinics. Sydney: Angus & Robertson.

Stimson, G.V. (1978)
"Treatment or control? Dilemmas for staff in drug dependency clinics." In West, D.J. (ed.). *Problems of Drug Abuse In Britain*. Cambridge: Institute of Criminology, University of Cambridge.

Stalz, P, (1978)
Australia In 1978, Paper presented at the 32nd International Congress on Alcoholism and Drug Dependence, Warsaw, September 1978, Canberra: Australian Foundation on Alcoholism and Drug Dependence,

Sunday Independent (1976a)
"ADA clinic ‘in crisis'." *Sunday Independent*, 12 September 1976.

Sunday Independent (1978a)
"MPs told of drug woes," *Sunday Independent*, 2 April 1978.

Sunday Independent (1978b)
"Addicts' sick habits," *Sunday Independent*, 16 April 1978.

Sunday Times (1975a)
"New Perth centre under fire," *Sunday Times*, 25 January 1975.

Sunday Times (1975b)
"Drugs, sex problem led man to steal," *Sunday Times*, 2 March 1975.

Sunday Times (1976a)
"Anger at planned alcoholics hospital," *Sunday Times*, 23 May 1976.

Swensen, G, (1988)
"Opioid drug deaths in Western Australia: 1974·1984," *Australian Drug and Alcohol Review*. 7: 181-185.

Swensen, G, (1989a)
Overview of the WA Alcohol and Drug Authority Methadone Program 1 January 1987 - 30 June 1989. Perth: WA Alcohol & Drug Authority. (Unpublished)

Swensen, G. (1989b)
Methadone Treatment As A Means To Control The Spread of HN Infection. Perth: WA Alcohol & Drug Authority. (Unpublished)

Swensen, G. (1990a)
"The cost of the Western Australian Methadone program." *Australian Drug and Alcohol Review*. 8: 35-37.

Swensen, G. (1990b)
The WA Methadone Program. A Brief History of Treatment Policy. Perth: WA Alcohol & Drug Authority. (unpublished)

Swensen, G. (1990c)
Indicators of illicit Drug Use In Western Australia 1981 - 1988.Perth: Health Department of WA.

Swensen, G. & Webb, J. (1989)
A Descriptive Study of Women With Children Who Participated In The WA Methadone Program In June 1989. Perth: WA Alcohol and Drug Authority. (unpublished)

Szasz, T. (1982)
"The war against drugs." *Journal of Drug Issues*. 12: 115-122.

Taylor, W.J.R., Chambers, C.D. & Bowling, C.E. (1972)
"Addiction and the community (narcotic substitution therapy)." *International Journal of Clinical Pharmacology, Therapy and Toxicology*. 6: 28-39.

Terry, C.E. & Pellens, M. (1970)
"The extent of chronic opiate use in the United States prior to 1921." In Ball, J.C. & Chambers, C.D. (eds). *The Epidemiology of Opiate Addiction In the United States.* Springfield, ILL: CC Thomas.

Thomas, H. (1982)
"Smack in the pits." *National Times*, 5-11 December 1982: 8-9.

Tomasic, R. (1977)
Drugs, Alcohol and Community Control. Sydney: Law Foundation of New South Wales.

Toulmin, S., Rieke, R. & Janik, A. (1984)
An Introduction To Reasoning. NY: Macmillan.

Treweek, A. (1986a)
"Courts will help drug addicts." *West Australian*. 8 April 1986.

Treweek, A. (1986b)
"Rising tide of heroin addiction." *West Australian*. 12 April 1986.

Treweek, A. (1986c)
"The tough facts of addiction." *West Australian*. 18 April 1986.

Treweek, A. (1986d)
"Drugs; the restless battle." *West Australian*. 21 April 1986.

Treweek, A. (1987)
"Drug funding wasted, says MP." *West Australian*. 23 January 1987.

Treweek, A. (1988)
"WA's 430 addicts get their daily dose." *Sunday Times*. 2 October 1988.

Tuchman, G. (1972)
"Objectivity as strategic ritual: an examination of newsmen's notions of objectivity." *American Journal of Sociology*. 77: 660-679.

Tuchman, G. (1973)
"Making news by doing work: routinizing the unexpected." *American Journal of Sociology*. 79: 110-131.

Vaille, C. (1963)
"The use of diamorphine (heroin) in therapeutics." *Bulletin of Narcotics*. 15(3-4): 1-6.

