INDICATORS OF DRUG ABUSE IN WESTERN AUSTRALIA 1981 - 1990

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SUMMARY

This report provides an overview of the impact of drugs in WA over the period 1981-1990 through the analysis of a wide spectrum of indicators of drug abuse. Some of the data in the study is necessarily qualified as it only quantifies the direct harmful effects of drug abuse and because there is considerable variation in the quality and availability of time series data.

In the 10 year period there were 1,434 deaths *directly* caused by alcohol and other drugs, of which alcohol caused 909 (63.4%) deaths, opiates caused 179 (12.5%) deaths, tranquillisers/sedatives/anti-depressants caused 169 (11.8%) deaths, barbiturates caused 73 (5.1%) deaths, other and unspecified drugs caused 80 (5.6%) deaths, and volatile substances caused 21 (1.5%) deaths. There was also 2 deaths recorded as caused by cocaine and 1 death caused by psychostimulants.

Of the 1,434 deaths, 35 (2.4%) involved the 10-19 age group, 193 (13.5%) involved the 20-29 age group, 213 (14.9%) involved the 30-39 age group and 993 (69.2%) involved the 40 and over age group. There were no deaths recorded by the 0-9 age group.

The results of the study highlight the relationship between age and the abuse of specific types of drugs as it was found 100% of the mortality of the 10-19 age group was caused by drugs other than alcohol, 83.9% of the mortality of the 20-29 age group was caused by drugs other than alcohol, 64.3% of the mortality of the 30-39 age group was caused by drugs other than alcohol, and only 19.2% of the mortality of the 40 and over age group was caused by drugs other than alcohol.

The sharp differences in the ratio of mortality between the sexes due to drug abuse was highlighted by the study, which found that only 388 (27.1%) deaths involved females but 1,046 (72.9%) deaths involved males.

Of the 909 deaths *directly* caused by alcohol, 619 (68.1%) were caused by alcoholic liver disease, 129 (14.2%) were caused by alcohol dependence, 108 (11.9%) were caused by alcoholic cardiomyopathy, 27 (3.0%) were caused by alcoholic psychosis, 22 (2.4%) were caused by alcohol poisoning, 3 (0.3%) were caused by alcohol abuse and 1 (0.1%) was caused by alcoholic gastritis. There were no deaths recorded for alcoholic polyneuropathy.

When the 909 alcohol deaths were broken down by type of cause there were 728 (80.1%) caused by medical conditions, 159 (17.5%) caused by mental disorders and 22 (2.4%) due to external causes.

There was also an unequal distribution of mortality by sex by type of drug involved, for whereas 323 (30.9%) male deaths were caused by drugs other than alcohol, 202 (52.1%) female deaths were caused by drugs other than alcohol.

The existence of different patterns of age specific mortality by type of drug was also found in the study. Of the 909 deaths caused by alcohol, 802 (88.2%) involved the 40 and over age group, whereas of the 525 deaths caused by drugs other than alcohol, only 191 (36.4%) involved the 40 and over age group.

It was not possible to identify the proportion of non-alcohol deaths attributable to illicit drugs. However, as it was likely that a significant proportion of the 179 opiate deaths involved prohibited substances such as heroin, then it is expected that at least 10% of all drug-caused deaths in WA in the 10 year period involved drugs of an illegal origin.

The pronounced drop found from 1985 in the age standardised mortality rate of the opiate drug group was a significant result. It is considered that this drop may be clearly attributed to the effect of measures through increased Federal funding of key initiatives in this State, especially increased access to methadone treatment, that were an outcome of the National Campaign Against Drug Abuse (NCADA), held in April 1985.

Temporal differences between the mortality caused by drugs other than alcohol, which peaked up to the mid 1980s, and mortality caused by alcohol, which increased up to the end of the 1980s, indicate that is more difficult to effect short-term reductions in alcohol mortality because it is the outcome of heavy drinking over many years.

In the period 1981-1990 there were 13,710 inpatient hospital stays where the principal or underlying diagnosis involved any of the five conditions *directly* caused by alcohol, viz: alcoholic psychosis, alcoholic polyneuropathy, alcoholic cardiomyopathy, alcoholic gastritis or alcoholic liver disease.

There were 6,559 (47.8%) stays due to alcoholic liver disease, 4,425 (32.3%) stays due to alcoholic psychosis, 1,376 (10.0%) stays due to alcoholic gastritis, 769 (5.6%) stays due to alcoholic cardiomyopathy, and 581 (4.2%) stays due to alcoholic polyneuropathy.

A very important finding was that by 1990 the morbidity rates of each of the five conditions caused by alcohol had dropped below their respective 1981 levels. It is suggested the the reason for this trend were due to factors such as the impact of Random Breath Testing (RBT) and health campaigns. If this decline continues into the 1990s it should be regarded as convincing support for the proposition that it is possible to reduce alcohol-caused morbidity through the implementation of well designed multi-faceted campaigns to reduce alcohol consumption.

In the 10 year period there were 15,478 inpatient hospital stays due to external causes, ie poisoning, of which 10,596 (68.4%) were caused by tranquilliser/sedative/anti-depressants, 2,936 (19.0%) were caused by opiates, 820 (5.3%) were caused by alcohol poisoning, 588 (3.8%) were caused by volatile substances, 370 (2.4%) were caused by barbiturates, 118 (0.8%) were caused by psychostimulants, 38 (02.%) were caused by hallucinogens, and 12 (0.1%) were caused by cocaine.

The rapid expansion in the size of the methadone program is believed to have been a very cost effective tool in inducing heroin abusers to switch their preferences to controlled and supervised access to a pharmaceutical opiate instead of the use of adulterated and unsterile street heroin. The very substantial growth in the size of the WA methadone program that was found to have occurred had largely occurred since 1985, such that by 1990 a total of 710 individuals had participated in the program.

The percentage of females in the methadone program also grew over the period; whereas females made about one-third of the treatment population at the beginning of 1981, by the end of 1990 this had increased to nearly 45% of the treatment population.

Two factors found to have been associated with the increase in the size of the methadone program were that the number of individuals in the 30-39 age group increased much more rapidly compared to other age groups, and that the duration of treatment stay rose, from an average of 15 months at the start of 1986 to an average of 24 months at the end of 1990.

It was found that significant HIV preventive strategies have been implemented in conjunction with the changes in treatment philosophy (at least in the methadone program) by public health measures to reduce the spread of HIV by the re-use of non-sterile (ie infected) needles and syringes.

A key component of HIV risk minimisation in the injecting drug using population has been the increased access to sterile needles and syringes, which by the December quarter 1990 were being distributed in this State at an average rate of 1,483 per day. The increased distributed of sterile injection equipment has been accompanied by the widescale dissemination of educational materials and through direct contact with injecting drug users through a mobile needle and syringe exchange service organised by the WA AIDS Council.

An essential component of effective drug policy is the effective use of law enforcement strategies to reduce the supply of drugs in the community. Though a major part of law enforcement effort involved cannabis charges, it was found that there was an increase in the late 1980s in both the number of amphetamine charges and the quantities of seizures of this drug.

The rate of increase in amphetamine charges supported a widely held perception that this form of drug abuse had become a serious problem over the latter part of the 1980s in WA, particularly involving younger drug abusers, with the attendant risks from injecting drug use. Support for this perception was also found in the study from a growth in the number of psychostimulant telephone calls received by the Alcohol Drug and Information Service, such that by the December 1990 quarter 13.7% of all calls involved amphetamines.

Findings from census data from annual Australian Institute of Criminology surveys of the WA prison population that there was an increase in drug offenders imprisoned for offences that involved trafficking in or manufacture of drugs strongly indicates that the sanction of prison is being specifically used to deal with very serious drug offences.

The report also analysed trends in alcohol consumption from data derived from sales returns from suppliers processed by the Liquor Licensing Division of the Office of Racing and Gaming for the period since 1988. In conjunction with data for the period 1968 to 1984, from a Health Department study, it was found that while the *per capita* consumption of alcohol expressed as the volume of absolute alcohol, has decreased from a peak in 1978, in the years 1988 - 1990 *per capita* consumption remained static, at just under 12 litres per head of the population aged 15 and over.

Though much of the reduction in *per capita* alcohol consumption was due to a decrease in the consumption of beer, this was found to have been offset by a more recent an increase in the *per capita* consumption of both wine and spirits. Australian Bureau of Statistics surveys of alcohol consumption in 1977, 1985 and 1991 provided confirmation that much of the change in alcohol consumption in WA has been as a result of a change in male drinking to lighter (ie lower risk) drinking.

The survey data for the period 1985-1991 found that whereas beer consumption was the dominant form of alcohol consumption by males across all age groups, amongst females wine consumption was the dominant form of alcohol consumption up to the 45-64 age group. Average daily alcohol consumption of males was found to be between 2-3 times higher than the average daily consumption of females and that the highest levels of alcohol consumption in both males and females occurred in the 18-24 age group.

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CHAPTER 1

INTRODUCTION

CHAPTER 1 - INTRODUCTION

The object of this report is to provide time series data to infer trends in key indicators of drug abuse in Western Australia over the period 1981-1990. The methodology of this report is to enumerate and analyse data from special purpose and customised databases established by the WA Drug Data Collection Unit, from data systems maintained by Health Department (eg Western Australian mortality records, the WA Hospital Morbidity Data System, the Infectious Diseases Register and the Register of Drug Notifications), and extracted from reports and statistics published by the Australian Bureau of Statistics, the WA Police Department, the Australian Institute of Criminology, the WA Alcohol and Drug Authority (detoxification (inpatient) and methadone (outpatient) programs), the Alcohol and Drug Information Service, the Office of Racing and Gaming (Liquor Licensing Division) and the WA AIDS Council (needle and syringe exchange program) and by the application of epidemiological methods generate sets of tables of standardised rates over the 10 year period.

There are important limitations on the information contained in this report as health and social problems caused by drug abuse tend to manifest only after the passage of a period of time. Also, as other data systems used for the compilation of this report, such as statistics from Alcohol and Drug Authority (ADA) inpatient and outpatient programs, and arrest, conviction and imprisonment statistics collected by law enforcement agencies are likely to over-represent the dependent and/or chronic spectrum of the drug abusing population, some of the indicators in this report could present a distorted analysis of some of the effects of drug abuse.

To overcome these shortcomings it would be necessary to utilise both ***direct*** and ***indirect*** indicators of drug abuse by use of both statistical and descriptive data that encompassed the widest possible variety of agencies, drug users and other sources of information, and that employed as many different methods as possible, so as to accurately quantify the scope of the problem.

The emphasis of this report is the presentation of information in a descriptive fashion, without making any tests of statistical significance of the findings, so that policy makers, researchers and key agencies may have a better understanding of the magnitude and scope of problems caused by all forms of drug abuse and thereby be able to make informed judgements about problems caused by drug abuse in Western Australia.

The collation of data that may serve as indicators in this kind of report is time consuming and costly as a considerable amount of effort is required as often the data is inaccessible, not well organised or not available in computerised databases. However, it is argued that without the compilation of this kind of data responses to problems caused by drug abuse will be poorly conceived and ultimately resources may be wasted.

> *"There is broad agreement that data available on the extent and nature of illegal drug use in Australia are inadequate for policy formulation, planning, of service provision, and evaluation of intervention strategies. In addition, the absence of comprehensive data in which confidence can be placed concerning their reliability and validity, contributes to a climate of debate about drug matters characterised by claims about, for example, the number of heavy users of heroin, which owes more to ideology, emotion and institutional advantage than to accurate measurement ... The result is a debate which is often irrational and ill-informed, with consequent policy which may do more damage than it prevents".*[1]

This report encompasses both licit and illicit drug abuse and while it is primarily concerned with indicators of the ***direct*** effects of drug abuse from a health-oriented perspective, it is supplemented with accessible data from other data systems. To have quantified all the effects of drug abuse it would have been necessary to have mounted a complex and large study, by the application of sets of age and gender specific aetiologic fractions to morbidity and mortality data as well as other methodologies, in order to have indicators of both the ***direct*** and ***indirect*** effects of drug abuse.

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[1] Wardlaw G. "The importance of drug use indicators research". In Wardlaw G (ed.) ***Epidemiology of Illegal Drug Use In Australia 1988 - Proceedings of the First National Drug Indicators Conference May 1988***. Canberra: Australian Institute of Criminology, 1989: 347.

In the report the following seven chapters contain an analysis of indicators based on mortality data, hospital inpatient (ie morbidity) data, crime-related data, data from notifications and other public health measures, data based on clientele who have attended treatment programs, and drug consumption data. Data in each chapter is contained in tables and wherever possible charts have been included if they were considered to simply illustrate important trends. Tables for all charts have been included in either each chapter or in Appendix 1. It should be noted that charts may not be readily compared as different scales have been used on the Y axis because of some marked differences in the ranges of values between charts.

An overview of some of the sources of data used for this report and a description of difficulties involved with their use and interpretation follows.

MORTALITY DATA

The Australian Bureau of Statistics (ABS) codes all causes of death in Western Australia as a single cause. The ABS coding conforms with the 9th Revision of the International Classification of Diseases (ICD9), which since 1979 has applied at the four digit level in Australia. [2]

The set of ICD9 codes concerned with drug (other than alcohol or tobacco) mortality distinguish between the cause as being either due to a mental disorder, a medical condition or an external cause (ie poisoning). The meaning of these codes is that the cause of death may be due to either dependent or non-dependent drug abuse, a drug-caused psychosis, a medical condition directly caused by drug use (eg the 5 conditions directly caused by alcohol), suicide, accidental drug use, assault by poisoning (ie death caused by someone else administering the drug), or undetermined as to whether death was caused accidental or due to suicide: Table 1.

It is to be noted mortality due to the adverse effects of therapeutic drug use, E-codes 930-949, is excluded from this report as it is not considered to be closely related to drug abuse. As a number of specific forms of drug taking are not adequately differentiated by some ICD9 codes, eg assault by poisoning (E9620), drug psychoses (292), the code E9503 (suicide) and the code E9803 (undetermined external), it has been necessary to obtain additional information to identify the individual drugs involved in these cases.

Because the major focus of the report is the identification of mortality by type of drug involved and analysis of age and gender specific trends, and because of space limitations, a breakdown of cause-specific mortality has not been included in this report.

The set of the five medical conditions (alcoholic polyneuropathy, alcoholic cardiomyopathy, alcoholic gastritis and alcoholic liver disease) and their associated ICD9 codes ***directly*** caused by alcohol in Table 1 are those conditions with an aetologic fraction of 1.00 in the set of 43 conditions in the Holman and Armstrong study of drug caused mortality and morbidity in Australia. [3]

The list of causes in Table 1 underestimate the total number of deaths caused by drugs, as they only account for mortality ***directly*** caused by drugs, ie conditions with an aetiological fraction of 1.00. The application of aetologic fractions would be necessary to compute the total number of deaths directly and indirectly caused by all drugs ie alcohol, tobacco and illicit drugs. As none of conditions caused by tobacco smoking, except tobacco abuse,[4] have an aetiological fraction of 1.00, smoking mortality has not been quantified in this report.[5]

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[2] ***Manual of the International Classification of Diseases, Injuries and Causes of Death, Ninth Revision.*** Genvea: World Health Organisation, 1977.

[3] Holman CDJ & Armstrong BK. ***The Quantification of Drug Caused Mortality In Australia 1988, Part 1.*** Canberra: Australian Government Publishing Service, 1990, pp. 188-189.

[4] No deaths were recorded as due to this condition, ICD9 code 305.1.

[5] Holman CDJ & Armstrong BK. ***The Quantification of Drug Caused Mortality In Australia 1988, Part 2.*** Canberra: Australian Government Publishing Service, 1990, pp. 346-347.

TABLE 1
ICD9 CODES - MORTALITY DIRECTLY CAUSED BY DRUGS (INCLUDING ALCOHOL)

DRUG TYPE	MENTAL DISORDERS			MEDICAL CONDITION	EXTERNAL CAUSES (E-CODES)			
	DEPENDENCE	NON-DEPENDENT ABUSE	PSYCHOSES		ASSAULT BY POISONING	ACCIDENTAL	SUICIDE	UNDETERMINED
Opiates	3040,3047	3055	292		E9620	E8500-E8503, E8508, E8509	E9500	E9800
Barbiturates	3041	3054	292		E9620	E851	E9501	E9801
Tranquillisers/Sedatives	-	3054	292		E9620	E852, E853	E9502, E9503	E9802, E9803
Anti-Depressants	-	3058	292		E9620	E8540	E9503	E9803
Cocaine	3042	3056	292		E9620	E8552	E9503	E9803
Psychostimulants	3044	3057	292		E9620	E8542	E9503	E9803
Hallucinogens	3045	3053	292		E9620	E8541	E9503	E9803
Cannabis	3043	3052	292		E9620	E8541	E9503	E9803
Volatile Substances	3046	-	292		-	E8620, E8621, E8629, E8666	E9511	E9811
Other & Unpsecified Drugs	3048, 3049	3059	292		E9620	E8504-E8507	E9504, E9505	E9804, E9805
Alcohol	303	3050	291	3575 (Polyneuropathy); 4255 (Cardiomyopathy); 5353 (Gastritis); 5711-5713, 5715-5719 (Liver disease)	-	E8600	E9509	E9809

Source: **Manual of The International Statistical Classification of Diseases, Injuries, and Causes of Death, Ninth Revision.** Geneva: World Health Organisation, 1977.

HOSPITAL MORBIDITY DATA

The morbidity statistics in this report are derived from the Western Australian Hospital Morbidity Data System (HMDS) which includes all short stay hospitals in Western Australia, including the Federal Veteran's Affairs Hospital, but excluding psychiatric hospitals. The HMDS is derived from the data from the summary sheet (HA22) of the medical record of hospital inpatients. At the time of writing there were 113 hospitals included in this system (91 public, 22 private including two free-standing day surgery centres). The HA22, which is completed at separation, allows for a number of levels of coding, ie the principal condition, an underlying cause, other conditions present and operations/procedures.

The HMDS was implemented in all short-stay hospitals on 1 January 1971. All separations from the hospitals are included with the exception of boarders and healthy new born infants. The Health Department of WA assumed full responsibility for the HMDS from 1 January 1981. All aspects of coding, data collection, editing and data retrieval is handled by the Health Services Statistics Unit in the Health Services Statistics and Epidemiology Branch in the Health Department of WA.

As the set of morbidity codes is a dynamic one and is revised in response to changing conditions, this has meant there been revisions in the set of codes used in this State for coding drug-related morbidity. The first set of codes, in Table 2, used for the period 1979 - 1987, enabled coding at the four digit level and was based on the 9th Revision International Classification of Diseases (ICD9).[6] The most recent set of codes, in Table 3, in use since 1988, permits coding to the five digit level and is based on 9th Revision International Classification of Diseases - Clinical Modification (ICD9-CM).[7] The codes used in Tables 2 and 3 distinguish between drug-related in-patient stays that have an external cause and those are due to a medical condition or mental disorder (ie drug dependence and non-dependent abuse).

It is to be noted though it is possible through ICD9-CM codes to differentiate at the five digit level the form of dependent and non-dependent drug abuse, ie unspecified (0), continuous (1), episodic (2) and in remission (3), this breakdown has not been included in this report. It is not possible to obtain valid measures of some types of drug abuse as some codes are not drug specific (eg E9503, E9803) or do not encompass some forms of drug taking (eg poisoning or non-dependent volatile substance abuse), or as some codes are only apply to the drug taking that involves drugs with specific medical uses (eg codes for poisoning by or accidental cocaine use are specific to local anaesthetics).

Coding of the principal condition treated is done according to the principal condition is the final diagnosis of the disease condition treated which best characterised the period of hospitalisation. There are 17 ICD9-CM chapters and 565 items relating to disease type in the Basic Tabulation list. There is a Supplementary Classification of ICD9-CM, the E-codes, which relates to the external cause of injury and poisoning. If any of the conditions given result from an accident, poisoning or violence then the external cause and the place of occurrence is noted. Thus, the E-code could relate to other than the principal condition treated.

Adverse conditions resulting from the proper administration of the correct substance, which are not coded as a poisoning by the ICD9-CM, have been excluded from this report.

Mental Disorders

Drug dependence (drug addiction) is classified by the ICD9-CM as a chronic mental and physical condition related to the patient's pattern of taking a drug or combination of drugs. It is characterised by behavioural and psychological responses, including a compulsion to take the drug to experience its psychic effects or to avoid the discomfort of its absence, an increased tolerance, and an inability to stop use of the drug even with strong incentives. Such individuals often experience physical signs of withdrawal when there is any sudden cessation of drug use.

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[6] ***Manual of The International Statistical Classification of Diseases, Injuries, and Causes of Death, Ninth Revision***. Geneva: World Health Organisation, 1977.

[7] ***International Classification of Diseases, Ninth Revision -Clinical Modification***. Ann Arbor, Michigan: Commission of Professional and Hospital Activities, 1989.

Non-dependent drug abuse is classified by the ICD9-CM as problem drug taking and includes those patients who take drugs to excess but have not reached a stage of dependence. It represents the use of the drug in a maladaptive pattern that may adversely affect social functioning or physical and/or mental health. It may include drug-related conditions such as those associated with alcohol abuse.

Poisoning

Conditions caused by drugs, medicinal substances, and other biological substances are classified as poisoning only when the substance involved is not used in accordance with a physician's instructions. Such use is often described by terms such as:

- wrong medication given or taken
- wrong dosage given or taken
- medication given or taken by the wrong person
- intoxication (other than cumulative effect)
- overdose

A diagnosis of poisoning (ie ICD9-CM codes 960-979) is applied if the admission was the result of when an error was made in drug prescription or in the administration of the drug by physician, nurse, patient, or other person (or) if an overdose of a drug was intentionally taken or administered and resulted in drug toxicity (or when) a non-prescribed drug or medicinal agent was taken in combination with a correctly prescribed and properly administered drug.

Use of E Codes With Poisoning Code

Chronic conditions related to alcohol or drug abuse or dependence are not classified as poisoning, but are assigned codes for both the condition and the abuse or dependence. However, an acute condition due to an overdose of a drug, such as heroin, is classified as a poisoning, with an additional code assigned for the acute manifestation, the dependence, or the abuse, with optional E codes assigned for the circumstances of the episode. For example, acute pulmonary oedema due to an overdose of heroin is classified as poisoning due to heroin, with an additional code assigned for acute pulmonary oedema and an optional E code assigned for the circumstances. There are four sets of E codes are used by the ICD9-CM:

- accidental poisoning (E850-E858)
- suicide or attempt and self-inflicted injury (E950.0-E950.5)
- assault by poisoning (E962.0)
- undetermined (E980.0-E980.5)

TABLE 2
ICD9 CODES(1979-1987) - MORBIDITY DIRECTLY CAUSED BY DRUGS (INCLUDING ALCOHOL)

DRUG TYPE	MENTAL DISORDERS			MEDICAL CONDITION	EXTERNAL CAUSES (E CODES)		
	DEPENDENCE	NON-DEPENDENT ABUSE	PSYCHOSES	POISONING	ACCIDENTAL	SUICIDE	UNDETERMINED
Opiates	3040	3055	2920-2929	9650	E8500	E9500	E9800
Barbiturates	3041	3054	2920-2929	9670	E851	E9501	E9801
Tranquillisers/Sedatives	3041	3054	2920-2929	9676, 9678, 9679, 9691-9695	E852, E853	E9502, E9503	E9802, E9803
Anti-Depressants	-	3058	2920-2929	9690	E8540	E9503	E9803
Cocaine	3042	3056	2920-2929	-	-	E9504	E9804
Psychostimulants	3044	3057	2920-2929	9697, 9700, 9708, 9709	E8542, E8543	E9503	E9803
Hallucinogens	3045	3053	2920-2929	9696	E8541	E9503	E9803
Cannabis	3043	3052	2920-2929	9696	E8541	E9503	E9803
Volatile Substances	3046	-	2920-2929	-	E8620, E8621, E8666	E9509	E9809
Alcohol	303	3050	291	9800	E8600	E9509	E9809

Source: **Manual of The International Statistical Classification of Diseases, Injuries, and Causes of Death, Ninth Revision.** Geneva: World Health Organisation, 1977.

TABLE 3
ICD9 CM CODES(1988+) - MORBIDITY DIRECTLY CAUSED BY DRUGS (INCLUDING ALCOHOL)

DRUG TYPE	MENTAL DISORDERS			MEDICAL CONDITION	EXTERNAL CAUSES (E CODES)		
	DEPENDENCE	NON-DEPENDENT ABUSE	PSYCHOSES	POISONING	ACCIDENTAL	SUICIDE	UNDETERMINED
Opiates	3040	3055	2920-2929	96500-96509	E8500	E9500	E9800
Barbiturates	3041	3054	2920-2929	9670	E851	E9501	E9801
Tranquillisers/Sedatives	3041	3054	2920-2929	9676, 9678, 9679, 9691-9695	E852, E853	E9502, E9503	E9802, E9803
Anti-Depressants	-	3058	2920-2929	9690,	E8540	E9503	E9803
Cocaine	3042	3056	2920-2929	9685	E8552	E9504	E9804
Psychostimulants	3044	3057	2920-2929	9697, 9700, 9707, 9709	E8542, E8543	E9503	E9803
Hallucinogens	3045	3053	2920-2929	9696	E8541	E9503	E9803
Cannabis	3043	3052	2920-2929	9696	E8541	E9503	E9803
Volatile Substances	3046	-	2920-2929	-	E8620, E8621, E8666	E9509	E9809
Alcohol	303	3050	2910-2919	9800	E8600	E9509	E9809

Source: **International Classification of Diseases, Ninth Revision, Clinical Modification.** Ann Arbor, Michigan: Commission of Professional and Hospital Activties, 1989

CRIME DATA

Drug-related crime is difficult to measure as it consists of both crime *directly* related to drug use, for instance, offences to do with the cultivation, possession, use, manufacture, importation, sale or distribution of prohibited substances, and crime *indirectly* related to drug use as would occur in the course of raising income to purchase drugs, for instance, offences like stealing, breaking and entering, robbery, fraud or false pretences.

At present there is no method of accurately calculating the proportion of crime *indirectly* related to drug use. As we may never accurately known the full extent of both direct and indirect drug-related crime, the seizure, arrest and conviction data used for this report can only be regarded as a partial measure of the social cost of drug use.

The three major sources of information used in this report for data on drug-related crime are derived from police arrest and seizure data, convictions recorded by Western Australian courts and survey data on the composition of the WA prison population.

Arrest and Seizure Data

Charges are laid by the Australian Federal Police for breaches of Commonwealth law, such as the ***Customs Act***, within Western Australia. However, as Federal prosecutions are handled through the State court system, Federal convictions are aggregated in Western Australian court statistics (see below). Under WA law the majority of drug offences are contained in the ***Misuse of Drugs Act 1981***, though there are a small number of offences in the ***Poisons Act 1964***.

Conviction Data

There is a three-tiered court system in Western Australia, the Children's Court which deals with offences by persons aged under 18 and with offences against persons under 18, the Courts of Petty Sessions, which handle the bulk of charges against adults, and the higher courts, the District and Supreme Courts.

The Australian Bureau of Statistics (ABS) publishes biennial statistics for the Children's Courts and the Courts of Petty Sessions, and annual statistics for the higher courts in WA. All types of offences are contained tabulated in the ABS report series and are classified by the ABS according to the *Australian National Classification of Offences* (ANCO).[8] However, this data should be interpreted carefully as an individual may have multiple convictions as a result of a single court appearance. Without appropriate adjustments this means that total numbers of convictions and charges would provide distorted information about characteristics of individual offenders.

Depending on the seriousness of an offence and the quantity of drugs involved, the ***Misuse of Drugs Act 1981*** provides a system whereby less serious, so-called simple offences, are tried summarily in the courts of petty sessions, and more serious offences, so-called indictable offences, are tried in the higher courts. The ***Misuse of Drugs Act 1981*** also creates a ranges of penalties that apply depending on the offence, a defendant's plea and the court passing the sentence. This means that under some circumstances the lower courts may be involved in passing sentences for what may be regarded as more serious offences.

Composition of the Prison Population Data

The Australian Institute of Criminology has conducted a national census of prisons on 30 June each year since 1982. On the day of the census it is possible to enumerate the number of individuals who are serving terms of imprisonment for drug offences for whom a drug offence was the most serious offence that was responsible for their contemporary period of incarceration. It is believed that results from each Census provide a representative profile of the annual WA prison population.

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[8] ***Australian National Classification of Offences, 1985, Cat. 1234.0.*** Australian Bureau of Statistics.

PUBLIC HEALTH DATA

Two viral (ie infectious) diseases, Hepatitis B and the human immunodeficiency virus (HIV), are associated with injecting drug use (IDU). The prevalence of these diseases can be established by analysis of information supplied by law to the Health Department of WA as both are notifiable conditions. HIV infection and AIDS have been notifiable diseases under the ***Health Act*** since January 1985. Notification occurs through classification as being both *notifiable diseases* (***Health Act***, Section 3) and *dangerous infectious diseases* (***Health Act***, Section 248).