Victoria, Parliament, Inter-Departmental Working Party On The Drug Problem In Victoria (1980)
Report. Melbourne: Government Printer.

Victoria, Substitute Therapy and Methadone Co-Ordination Committee, Health Department (1986)
Programs Incorporating Methadone In the Treatment of Heroin Dependence. Melbourne: Health Department.

Wall, B.P. (1989)
A Study of Persons Notified As Drug Addicts In The State of Western Australia During 1980-1985. (Thesis for Masters in Applied Science). Perth: Curtin University

Wardlaw, G. (1978)
Drug Use and Crime. An Examination of Drug Users and Associated Persons and Their Influence On Crime Patterns in Australia. Canberra: Australian Institute of Criminology.

Wardlaw, G. (ed.) (1982)
Drug Trade and Drug Use: Proceedings of the Conference on Drug Trade and Drug Use, Canberra 22-24 October, 1980. Canberra: Australian Foundation on Alcoholism and Drug Dependence.

Weissman, J.C. (1979)
"Drug offender diversion: philosophy and practices." *Drug Abuse and Alcohol Review*. 2(1): 1-8.

Western Australia, Parliament (1973)
Report of the Honorary Royal Commission To Inquire Into and Report Upon The Treatment of Alcohol and Drug Dependents. Perth. WA Government Printer.

Western Australia, Parliament (1984)
Report of the Select Committee of the legislative Assembly To Inquire Into Alcohol and Other Drugs in Western Australia. Perth. WA Government Printer.

Western Australia, Parliament (1990)
Report of the Select Committee Appointed Into the National HIV/AIDS Strategy White Paper. (Watson, J., Chair). Perth: WA Government Printer.

Western Australian Alcohol and Drug Authority (1982)
Directional Statement. Perth: WA Alcohol and Drug Authority.

Western Australian Alcohol and Drug Authority (1983)
Submission to the Select Committee of the Legislative Assembly To Inquire Into Alcohol and Other Drugs in Western Australia. Perth: WA Alcohol and Drug Authority.

West Australian (1976a)
"Chemists given hold-up drill." *West Australian*, 9 June 1976.

West Australian (1976b)
"90Opc rise in drug offences." *West Australian*, 3 July 1976.

West Australian (1976c)
"Sack ADA chief, says MP." *West Australian*, 19 November 1976.

West Australian (1977a)
"Restrict tablets, says psychiatrist." *West Australian*, 20 January 1977.

West Australian (1977b)
"Drug chief says doctors abusing rule." *West Australian*, 18 January 1977.

West Australian (1977c)
"GPs treat most drug addicts - doctor." *West Australian*, 19 January 1977.

West Australian (1977d)
"Methadone: move to bar tablets." *West Australian*, 22 January 1977.

West Australian (1977e)
"Two allege deal with drug squad." *West Australian*, 5 April.

West Australian (1977f)
"Five face methadone charges." *West Australian*. 9 December 1977.

West Australian (1978a)
"MP: addicts use ADA for contacts." *West Australian*, 4 August 1978.

West Australian (1979a)
"Drug law not apt - professor." *West Australian*, 24 May 1979.

West Australian (1983a)
"Police link drugs with armed hold-ups." *West Australian*, 3 September 1983.

West Australian (1983b)
"Doctor protests at drug curb." *West Australian*, 28 December 1983.

West Australian (1984a)
"Police to probe heroin availability." *West Australian*, 10 May 1984.

West Australian (1984b)
"Police drug plea on WA's Mr Bigs." *West Australian*, 11 May 1984.

West Australian (1985a)
"Parlt criticized over drug trade." *West Australian*, 21 October 1985.

West Australian (1985b)
"New attack on drug centres." *West Australian*, 5 June 1985.

West Australian (1986a)
"Supreme Court judge criticizes drug war." *West Australian*, 19 November 1986.

West Australian (1986b)
"Heroin a gentle drug - doctor." *West Australian*, 1 November 1986.

West Australian (1986c)
"Gaol term looms for Bonnie and Clyde." *West Australian*, 7 November 1986.

West Australian (1987a)
"Burke's former secretary jailed." *West Australian*, 28 October 1987.

West Australian (1989a)
"Flow of heroin may be slowing." *West Australian*, 11 February 1989.

Wheeler, L. & Edmonds, C. (1969)
"A profile of drug takers." *Medical Journal of Australia*. 291-294.