Hepatitis B Notifications

The disease serum hepatitis, also known as Hepatitis B, is a disease of the liver that may be transmitted through the re-use of non-sterile injection equipment. Hepatitis B is a notifiable disease under the Health Act; however, as it is difficult to accurately distinguish infection due to injecting drug use from other causes, such as from blood transfusions or sexual contact, this data should not be regarded as a reliable indicator of drug use. As Hepatitis C is a disease that is transmitted through the re-use of non-sterile injection equipment it is also a potential indicator of IDU, however, as it is not a notifiable disease data is not at present available on its incidence.

HIV Notifications

Since the early 1980s HIV has been recognised in populations of injecting drug users (IDUs) who have become infected through re-use of non-sterile injection equipment contaminated with the virus or through unprotected sexual contact with individuals already infected with HIV. Though the majority of HIV infection in Australia has occurred as a result of unprotected sexual contact between males, more recently its incidence has started to increase amongst populations of IDUs.

All HIV and AIDS notifications incorporate basic information about the person being notified (eg gender, date of birth, Aboriginality and postcode of residence) plus further detail depending on clinical status:

(a) a confirmed positive HIV antibody test requires the notifier to provide an alpha identifier consisting of the first two letters of the surname and given name; and
(b) laboratory evidence of immune dysfunction requires the full name and address of the individual.

Clinical manifestations of AIDS may fall into four types:

(a) acute mononucleosis-like syndrome;
(b) asymptomatic with no clinical signs;
(c) palpable lymphadenopathy at two or more sites persisting for three months or more; and
(d) other clinical manifestations, eg fever or diarrhoea persistent for one month or more and involuntary weight loss of greater than 10%; dementia, myelopathy or peripheral neuropathy, secondary infections, or secondary cancers.

It is to be noted that the rates of HIV infection among IDUs in Australia are very low in comparison to a number of other countries. As there is a high risk for HIV infection to be readily transmitted between IDUs through needle sharing, or between IDUs and their partners through sexual contact, a greater awareness has developed that the highest priority of drug treatment programs has to be to reduce HIV risk factors rather than focus exclusively on abstinence. This change in emphasis has been implemented through measures such as HIV testing of IDUs to raise awareness, education programs to change high risk behaviour and attitudes, and increased access to sterile injection equipment.

Notifications of Drug Addiction

As part of the public health measures to monitor the use of drugs, all medical practitioners in this State are required by law to provide the Executive Director of Public Health with specific information about individuals whom they believe are "drug addicts". The registers of notifications of drug addiction by medical practitioners can be a valuable indicator of illicit and licit drug use. Addiction to drugs is a "prescribed condition of health" under section 289B of the ***Health Act.*** The ***Notifications of Disease (Non-Communicable) Regulations 1958*** that were replaced by the ***Drugs of Addiction Notification Regulations 1980*** require any medical practitioner to notify the Executive Director of Public Health if the doctor knows or suspects an individual is a drug addict. It is to be noted that a signficant number of notifications pertain to persons who are new admissions to the methadone program.

In their present form the Regulations permit an individual's name to be on a confidential register. Names are removed after 5 years from the Register if there is no further contact with the Health Department either directly or indirectly in relation to the use of drugs of addiction. There are a small number of persons registered as medical addicts, whose addiction arose as a consequence of being prescribed a drug of addiction over an extended period of time for the treatment of a medical condition.

It is difficult to know the extent to which the notifications of addiction are representative of the total population of drug abusers. As it is likely that individuals who come to the notice of the medical profession do so only after they have abused drugs long enough to have experienced adverse effects on their health, demographic information from a notification system will be biased towards older and more dependent drug abusers, compared to younger and recreational users. Improvements in doctors' skill, pressure from regulatory agencies and increased awareness by medical practitioners may also affect the reporting rates of notification.

Distribution of Needles and Syringes

Access to sterile injection equipment to reduce the transmission of the HIV to uninfected individuals is fundamental to the HIV/AIDS prevention strategy. There have been two major initiatives in this State to improve access to sterile injection equipment and increase IDUs knowledge of safer practices. The first has involved retail pharmacies throughout the State selling the SS5 pack (ie 5 sterile syringes), and the second has been an outreach program sponsored by the West Australian AIDS Council (WAAC) in the Perth metropolitan area to distribute clean injection equipment and collect used syringes and needles (N&S) for disposal.

Since June 1987 retail pharmacists in WA have sold the SS5 pack. The SS5 Pack, which retails for about $3.00, contains AIDS preventive information, a swab, 5 sterile 1 ml syringes and needles, a condom and lubricant and a rigid disposal container. The SS5 pack is sponsored by the Health Department's AIDS Bureau and the Pharmaceutical Council of WA and is a jointly funded (50:50) Commonwealth/State AIDS prevention program.

The ADA has supported increased access to N&S from the Central Drug Unit, its only 24 hour facility. This service started in March 1989 and provides SS5 packs, which at the time of writing were available at no cost, on request. This service operates from midnight to 7am, seven days per week.

The WAAC in conjunction with the Beaufort 565 Sauna started the first needle and syringe exchange (NSE) program in WA in July 1987 whereby IDUs were able to bring in used N&S and exchange them for new N&S. In June 1988 the WAAC started a Drug Outreach Program targeted at recreational drug users, by setting up a NSE from a van. The PSST (Practise Safe Sex Today) van provides a mobile needle exchange, a source of preventive literature, condom distribution, referral to appropriate agencies and information about AIDS assessment. The van operates at scheduled pre-determined sites in the Perth inner-city area, where most of its N&S are distributed, as well as from discreet locations in a number of suburbs.

DRUG-RELATED TELEPHONE CALLS

The Alcohol and Drug Information Service (ADIS) has operated since June 1986 and is a 24 hour state-wide service funded by the National Campaign Against Drug Abuse (NCADA), and operated by the ADA. The object of ADIS is to provide confidential counselling and referral on alcohol and other drug problems for drug users, their relatives and friends and information to students, health and welfare workers and the general public. Non-identifying data are routinely collected on each call, such as type of drug mentioned, status of the caller (eg user, friend etc), age and sex of caller, outcome of the call, etc. ADIS provides a 008 service for non-metropolitan callers.

It is to be noted that the number of calls to ADIS may be affected by a number of factors, such as campaigns concerned with particular issues, eg the Drinksafe initiative, the Minor Tranquilliser campaign, the AIDS Campaign and the QUIT campaign, and seasonal factors.

TREATMENT PROGRAMS

Limited data is available about the characteristics of the populations attending statutory, fee-for-service and non government treatment services in this State. At present only the ADA's methadone program supports a statistical system that provides data on a *quarterly* basis about the size, status and demographic characteristics of its treatment population. The other source of ADA data, for its residential programs, only provides information about characteristics of the treatment population obtained at the time of an admission.

Non Government Programs

There are a number of programs for individuals and families with difficulties due to the use of alcohol and other drugs, such as short and long-term residential facilities, self-help groups, sobering-up shelters, fee-for-service practitioners and specialist drug programs for women at King Edward Memorial Hospital and the Perth Women's Centre.

Up to the time of writing a standardised computerised data collection system was not operating from which to obtain data about usage of services and demographic characteristics of the treatment populations attending non-government organisations (NGOs). However, as the ADA has successfully trialled a computerised client admission and discharge system, called WADaisy, which has built-in menus to provide quarterly statistical reports, it is likely that in the future more adequate data will be available from some of these NGOs.

Methadone Program

Methadone has been dispensed as a linctus, ie syrup formulation in a 20 ml cordial mixture to participants in the WA program since 1978; prior to this time it was provided as tablets. As the cost of methadone linctus is borne by the Commonwealth through the Pharmaceutical Benefits Scheme, Australia-wide methadone this data is only available from the Drugs of Dependence Branch of the Department of Health, Housing and Community Services.

Though methadone has been prescribed as a treatment for the treatment of opiate addiction in WA since late 1973, there is limited data available about the size of the treatment population for the period between 1973 and 1977 as general practitioners and private specialists prescribed methadone to drug abusers. Since 1978 only the ADA has been authorised in this State to prescribe and provide methadone as the previous system had resulted in widespread diversion of methadone tablets to the illicit drug market and was also responsible for a number of deaths of drug abusers.[9] This means that data on the size of the *annual* methadone treatment population is available only for the period since 1978.

[9] Swensen G. Opioid drug deaths in Western Australia: 1974-1984. ***Australian Drug & Alcohol Review***, 1988: 181-185.

Central Drug Unit

Historically the ADA provided separate services depending on whether the primary problem involved licit or illicit drugs. An inpatient detoxification unit and an outpatient service were established at Carrellis Centre for users of licit drugs such as alcohol and prescription drugs. Prior to the establishment of the Central Drug Unit (CDU) in May 1986, illicit drug users who required inpatient management either attended Aston Hospital, the former ADA detoxification facility in West Perth for both licit and illicit drug users, or one of the non-government residential drug-free programs. At its inception the CDU operated in the former Aston Hospital; in January 1989 the CDU moved to purpose-built premises in Moore Street, East Perth. [10]

The object of the CDU was to provide a single common inpatient detoxification facility for illicit drug users before admission to residential drug-free programs in Perth. Though the CDU was funded as a hospital, it adopted a philosophy of minimal medication use and that participants undertake some responsibility for day-to-day domestic tasks. Data is not available for the period from May - December 1986.

Court Diversion Service

The Court Diversion Service (CDS), a co-operative service between the ADA, the courts, the Department of Corrective Services and a number of drug agencies, has operated since February 1988. The CDS provides the courts with sentencing options when dealing with drug offenders by directing them, as a condition of bail, to a drug treatment program. The court may take into account progress achieved through treatment at the post-conviction stage of the court process. The CDS has emphasised the inpatient mode of treatment by detoxification at the CDU prior to admission to a residential program conducted by one of the non-government agencies.

Sobering Up Centres

Alcohol abusers make demands on community resources in a number of ways, for not only are police resources used to deal with them when they are intoxicated, but alcohol-related injuries are responsible for admissions to hospitals. Additionally, the incidence of alcohol-related domestic violence is responsible for the involvement of further community resources to deal with the consequences for those affected.

The object of sobering-up centres is to prevent this cycle of consequences to the family and other parts of the community whilst at the same time ensuring that the drinker him/herself is being cared for. On the basis of experience in other jurisdictions that police may be more willing to pick up persons who are intoxicated in public when there is an appropriate facility to care for them, it is expected that in the longer term there will be an overall reduction in the some of the indicators of alcohol-related harm.

The impetus for establishing sobering up centres stemmed from the work of the ***Royal Commission Into Aboriginal Deaths In Custody***. The ADA received $600,000 in the 1989-90 financial year from the Aboriginal and Torres Strait Islander Commission (ATSIC) to establish four sobering-up centres in Perth, Port Hedland, Halls Creek and Fitzroy Crossing. The Perth centre was established by the end of 1990.

The centres were to be set up on a community-based management model with the emphasis on a welfare rather than medical approach, ie to only provide an overnight stay, so as to protect people when they are vulnerable due to an incident of intoxication. [11]

It is believed that sobering-up centres reduce the negative consequences of drinking on the individual, their family, affected service agencies, and the community in general. For instance, in the last year prior to decriminalisation of public drunkenness, there were a total of 13,519 arrests for public drunkenness in WA.[12] Even though this represents a very large number of people going into police lockups, it probably represents only a proportion of the total number of persons who were drunk in public but were not detained by the police.

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[10] Note in 1991 the ADA decentralised its metropolitan services as a regionalised community-based service and amalgamated both detoxification units at the CDU site in East Perth.

[11] Cf Daly A & Midford R. Social welfare program evaluation in traditionally oriented Aboriginal communities. In Australasian Evaluation Society International. *Conference 1992: Proceedings, Vol. 1*. St Kilda: Australasian Evaluation Society, 1992.

[12] The *Acts Amendment (Detention of Drunken Persons) Act 1989* was passed in December 1989 and proclaimed on 27 April 1990.

CONSUMPTION DATA

It is essential that alcohol and other drug consumption data is available. At the time of writing only alcohol consumption data was available, and as will be shown below this can only be considered to be accurate for the period from 1988. It is hoped that in the future tobacco consumption data will become available, by access to records of sales of tobacco products through the system of taxes on tobacco products.

Alcohol Consumption Data

The excessive use of alcohol imposes a heavy burden on both individuals and the community through accidents on the road and at work, lost productive capacity through illness and absenteeism, alcohol-related crime, and illnesses requiring inpatient hospital treatment. These costs are both tangible and intangible and difficult to quantify. A recent NCADA study found that in 1988 the economic cost of excessive alcohol use in Australia totalled $6,027.4 million. [13]

A National Health and Medical Research Council publication provides detailed arguments in favour of reducing the excessive use of alcohol. [14] Measures have been devised in this State to reduce the costs of alcohol-related harm, for instance, the Health Promotion Service's Drinksafe Campaign and Random Breath Testing (RBT) by the Police Department.

An assumption of many alcohol harm-reduction measures is the concept of a single-distribution theory of alcohol consumption, what is usually described as the *control-of-consumption approach.* This approach postulates that regulation of alcohol consumption is fundamental to reducing alcohol-related harm because of a causal relationship between availability, average consumption, the proportion of heavy drinkers, and the prevalence of heavy damage. Together these four variables are referred to as the Ledermann string.[15]

Two sources of information are used in this report to infer alcohol consumption in WA. The first, from records of annual sales data of alcoholic beverages provided by the Liquor Licensing Division of the Office of Racing and Gaming (ORG), contains data that can be manipulated to estimate the *per capita* consumption of specific types of alcoholic beverages. The second, from the analysis of self-report data from representative surveys, provides age and gender specific patterns of alcohol consumption.

In 1988 the Liquor Licensing Division of the ORG established a computerised system to collate returns of sales of alcohol suppliers. Though the principal function of the system is administrative and for the more efficient collection of licensing fees, it also provides an accurate breakdown of alcohol sales in this State.

As ORG sales data has only been available since 1988 there are some difficulties in the estimation of alcohol consumption prior to 1988. At the time of writing the data for the period 1985-1987 had not been estimated, nor extracted from records of returns held by the Liquor Licensing Division of ORG.

Estimated consumption data for the period 1968-1984 was published in a 1988 Health Department of WA publication.[16] Problems with the accuracy of this estimation of alcohol consumption in WA for the 1968-1984 period were due to:

- the lack of published data from licensing bodies;
- spirit consumption was based on Australian rates;
- beer and wine consumption was dependent on locally published data eg sales of WA wine from the ABS and annual reports of the Swan Brewery.

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[13] Collins DJ & Lapsley HM. ***Estimating the Economic Costs of Drug Abuse In Australia. Monograph Series No. 15.*** Canberra: Australian Government Publishing Service, 1991.

[14] National Health & Medical Research Council. ***Is There A Safe Level of Daily Conumption of Alcohol for Men and Women? Recommendations Regarding Responsible Drinking Behaviour, 2nd Ed.*** Canberra: Australian Government Publishing Service, 1992.

[15] Cf Ravn I. The control-of-consumption approach to alcohol abuse prevention. I. A Reconceptualisation. ***International Journal of Addictions***, 1987, 22: 813-23.

[16] Health Department of WA. ***DrinkSafe- Alcohol and Health In Western Australia, A Resource Book.*** Perth, Health Promotion Services Branch, Health Department of WA, 1988.

CHAPTER 2

MORTALITY DATA 1981 - 1990

CHAPTER 2 - MORTALITY DATA

2.1 DRUGS OTHER THAN ALCOHOL

Gender

In the 10 year period 1981-1990 there were 525 deaths directly caused by drugs in WA, of which 323 (61.5%) were male and 202 (38.5%) were female.

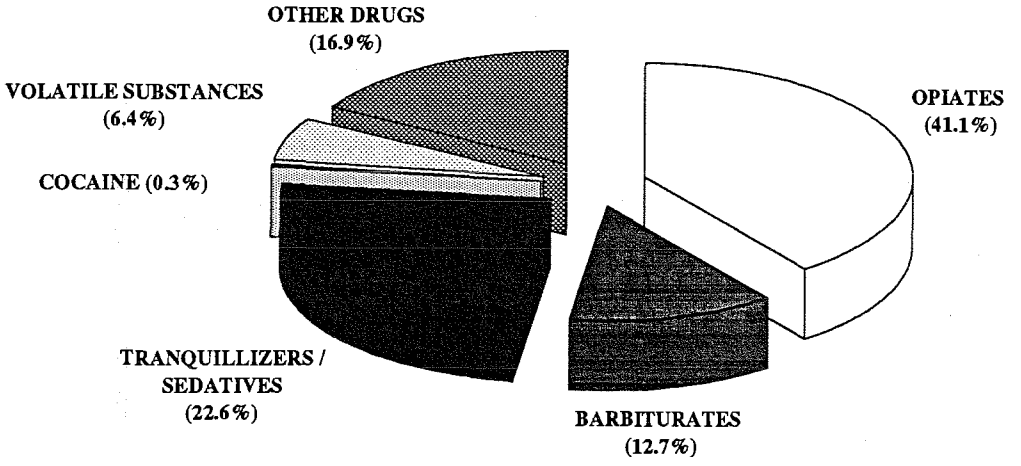
A detailed breakdown of these deaths by year of registration, gender and type of drug is given in Table 4.

A number of marked differences were found between the proportion of male and female deaths according to drug type:

- opiates were responsible for 41.1% of male deaths compared to 26.9% of female deaths;
- tranquillisers/sedatives were responsible for 22.6% of male deaths compared to 39.2% of female deaths; and
- volatile substances were responsible for 6.4% of male deaths compared to 0.5% of female deaths.

Charts 2.1 and 2.2 illustrate differences in frequencies of each of the seven groups of drugs as causes of death of males and females in the 10 year period.

CHART 2.1
TOTAL DRUG (OTHER THAN ALCOHOL) DEATHS BY TYPE OF DRUG, MALES
WESTERN AUSTRALIA: 1981 - 1990



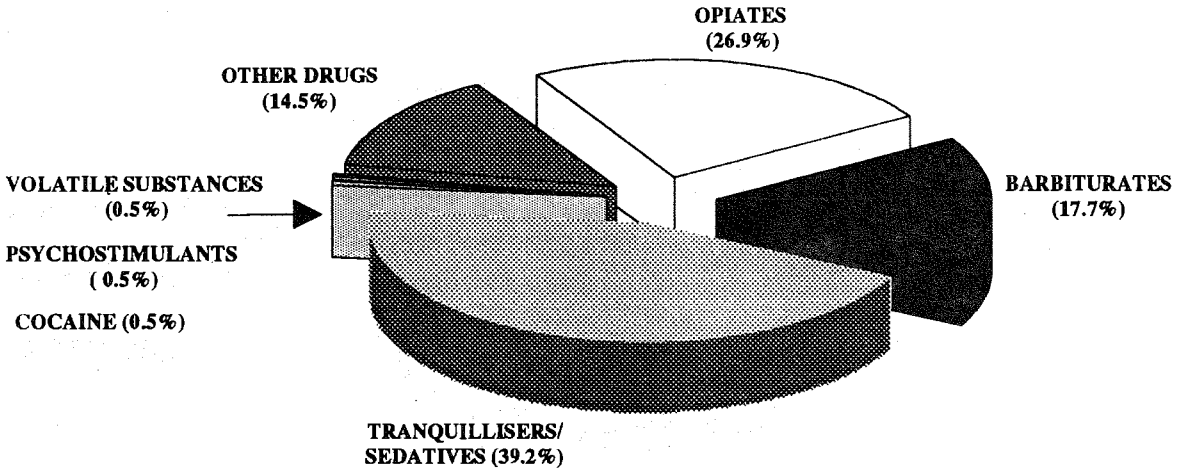
REFER TO TABLE 4

TABLE 4
NUMBER OF DRUG-RELATED DEATHS, WA: 1981-1990
YEAR OF REGISTRATION BY DRUG TYPE BY GENDER

DRUG TYPE	1981		1982		1983		1984		1985		1986		1987		1988		1989		1990		1981-1990	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Opiates	3	-	8	4	9	3	12	8	18	9	12	8	13	3	17	8	18	5	19	2	129	50
Barbiturates	10	5	5	6	5	8	7	6	4	2	4	3	3	2	-	-	2	1	-	-	40	33
Tranquillisers/Sedatives/Anti-Depressants	3	7	4	7	8	6	10	14	8	6	7	8	14	14	7	10	7	7	12	10	80	89
Cocaine	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
Psychostimulants	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	1
Volatile Substances	2	-	-	-	-	-	1	-	1	-	4	-	4	-	1	1	3	-	4	-	20	1
Other & Unspecified Drugs	2	1	2	1	7	2	3	2	4	10	12	6	9	1	5	-	4	2	5	2	53	27
TOTAL	**21**	**13**	**19**	**18**	**29**	**19**	**33**	**30**	**35**	**27**	**39**	**25**	**43**	**20**	**30**	**19**	**34**	**15**	**40**	**16**	**323**	**202**

Source: Health Department of Western Australia, Health Services Statistics & Epidemiology Branch
Note: No deaths related to hallucinogens or cannabis

CHART 2.2
TOTAL DRUG (OTHER THAN ALCOHOL) DEATHS BY TYPE OF DRUG, FEMALES
WESTERN AUSTRALIA: 1981 - 1990



REFER TO TABLE 4

Age Group

A breakdown of mortality by age group found:

- the highest number of deaths, 191 (36.4%) cases, involved the 40 and over age group;
- the second most frequent number of deaths, 162 (30.9%) cases, involved the 20-29 age group;
- the third most frequent number of deaths, 137 (26.1%) cases, involved the 30-39 age group; and
- the least frequent number of deaths, 35 (6.7%) cases, involved the 10-19 age group.

No deaths were recorded in the 0-9 year old age group: Table 5.

TABLE 5
NUMBER OF DRUG-RELATED DEATHS, WA: 1981-1990
YEAR OF REGISTRATION BY DRUG TYPE BY AGE GROUP

DRUG TYPE	AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981-1990
Opiates	10-19	-	-	-	3	-	-	4	-	-	-	7
	20-29	2	5	6	12	17	8	6	12	6	5	79
	30-39	1	3	4	3	8	9	5	10	13	11	67
	40+	-	4	2	2	2	3	1	3	4	5	26
Barbiturates	10-19	-	-	-	1	1	-	-	-	-	-	2
	20-29	2	3	3	4	2	1	-	-	2	-	17
	30-39	4	4	2	1	1	2	-	-	-	-	14
	40+	9	4	8	7	2	4	5	-	1	-	40
Tranquillisers	10-19	-	-	1	1	1	-	2	1	-	-	6
Sedatives	20-29	4	1	3	7	2	3	5	3	3	1	32
Anti-Depressants	30-39	3	3	2	6	2	6	3	4	2	6	37
	40+	3	7	8	10	9	6	18	9	9	15	94
Cocaine	10-19	-	-	-	-	-	-	-	-	-	1	1
	20-29	1	-	-	-	-	-	-	-	-	-	1
	30-39	-	-	-	-	-	-	-	-	-	-	-
	40+	-	-	-	-	-	-	-	-	-	-	-
Psychostimulants	10-19	-	-	-	-	-	-	-	-	-	-	-
	20-29	-	-	-	-	-	-	-	-	-	1	1
	30-39	-	-	-	-	-	-	-	-	-	-	-
	40+	-	-	-	-	-	-	-	-	-	-	-
Volatile Substances	10-19	1	-	-	1	-	-	2	2	2	2	10
	20-29	1	-	-	-	1	4	1	-	1	2	10
	30-39	-	-	-	-	-	-	-	-	-	-	-
	40+	-	-	-	-	-	-	1	-	-	-	1
Other & Unspecified	10-19	-	-	1	-	-	3	-	2	3	-	9
Drugs	20-29	-	1	5	1	3	5	5	1	-	1	22
	30-39	1	1	2	1	4	3	2	1	1	3	19
	40+	2	1	1	3	7	7	3	1	2	3	30
	10-19	**1**	**-**	**2**	**6**	**2**	**3**	**8**	**5**	**5**	**3**	**35**
TOTAL	**20-29**	**10**	**10**	**17**	**24**	**25**	**21**	**17**	**16**	**12**	**10**	**162**
	30-39	**9**	**11**	**10**	**11**	**15**	**20**	**10**	**15**	**16**	**20**	**137**
	40+	**14**	**16**	**19**	**22**	**20**	**20**	**28**	**13**	**16**	**23**	**191**
		34	**37**	**48**	**63**	**62**	**64**	**63**	**49**	**49**	**56**	**525**

Source: Health Department of Western Australia, Health Services Statistics & Epidemiology Branch
Note: No deaths in age group 0-9 years (excluded)

Type of Drug

The most common type of drug involved was opiates, 179 (34.1%) cases, followed by tranquillisers/sedatives/anti-depressants, 169 (32.2%) cases, other and unspecified drugs, 80 (15.2%) cases, barbiturates, 73 (13.9%) cases, and volatile substances, 21 cases (4.0%): Table 4.

There were two deaths due to the use of cocaine, one in 1981 and one in 1990; the cause of death of the 1990 case was assault by poisoning. There was one death in 1990 due to the use of psychostimulants.

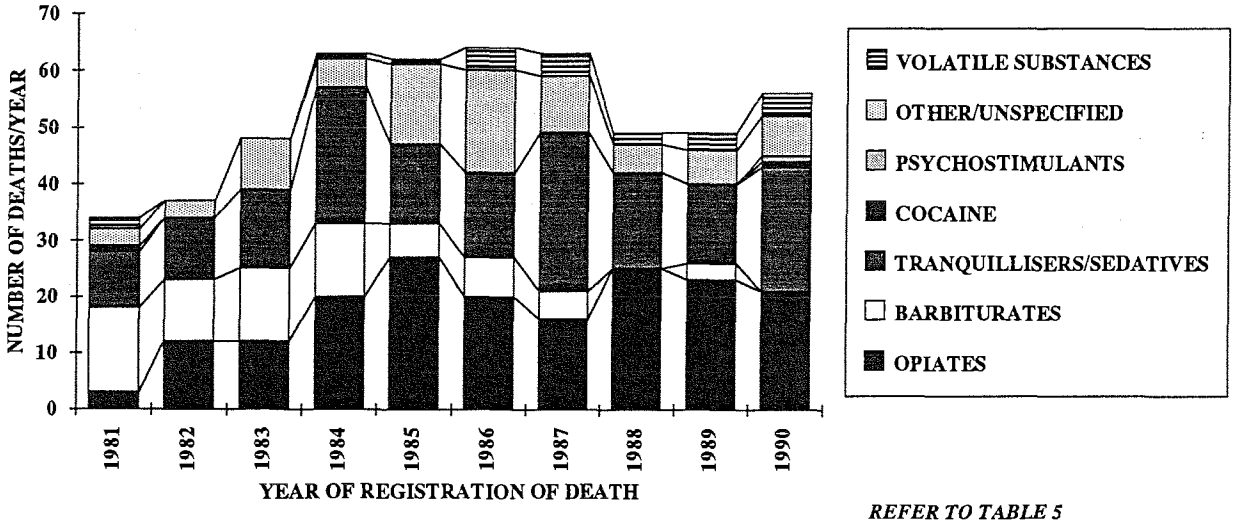
There were no deaths due to the use of hallucinogens or cannabis in the 10 year period.

Chart 2.3 shows that opiates have largely contributed to the increase in the number of drug-related deaths that has occurred since 1981. In 1981 there were 34 deaths, 3 (8.8%) of which were opiate-caused; in 1990 there were 56 deaths, 21 (37.5%) of which were opiate-caused.

A more detailed analysis of the opiate mortality data is needed, including the involvement of prescribed opiates, as research in this State for the period 1974-1984 found that nearly two thirds of opiate-caused mortality was from opiates of licit origin.[17] If illicit opiates have become a more frequent cause of mortality since the 1984 study, then prevention of this type of drug mortality depends on measures implemented by D&A programs to reduce demand and strategies by law enforcement strategies to reduce supply.

The consistent pattern of high numbers of tranquilliser/sedative/anti-depressant deaths over the 10 year period requires further investigation, as arguably this type of drug death ought to be readily preventable, as these types of drugs are likely to have had a licit origin, as they are readily obtainable by prescription.

CHART 2.3
NUMBER OF DRUG (OTHER THAN ALCOHOL) DEATHS, WA: 1981-1990
YEAR OF REGISTRATION BY TYPE OF DRUG



REFER TO TABLE 5

[17] Swensen G. Opioid drug deaths in Western Australia: 1974-1984. *Australian Drug & Alcohol Review*, 1988; 7: 181 - 185.