Whitlock, F.A. (1975)
Drugs, Morality and the Law. St Lucia: University of Queensland Press.

Whitlock, FA (1977)
"Drugs and health." *Journal of Drug Issues*. 7(4): 397-404.

Whitlock, F.A. (1979)
"Witch crazes and drug crazes: a contribution of the social pathology of credulity and scapegoating." *Australian Journal of Social Issues*. 14(1):41-61.

Whitlock, F.A (1981)
"The effects of policy and administration on drug-taking in Australia." In Drew, L.R.H., Stolz, P. & Barclay, W.A (eds), *Man, Drugs & Society - A Current Perspective. Proceedings of the First Pan-Pacific Conference on Drugs & Alcohol, Canberra, 26 February - 5 March 1980*. Canberra: Australian Foundation on Alcoholism and Drug Dependence.

Whitlock, F.A. & Lowrey, J.M. (1967)
"Drug-dependence in psychiatric patients." *Medical Journal of Australia*. 1: 1157-1166.

Wilkinson, M. (1979)
"Narcotics and the law enforcers." *National Times*, 22 September 1979, 30.

Wilkinson, M. (1981)
"Heroin trade in jail highly organized." *National Times*, 22-28 November 1981.

Wilkinson, M. (1983)
"Drugs, money, lawyers: how Mr Asia did it." *National Times*, 3-9 June 1983, 18.

Williams, G. (1976)
"Staff quit, condemn drug centre's policy." *Daily News*, 18 November 1976.

Williams, R.J. (1982)
"The clinical-correctional interface in the treatment of drug offenders: the evidence from New South Wales, Australia." *Drug and Alcohol Dependence*. 10: 211-222.

Williams, R. & Bush, R. (1982)
Did The Diversion of Drug Offenders Fail In New South Wales? Is This Even A Fair Question? Sydney: New South Wales Drug and Alcohol Authority.

Williams, R.J., Bush, R.A & Reilly, D. (1983)
"Objectives perceived by administrators within the 'decision to divert network': conflict and resolution." *Drug and Alcohol Dependence*. 12: 339-348.

Williamson, K. (1982)
"The weekend junkies." *National Times*. 17-23 January 1982, 18-20.

Wilmarth, S.S. & Goldstein, A (1974)
Therapeutic Effectiveness of Methadone Maintenance Programs In The Management of Drug Dependence of Morphine Type in the United States of America. Geneva: World Health Organisation.

Wodak, A (1985)
"The treatment of heroin dependence - an overview." *Proceedings of Australian Institute of Criminology*. 65: 27-44.

Wolk, J., Wodak, A, Morlet, A, Guinan, J.J. & Gold, J. (1990)
"HIV-related risk-taking behaviour, knowledge and serostatus of intravenous drug users in Sydney." *Medical Journal of Australia*. 152: 453-458.

Woodward, P.M. (1980)
Organizational Drug Crime and the Difficulties of Law Enforcement. Address to Insurance Council of Australia, 24 July 1980. Sydney: Insurance Council of Australia.

Woodward, P.M. (1981)
"Severer punishment for drug- related offences." In Drew, L.R.H., Stolz, P. & Barclay, W.A. (eds). *Man, Drugs & Society. A Current Perspective. Proceedings of the First Pan- Pacific Conference on Drugs & Alcohol, Canberra, 26 February - 5 March 1980*. Canberra: Australian Foundation on Alcoholism and Drug Dependence.

Word en, M. (1985)
"Changing nature of methadone maintenance." *US Journal of Drug and Alcohol Dependency*, 9(8): 20.

Young, J. (1971)
The Drug takers: The Social Meaning of Drug Use. London: Paladin.

Young, J. (1974)
"Mass media, drugs, and deviance." In Rock, P. & McIntosh, M. (eds). *Deviance and Social Control.* London: Tavistock.

Young, J. (1976)
"The myth of the drug taker in the mass media." In Cohen, S. & Young, J. (eds). *The Manufacture of News: Social Problems, Deviance and the Mass Media*. London: Constable.

Young, J.H. (1974)
American Self-Dosage Medicines: An Historical Perspective. Lawrence, Kansas: Coronado P.

Zola, LK. (1972)
"Medicine as an institution of social control." *Sociological Review*. 20: 48 -504.

Zweben, J.E. & Sorensen, J.L. (1988)
"Misunderstandings about methadone." *Journal of Psychoactive Drugs*. 20: 275-281.