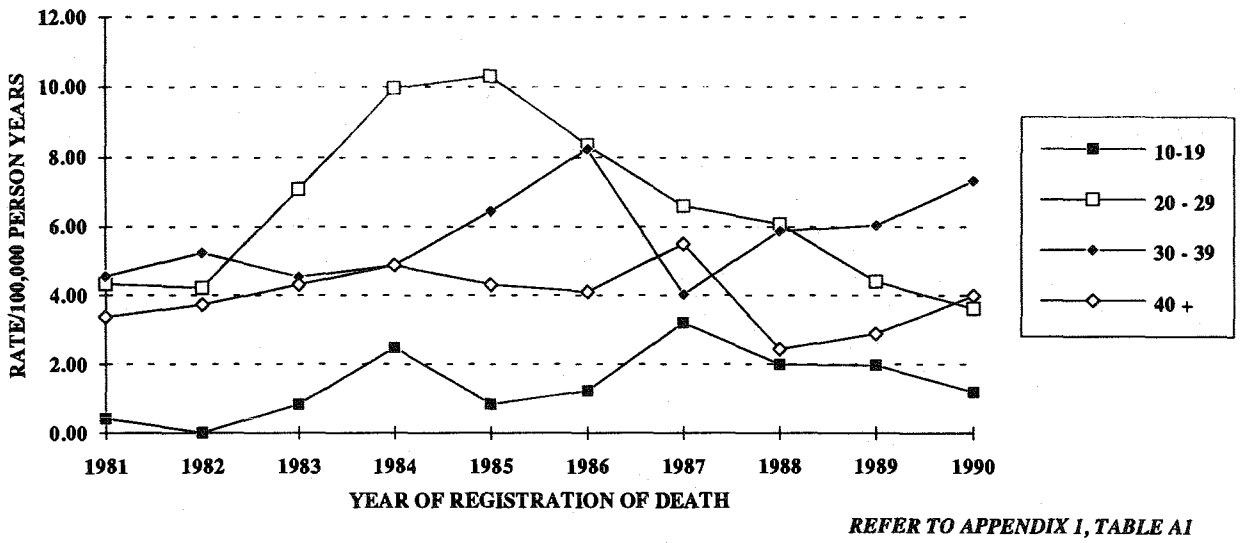
Age Specific Mortality Rates

A striking result was the change that occurred over the period in the age specific mortality rate of 20-29 age group.

The rate of the 20-29 age group rose sharply from 4.33 in 1981 to 10.29 in 1985, then declined to 3.61 in 1990. A major factor in this pattern was due to an increase in the number of deaths caused by opiates. (See below in Chart 2.6.)

It should be noted the 1985 rate of the 20-29 age group was the highest recorded by any age group over the 10 year period and that by 1990 the rate had sharply dropped to 3.61, a rate below the rate recorded in 1981: Chart 2.4.

CHART 2.4
AGE SPECIFIC MORTALITY RATES, ALL DRUGS (OTHER THAN ALCOHOL), WA: 1981-1990
YEAR OF REGISTRATION BY AGE GROUP



REFER TO APPENDIX I, TABLE A1

Type of Drug: Age Standardised Mortality Rates

Throughout the 10 year period the opiates and tranquillisers/sedative/anti-depressant drug groups consistently had the highest age standardised mortality rates: Chart 2.5 (see over).

The most important findings were that:

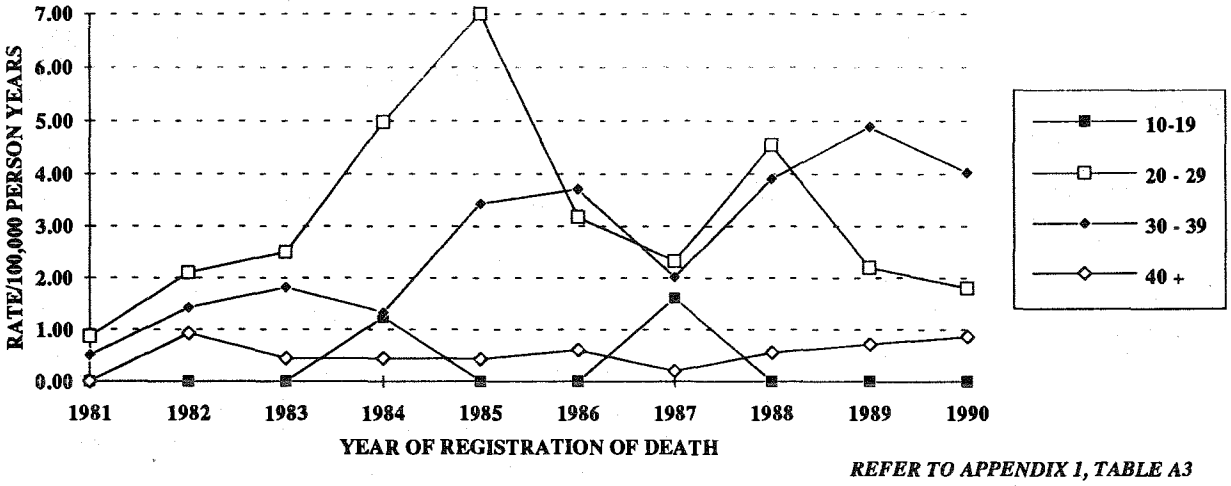
- the opiates rate increased by nearly 8-fold, from 0.20 in 1981 to 1.67 in 1985, then decreased to 1.05 in 1990;
- the tranquilliser/sedative/anti-depressant rate nearly doubled, from 0.69 in 1981 to 1.15 in 1990; and
- the barbiturate rate sharply dropped.

Age Specific Mortality Rate: Opiates

Examples of drugs in this group are: buprenorphine (Temgesic), codeine phosphate (Codiphen, Veganin) dextromoramide (Palfium), dextropropoxyphene (Digesic, Doloxene), diacetylmorphine (heroin), morphine, oxycodone (Proladone), papaveretum (Omnopon), pentazocine (Fortral), pethidine, and physeptone (Methadone).

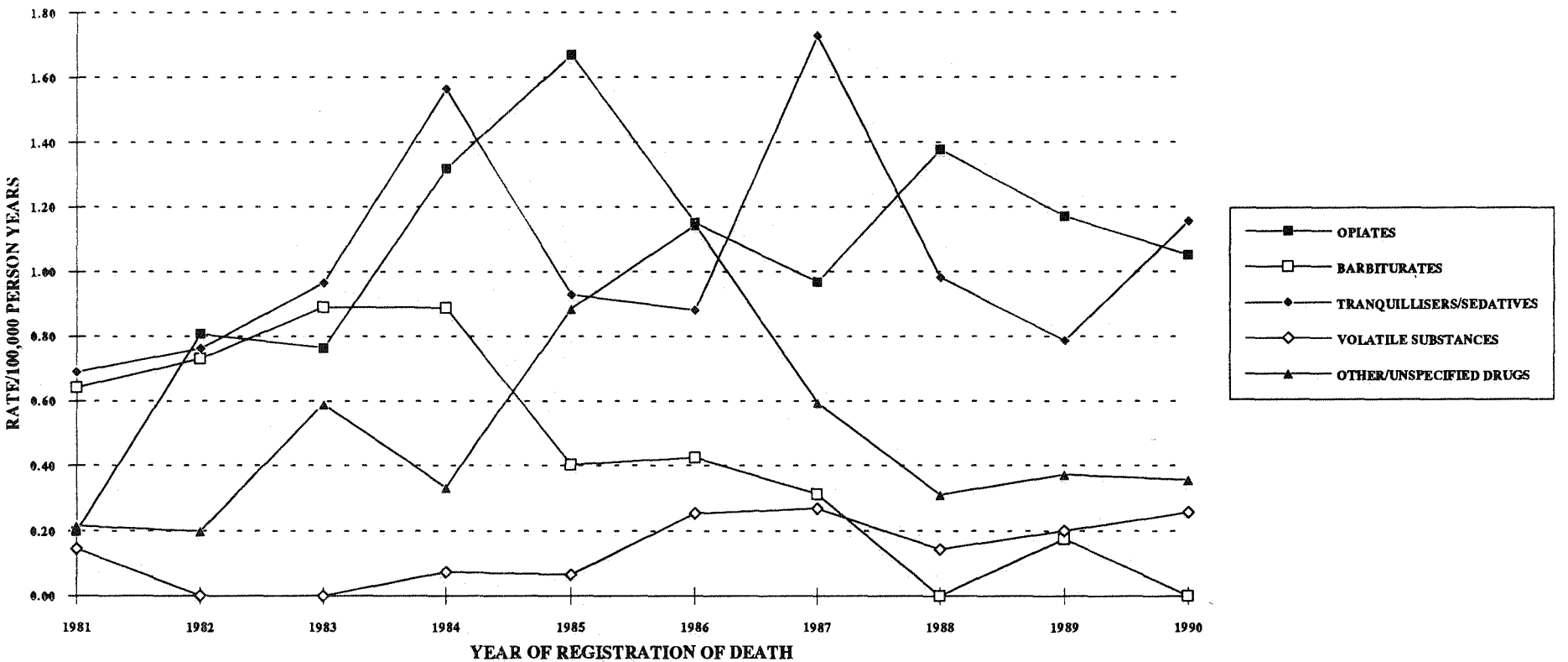
The data in Chart 2.6 shows clearly while there was a sharp decrease in the age specific mortality rate of 20-29 age group after 1985; over the whole period there was a general upward trend in the age specific mortality rate of the 30-39 age group.

CHART 2.6
AGE SPECIFIC MORTALITY RATES, OPIATES, WA: 1981-1990
YEAR OF REGISTRATION BY AGE GROUP



REFER TO APPENDIX 1, TABLE A3

CHART 2.5
AGE STANDARDISED MORTALITY RATES, ALL DRUGS (OTHER THAN ALCOHOL)
WESTERN AUSTRALIA: 1981-1990
YEAR OF REGISTRATION BY TYPE OF DRUG



Note: Psychostimulants and Cocaine Not Included As Numbers Are Very Small

REFER TO APPENDIX 1, TABLE A2

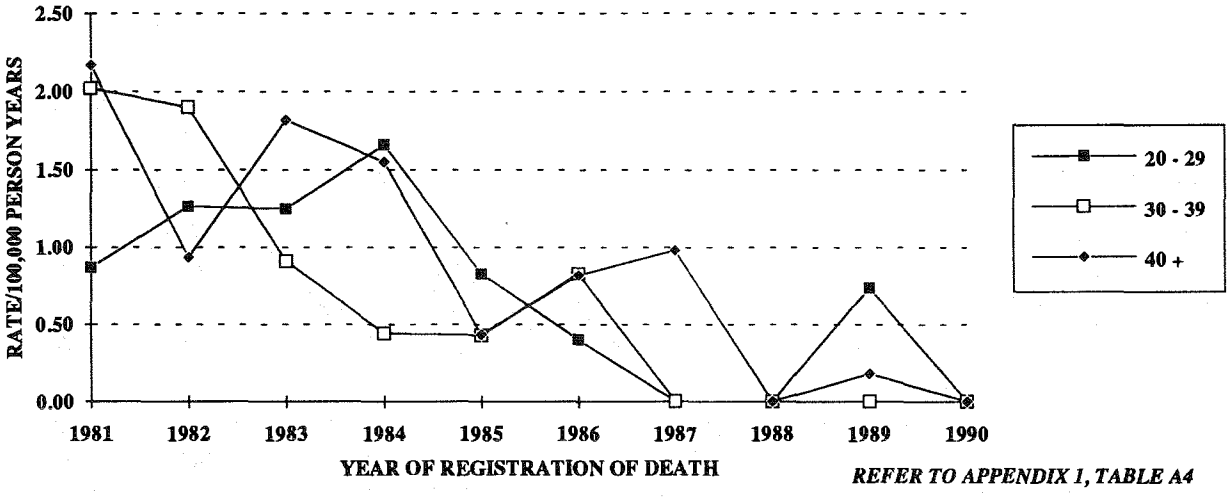
Age Specific Mortality Rate: Barbiturates

Examples of drugs in this group are: amylobarbitone sodium (Sodium Amytal, Neur-Amyl), butobarbitone (Soneryl), pentobarbitone (Carbrital, Nembutal), and sodium pentobarbitone (Nembudeine).

There was a clear downward trend across all age groups in the age specific barbiturate mortality rate over the period: Chart 2.7.

It is noted that by 1990 no deaths were reported: Table 5.

CHART 2.7
AGE SPECIFIC MORTALITY RATES, BARBITURATES, WA: 1981-1990
YEAR OF REGISTRATION BY AGE GROUP



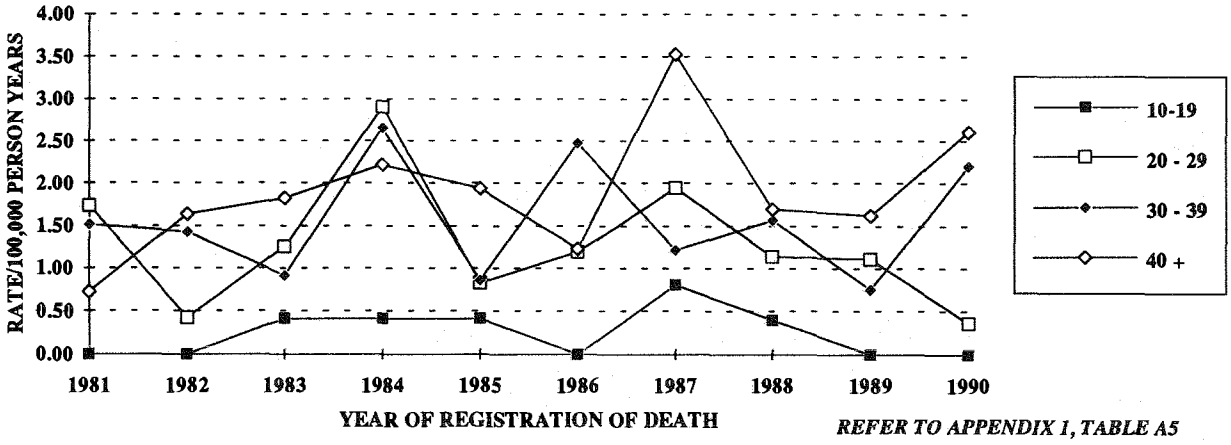
REFER TO APPENDIX 1, TABLE A4

Age Specific Mortality Rate: Tranquillisers/Sedatives/Anti-Depressants

Examples of drugs in this group are: amitriptyline (Laroxyl, Tryptanol, Tofranil), chloral hydrate (Noctec), chlordiazepoxide (Librium), chlorpromazine (Largactil), diazepam (Ducene, Valium), dothiepin (Prothiaden), doxepin (Sinequan), flunitrazepam (Rohypnol), fluphenazine (Anatensol), nitrazepam (Mogadon), flurazepam (Dalmane), lorazepam (Ativan), lithium (Priadel), nortriptyline (Allegron, Nortab), oxazepam (Serepax), paraldehyde, promazine (Sparine), temazepam (Euhypnos, Normison), thioridazine (Melleril), trifluroperazine (Calmazine, Stelazine), trimipramine (Surmontil), and haloperidol (Haldol, Serenace).

Chart 2.8 shows that over the period the highest age specific mortality rate over the period consistently involved the 40 and over age group, and the lowest rate involved the 10-19 age group. The rates of the other two groups tended to fluctuate, though in the latter part of the period the rate of the 20-29 age group decreased.

CHART 2.8
AGE SPECIFIC MORTALITY RATES, TRANQUILLISERS/SEDATIVES/ANTI-DEPRESSANTS, WESTERN AUSTRALIA: 1981-1990
YEAR OF REGISTRATION BY AGE GROUP



REFER TO APPENDIX 1, TABLE A5

Age Specific Mortality Rate: Volatile Substances

Examples of drugs in this group are: inhalational anaesthetics (chloroform, cyclopropane, enflurane, ethylene, ether, fluroxene, halothane, methoxyflurane, nitrous oxide, trichloroethylene), nitrites (amyl nitrite, butyl nitrite), aerosol propellants, chloroform, fluorocarbon propellants (freons), organic solvents (adhesives, plastic cement, thinners containing trichloroethane, trichloroethylene, toluene or xylene), fuel gases (butane, propane), petrol, typists correction fluid.

As age specific mortality rates due to the use of volatile substances were very low, a chart has not been prepared. [18]

Age Specific Mortality Rate: Other/Unspecified Drugs

Examples of drugs in this group are: combinations of drugs (excluding opioids), paracetamol, phenacetin, phenylbutazone and antirheumatic drugs.

As there is considerable variability in the rates of the age groups, because few cases were involved, it is difficult to draw conclusions about clear trends over the period. See Table A6.

[18] Cf As only deaths directly caused by the use of volatile substances are coded, it is possible the actual rate would be higher if deaths which were indirectly caused by volatile substances were included. Hayward L & Kickett M. ***Petrol Sniffing In Western Australia.*** Epidemiology Branch, Health Department of WA, 1988.

2.2 ALCOHOL

In the period 1981-1990 there were 909 deaths in Western Australia ***directly*** caused by alcohol: Table 6.

Broken down by type of cause, in the 10 year period there were 728 (80.1%) deaths caused by medical conditions, 159 (17.5%) deaths caused by mental disorders and 22 (2.4%) deaths due to external causes.

By specific cause there were:

- 619 (68.1%) cases due to alcohol liver disease;
- 129 (14.2%) cases due to alcohol dependence;
- 108 (11.9%) cases due to alcoholic cardiomyopathy;
- 27 (3.0%) cases due to alcoholic psychosis;
- 22 (2.4%) cases due to alcohol poisoning;
- 3 (0.3%) cases due to alcohol abuse; and
- 1 (0.1%) case due to alcoholic gastritis

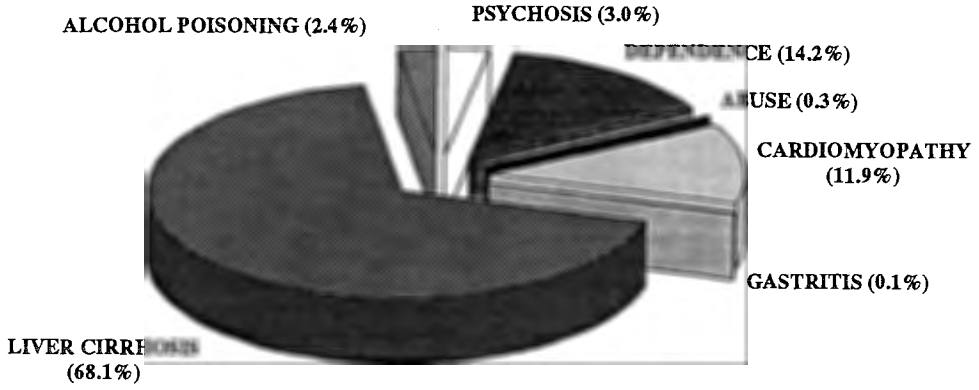
Gender

In the 10 year period 723 (79.5%) deaths involved males and 186 (20.5%) deaths involved females: Table 6.

Male and female deaths have been combined in Chart 2.9 and show that three conditions were responsible for nearly 95% of all alcohol caused mortality.

The three major conditions, alcoholic liver cirrhosis, alcohol dependence and alcoholic cardiomyopathy, were respectively responsible for of 68.1%, 14.2% and 11.9% of all alcohol-caused mortality in this State in the period 1981-1990.

CHART 2.9
TOTAL ALCOHOL DEATHS, MALES & FEMALES, ALL CAUSES
WESTERN AUSTRALIA, 1981 - 1990



REFER TO TABLE 6

TABLE 6
NUMBER OF ALCOHOL-RELATED DEATHS, WA: 1981-1990
YEAR OF REGISTRATION BY TYPE OF CAUSE BY GENDER

CAUSE OF DEATH	1981		1982		1983		1984		1985		1986		1987		1988		1989		1990		1981-1990	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
MENTAL DISORDERS																						
Alcoholic Psychosis	1	-	3	4	2	-	2	1	3	-	1	-	2	-	2	-	4	1	1	-	21	6
Alcohol Dependence	8	1	10	-	7	4	10	1	13	1	15	4	8	4	18	1	7	2	12	3	108	21
Alcohol Abuse	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	1	-	-	-	1	2
CONDITIONS																						
Alcoholic Polyneuropathy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alcoholic Cardiomyopathy	9	1	-	3	7	1	8	1	15	-	14	2	8	-	13	3	10	1	7	1	95	13
Alcoholic Gastritis	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-
Alcoholic Liver Disease	30	12	45	14	38	12	54	16	51	10	38	19	56	15	59	12	70	14	37	17	478	141
POISONING																						
Alcohol Poisoning	2	-	-	-	-	-	1	-	4	1	3	-	1	-	1	-	-	1	7	1	19	3
TOTAL	**50**	**14**	**62**	**21**	**54**	**17**	**75**	**20**	**87**	**12**	**71**	**25**	**75**	**19**	**93**	**17**	**92**	**19**	**64**	**22**	**723**	**186**

Source: Health Department of Western Australia, Health Services Statistics & Epidemiology Branch

Age Group

Table 7 shows that:

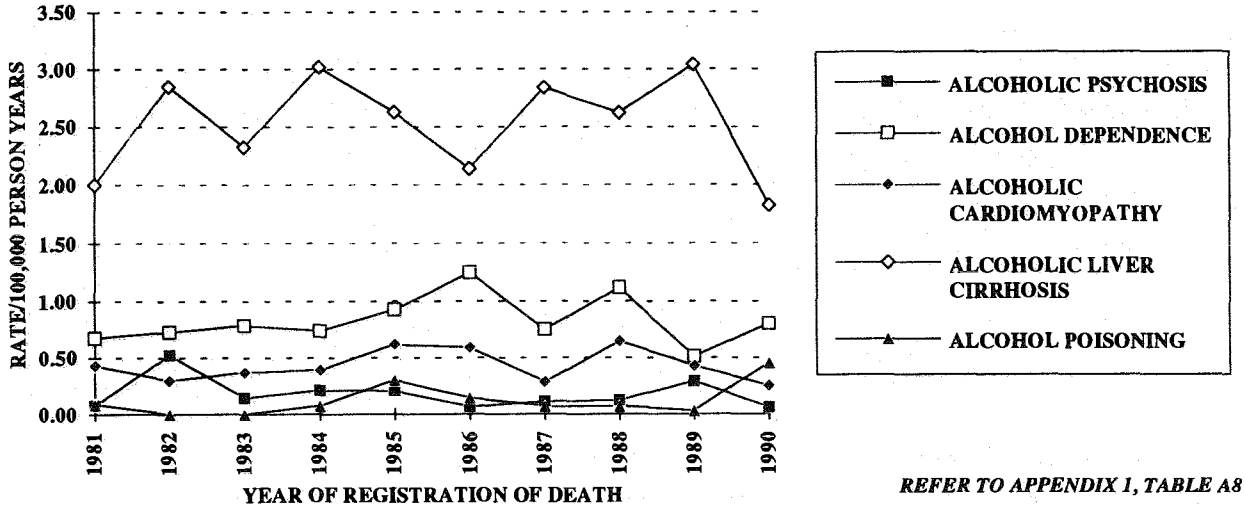
- 802 (88.2%) cases involved the 40 and over age group;
- 76 (8.4%) cases involved the 30-39 age group; and
- 31 (3.4%) cases involved the 20-29 age group.

No deaths were reported in the 0-9 or 10-19 age groups.

An analysis of the trends over the period 1981-1990 of the age standardised rate of specific causes of alcohol mortality shows over the highest rate was due to alcoholic liver cirrhosis, and that typically this rate was about 2-3 times the rate for alcohol dependence.

As age standardised mortality rates for all conditions tended to fluctuate, it is difficult to detect any clear trend over the period: Chart 2.10.

CHART 2.10
AGE STANDARDISED MORTALITY RATES, ALCOHOL DEATHS, WA: 1981-1990
YEAR OF REGISTRATION BY CAUSE



REFER TO APPENDIX 1, TABLE A8

Note: Alcohol Abuse and Alcoholic Gastritis Not Included Because Numbers Are Very Small

TABLE 7
NUMBER OF ALCOHOL-RELATED DEATHS, WA: 1981-1990
YEAR OF REGISTRATION BY TYPE OF CAUSE BY AGE GROUP

CAUSE OF DEATH	AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981-1990
Alcoholic Psychosis	10-19	-	-	-	-	-	-	-	-	-	-	-
	20-29	-	-	-	-	-	-	-	-	-	-	-
	30-39	-	-	-	-	-	-	1	-	-	-	1
	40+	1	7	3	3	3	1	1	2	5	1	26
Alcohol Dependence	10-19	-	-	-	-	-	-	-	-	-	-	-
	20-29	-	-	-	1	2	-	-	2	2	-	7
	30-39	1	1	1	2	2	-	-	2	1	3	13
	40+	8	9	10	8	10	19	12	15	6	12	109
Alcohol Abuse	10-19	-	-	-	-	-	-	-	-	-	-	-
	20-29	-	-	-	1	-	-	-	-	1	-	2
	30-39	-	-	-	-	-	-	-	1	-	-	1
	40+	-	-	-	-	-	-	-	-	-	-	-
Alcoholic Cardiomyopathy	10-19	-	-	-	-	-	-	-	-	-	-	-
	20-29	-	-	-	1	-	-	-	1	-	-	2
	30-39	-	-	1	-	1	-	-	2	2	-	6
	40+	10	7	7	8	14	16	8	13	9	8	100
Alcoholic Gastritis	10-19	-	-	-	-	-	-	-	-	-	-	-
	20-29	-	-	-	-	-	-	-	-	-	-	-
	30-39	-	-	-	-	-	-	-	-	-	-	-
	40+	-	-	-	-	1	-	-	-	-	-	1
Alcoholic Liver Disease	10-19	-	-	-	-	-	-	-	-	-	-	-
	20-29	1	2	1	1	2	-	-	1	2	1	11
	30-39	3	7	6	5	5	1	9	5	7	3	51
	40+	38	50	43	64	54	56	62	65	75	50	557
Alcohol Poisoning	10-19	-	-	-	-	-	-	-	-	-	-	-
	20-29	-	-	-	1	2	1	1	1	-	3	9
	30-39	-	-	-	-	1	-	-	-	-	3	4
	40+	2	-	-	-	2	2	-	-	1	2	9
TOTAL	10-19	-	-	-	-	-	-	-	-	-	-	-
	20-29	1	2	1	5	6	1	1	5	5	4	31
	30-39	4	8	8	7	9	1	10	10	10	9	76
	40+	59	73	62	83	84	94	83	95	96	73	802
		64	83	71	95	99	96	94	110	111	86	989

Source: Health Department of Western Australia, Health Services Statistics & Epidemiology Branch

CHAPTER 3

MORBIDITY DATA 1981 - 1990

CHAPTER 3 - MORBIDITY DATA

This chapter provides tabulations of drug-related morbidity data under two mutually exclusive headings from the Western Australian Hospital Morbidity Data System (HMDS):

- the number of stays for drug (including alcohol) poisonings that were coded as E codes and which were treated as the principal or underlying cause; and
- five specified conditions directly caused by alcohol which were treated as the principal or underlying cause.

3.1 POISONINGS - ALL TYPES OF DRUGS (INCLUDING ALCOHOL)

In the 10 year period there were 15,478 drug-related stays due to external causes, ie poisoning: Table 8.

A breakdown by specific type of drug found:

- 10,596 (68.4%) stays involved by tranquilliser/sedative/anti-depressants,
- 2,936 (19.0%) stays involved opiates,
- 820 (5.3%) stays involved alcohol poisoning,
- 588 (3.8%) stays involved volatile substances,
- 370 (2.4%) stays involved barbiturates,
- 118 (0.8%) stays involved psychostimulants,
- 38 (02.%) stays involved hallucinogens, and
- 12 (0.1%) stays involved cocaine.

Gender

Of the total 15,478 stays, 9,528 (61.6%) involved females and 5,950 (38.4%) involved males: Table 9.

The total number of stays that involved males exceeded the total number of female stays for only three types of drugs - hallucinogens, volatile substances and alcohol, where the proportion of males was 60.5%, 71.9% and 51% respectively.

Type of Drug: Age Standardised Rates

The combined overall rate, for all types of drugs, decreased by 31.8%, from 124.07 in 1981 to 84.57 in 1990. An analysis of the trends in age standardised morbidity rates by type of drug shows that over the period 1981-1990 increases only occurred in the opiate and psychostimulant drug groups: Chart 3.1. There were marked decreases in the rates for the tranquilliser/sedative/anti-depressant group, the barbiturate group, volatile substance group and alcohol group.

The rate for opiates increased by 32.8%, from 16.63 in 1981 to 22.09 in 1990. Though the rate for psychostimulants increased from 0.40 in 1981 to 1.02 in 1990, as the number of poisonings involved only a few cases, caution should be used to interpret the increase in the rate for this drug group, as the increase has principally occurred only since 1987.

TABLE 8
DRUG-RELATED HOSPITAL STAYS BY YEAR OF DISCHARGE , WA: 1981-1990
NUMBER OF POISONINGS (ALL CAUSES) BY TYPE OF DRUG

TYPE OF DRUG	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981-1990
Opiates	231	289	286	281	286	316	272	295	318	362	2936
Barbiturates	83	55	69	60	34	29	13	13	9	5	370
Tranquillisers/Sedatives/Anti-Depressants	1098	1095	1152	1134	1094	1106	979	982	955	1001	10596
Cocaine	3	1	3	-	-	-	-	-	-	5	12
Psychostimulants	5	3	5	7	8	7	23	24	18	18	118
Hallucinogens	5	8	5	5	6	1	2	2	2	2	38
Volatile Substances	100	81	77	85	60	48	42	30	34	31	588
Alcohol	157	128	130	137	122	30	43	23	20	30	820
TOTAL	**1682**	**1660**	**1727**	**1709**	**1610**	**1537**	**1374**	**1369**	**1356**	**1454**	**15478**

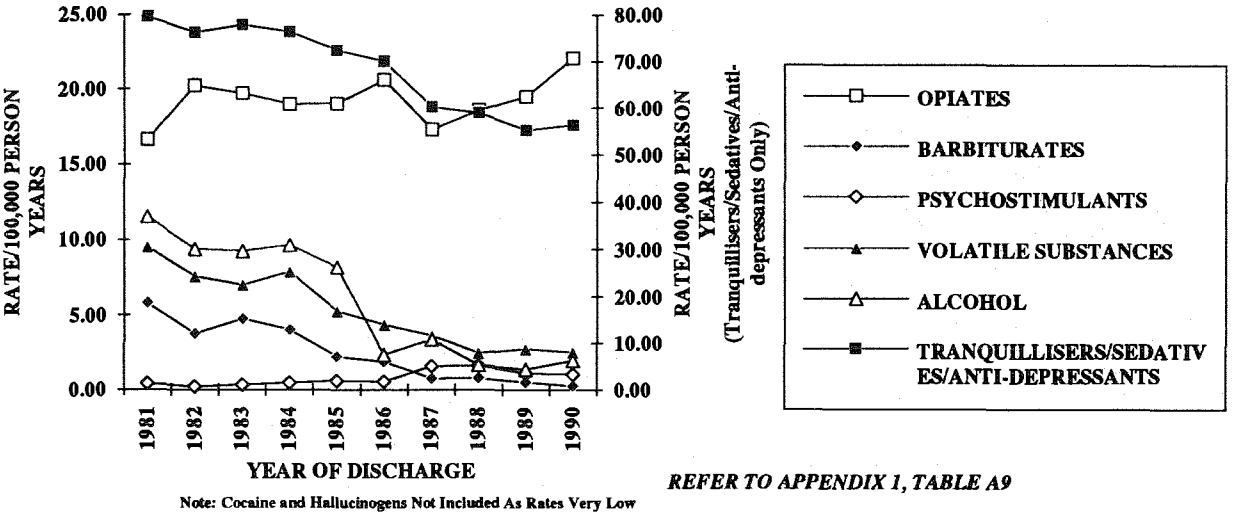
Source: Health Department of Western Australia, Health Services Statistics & Epidemiology Branch

TABLE 9
DRUG-RELATED HOSPITAL STAYS BY YEAR OF DISCHARGE , WA: 1981-1990
NUMBER OF POISONINGS (ALL CAUSES) BY TYPE OF DRUG BY GENDER

TYPE OF DRUG	1981		1982		1983		1984		1985		1986		1987		1988		1989		1990		1981-1990	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Opiates	90	141	98	191	114	172	108	173	107	179	97	219	110	162	104	191	111	207	130	232	1069	1867
Barbiturates	45	38	21	34	26	43	26	34	10	24	8	21	4	9	7	6	6	3	2	3	155	215
Tranquillisers/Sedatives/Anti-Depressants	361	737	390	705	377	775	403	731	384	710	425	681	359	620	340	642	367	588	403	598	3809	6787
Cocaine	3	-	-	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	2	3	6	6
Psychostimulants	4	1	1	2	1	4	2	5	4	4	5	2	7	16	10	14	5	13	8	10	47	71
Hallucinogens	2	3	5	3	3	2	4	1	5	1		1	1	1	1	1	1	1	1	1	23	15
Volatile Substances	62	38	62	19	58	19	62	23	46	14	38	10	28	14	22	8	23	11	22	9	423	165
Alcohol	85	72	62	66	62	68	69	68	58	64	19	11	21	22	16	7	11	9	15	15	418	402
ALL TYPES OF DRUGS	**652**	**1030**	**639**	**1021**	**642**	**1085**	**674**	**1035**	**614**	**996**	**592**	**945**	**530**	**844**	**500**	**869**	**524**	**832**	**583**	**871**	**5950**	**9528**

Source: Health Department of Western Australia, Health Services Statistics & Epidemiology Branch

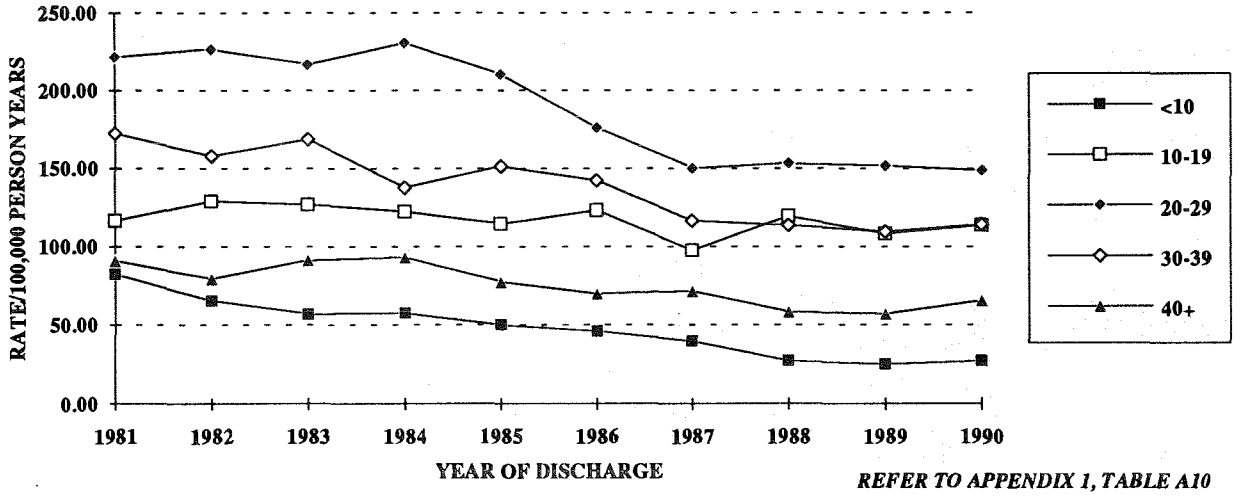
CHART 3.1
DRUG-CAUSED HOSPITAL MORBIDITY, WA: 1981-1990
AGE STANDARDISED RATE OF POISONINGS, ALL DRUGS
YEAR OF DISCHARGE BY TYPE OF DRUG



Note: Cocaine and Hallucinogens Not Included As Rates Very Low

REFER TO APPENDIX 1, TABLE A9

CHART 3.2
DRUG-CAUSED HOSPITAL MORBIDITY, WA: 1981-1990
AGE SPECIFIC RATES OF POISONING, ALL DRUGS COMBINED
YEAR OF DISCHARGE BY AGE GROUP



REFER TO APPENDIX 1, TABLE A10

Type of Drug: Age Specific Morbidity Rates

Chart 3.2 shows over the 10 year period there was a downward trend in the age specific rates across all age groups, except for the 10-19 age group.

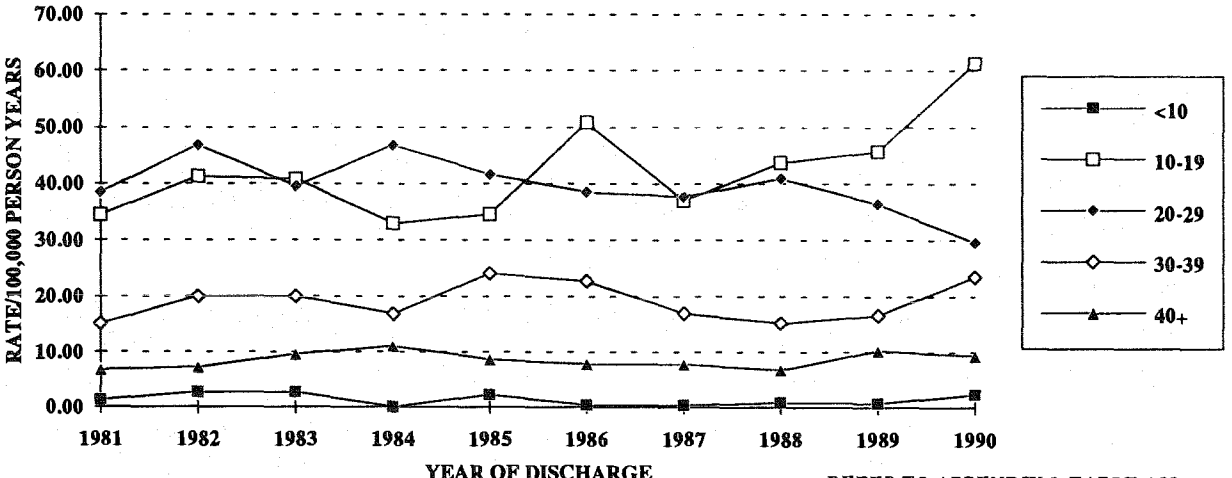
The age specific rates for specific types of drugs follow.

Age Specific Rate Morbidity: Opiates

A feature of the age specific rates of opiates (Chart 3.3) over the period was the change in the rate of the 10-19 age group. In 1981 the rate of this age group was below the rate of the 20-29 age group then increased by 78.0%, from 34.4 in 1981 to 61.22 in 1990, such that by 1990 it was more than double the rate of the 20-29 age group.

The rate of the other age groups remained relatively constant over the period, though further investigation is required to confirm whether the decrease that occurred after 1984 in the rate of the 20-29 age group is significant or not.

CHART 3.3
DRUG-CAUSED HOSPITAL MORBIDITY, WA: 1981-1990
AGE SPECIFIC RATES OF POISONING, OPIATES
YEAR OF DISCHARGE BY AGE GROUP



REFER TO APPENDIX 1, TABLE A11

Age Specific Rate Morbidity: Barbiturates

The marked and consistent decreases across all age groups over the period 1981-1990 supports the conclusion that by the end of the 10 year period abuse of the group of drugs had become negligible: Chart 3.4.

Age Specific Rate Morbidity: Tranquillisers/Sedatives/Anti-Depressants

Chart 3.5 shows that over the 10 year period there were sustained and consistent decreases in the age specific morbidity rates of all age groups in the tranquillisers/sedatives/anti-depressant group. The size of decreases were not even across all age groups:

- the 0-9 age group decreased by 66.1%;
- the 10-19 age group decreased by 25.3%;
- the 20-29 age group decreased by 25.1%;
- the 30-39 age group decreased by 32.7%; and
- the 40 and over age group decreased by 19.7%.

Age Specific Rate Morbidity: Psychostimulants

The data in Chart 3.6 shows that though the age specific rates related to psychostimulant abuse over the 10 year period were low, since the mid 1980s there was an increase in hospital inpatient episodes due to this type of drug. It can be seen that the increase predominantly involved the 10-19 and 20-29 age groups, with the former age group peaking in 1987.

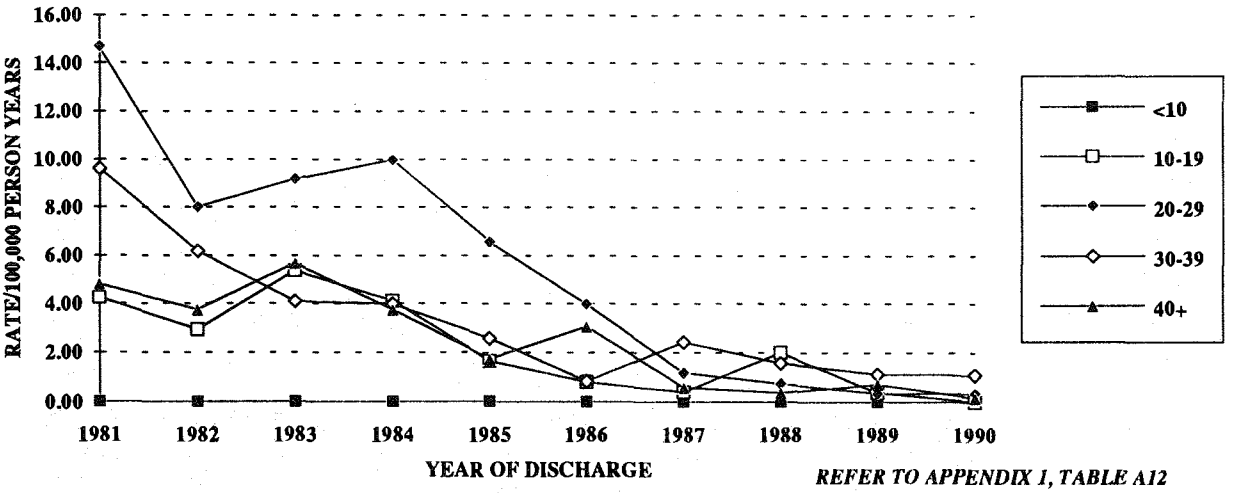
Age Specific Rate Morbidity: Volatile Substances

Very low age specific rates for volatile substances were found in the four older age groups: Chart 3.7. The sharp drop in the rate of the 0-9 age group, which decreased by 76.1% from 1981 to 1990, is probably related to persons who were admitted to a hospital because of accidental use of volatile substances rather than part of a pattern of abuse, as is more likely to be the case with the older age groups.

Age Specific Rate Morbidity: Alcohol

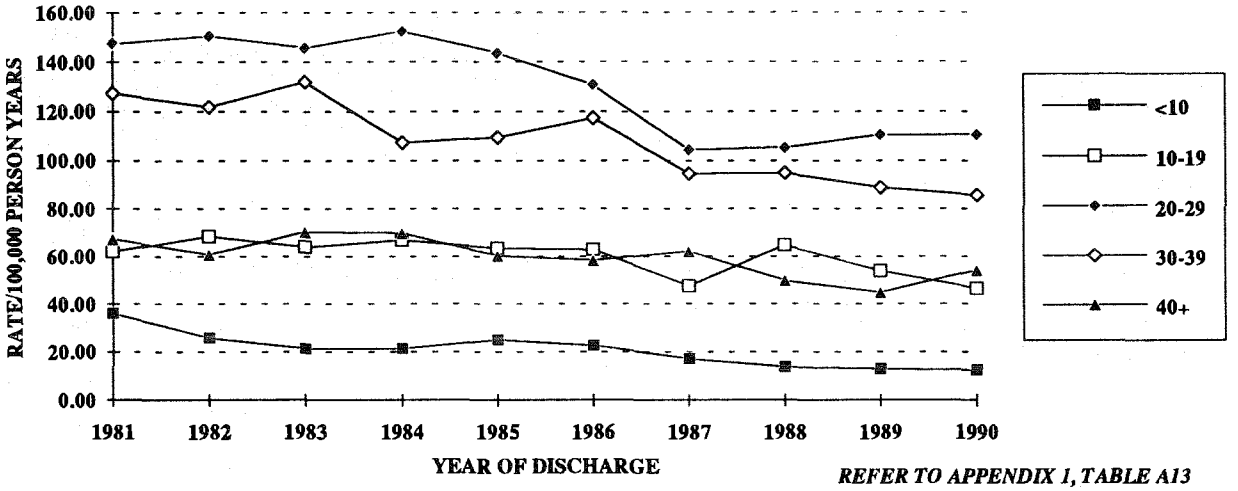
The sharp reduction in age specific rates for alcohol poisoning in Chart 3.8 should be interpreted with caution as over the period 1981-1990 there was a change in the definition of the code used to record this type of admission. As under ICD9-CM, adopted from 1988, alcohol poisoning is now regarded as only appropriate for use with episodes that involve children rather than adults, it is likely that stays not recorded by children (ie except the 0-9 and 10-19 age groups) should be treated as misdiagnoses.

CHART 3.4
DRUG-CAUSED HOSPITAL MORBIDITY, WA: 1981-1990
AGE SPECIFIC RATES OF POISONING, BARBITURATES
YEAR OF DISCHARGE BY AGE GROUP



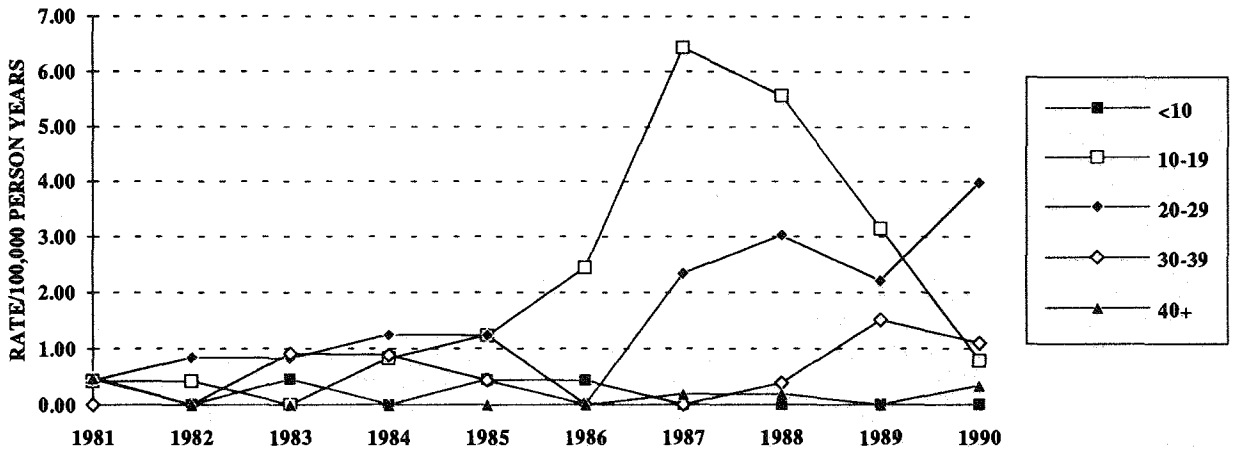
REFER TO APPENDIX 1, TABLE A12

CHART 3.5
DRUG-CAUSED HOSPITAL MORBIDITY, WA: 1981-1990
AGE SPECIFIC RATES OF POISONING, TRANQUILLISERS/SEDATIVES/ANTI-DEPRESSANTS
YEAR OF DISCHARGE BY AGE GROUP



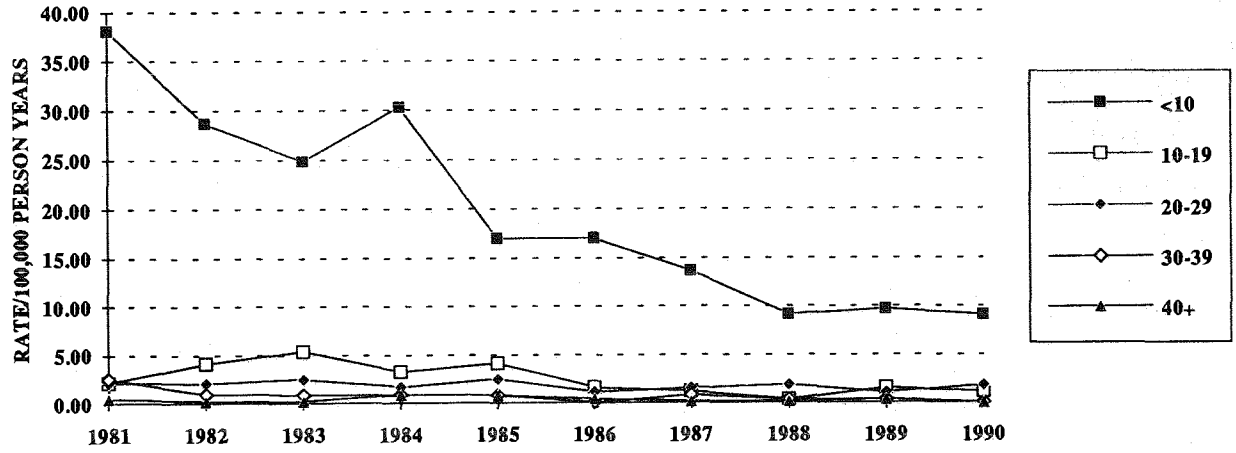
REFER TO APPENDIX 1, TABLE A13

CHART 3.6
DRUG-CAUSED HOSPITAL MORBIDITY, WA: 1981-1990
AGE SPECIFIC RATES OF POISONING, PSYCHOSTIMULANTS
YEAR OF DISCHARGE BY AGE GROUP



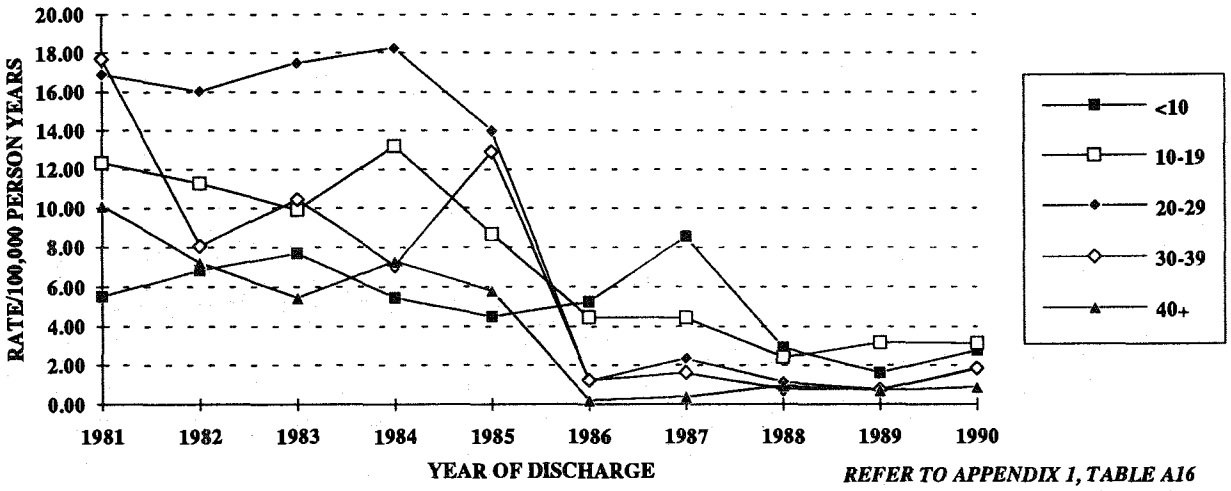
REFER TO APPENDIX I, TABLE A14

CHART 3.7
DRUG-CAUSED HOSPITAL MORBIDITY, WA: 1981-1990
AGE SPECIFIC RATES OF POISONING, VOLATILE SUBSTANCES
YEAR OF DISCHARGE BY AGE GROUP



REFER TO APPENDIX I, TABLE A15

CHART 3.8
DRUG-CAUSED HOSPITAL MORBIDITY, WA: 1981-1990
AGE SPECIFIC RATES OF POISONING, ALCOHOL
YEAR OF DISCHARGE BY AGE GROUP



REFER TO APPENDIX 1, TABLE A16

3.2 CONDITIONS DIRECTLY CAUSED BY ALCOHOL

In the period 1981-1990 there were 13,710 inpatient stays where the principal or underlying diagnosis involved any of the five conditions directly caused by alcohol, viz: alcoholic psychosis, alcoholic polyneuropathy, alcoholic cardiomyopathy, alcoholic gastritis or alcoholic liver disease: Table 10.

There were 6,559 (47.8%) stays due to alcoholic liver disease, 4,425 (32.3%) stays due to alcoholic psychosis, 1,376 (10.0%) stays due to alcoholic gastritis, 769 (5.6%) stays due to alcoholic cardiomyopathy, and 581 (4.2%) stays due to alcoholic polyneuropathy.

The greatest proportion of stays involved males, with 10,831 (79.0%) stays compared to females, with 2,879 (21.0%) stays: Table 11.

Age Standardised Morbidity Rates

The combined age standardised rate for *all* conditions, in Chart 3.9, shows that over the period 1981-1990 the rate peaked at 104.02 in 1984, and subsequently declined to 68.64 in 1990.

Over the 10 year period alcoholic liver disease had highest rate and was generally about 50% higher than the rate for alcoholic psychosis.

It is to be noted that in 1990 the rates of each of the five conditions had dropped below their respective 1981 rates.

Age Specific Rates

Chart 3.10 shows that over the 10 year period:

- the lowest rate, as would be expected, was recorded for the 10-19 age group;
- the rates for the 20-29 and 30-39 age groups remained relatively stable;
- the rate for the 40-49 age group decreased by 39.1%, from a peak of 167.22 in 1984 to 101.73 in 1990;
- the rate for the 50-59 age group decreased by 31.2%, from 275.62 in 1981 to 189.51 in 1990;
- the rate of 60-69 age group peaked at 387.42 in 1984, then decreased to 1990;
- the rate of the 70 years and over age group increased by 55%, from 112.9 in 1981 to 174.98 in 1990.

The finding that the highest rates of alcohol-caused inpatient stays in WA hospitals were recorded by the three oldest age groups strongly suggests that much of this morbidity was as the consequence of long-term excessive alcohol consumption.

TABLE 10
ALCOHOL-RELATED HOSPITAL DISCHARGES, WESTERN AUSTRALIA, 1981-1990
NUMBER OF ALCOHOL-RELATED DISCHARGES (PRINCIPAL OR SECONDARY DIAGNOSIS) BY CONDITION BY YEAR OF DISCHARGE

ALCOHOL CONDITION	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981-1990
ALCOHOLIC PSYCHOSIS	352	437	486	488	454	460	395	421	502	430	4425
POLYNEUROPATHY	62	50	60	83	81	95	48	38	33	31	581
CARDIOMYOPATHY	54	53	73	73	102	92	69	73	115	65	769
ALCOHOLIC GASTRITIS	121	122	160	177	173	138	107	118	146	114	1376
ALCOHOLIC LIVER DISEASE	543	499	648	743	641	701	699	756	713	616	6559
TOTAL	**1132**	**1161**	**1427**	**1564**	**1451**	**1486**	**1318**	**1406**	**1509**	**1256**	**13710**

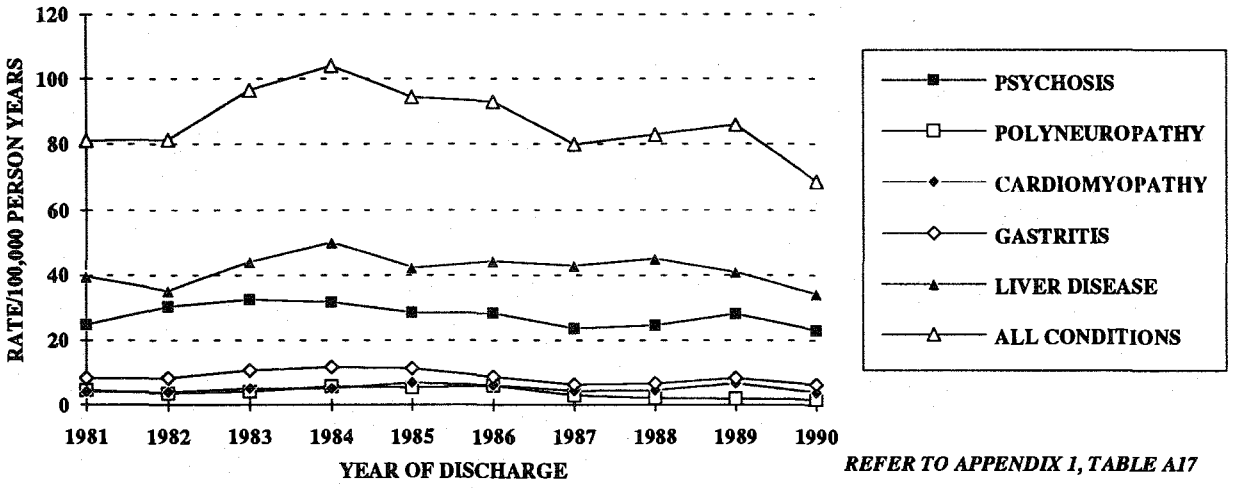
Source: Health Department of Western Australia, Health Services Statistics & Epidemiology Branch

TABLE 11
ALCOHOL-RELATED HOSPITAL DISCHARGES, WESTERN AUSTRALIA, 1981-1990
NUMBER OF ALCOHOL-RELATED DISCHARGES (PRINCIPAL OR SECONDARY DIAGNOSIS) BY CONDITION BY YEAR OF DISCHARGE BY GENDER

ALCOHOL CONDITION	1981		1982		1983		1984		1985		1986		1987		1988		1989		1990		1981-1990	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
ALCOHOLIC PSYCHOSIS	301	51	361	76	398	88	408	80	383	71	380	80	331	64	344	77	397	105	340	90	3642	783
ALCOHOLIC POLYNEUROPATHY	46	16	42	8	42	18	73	10	70	11	72	23	33	15	26	12	20	13	23	8	447	134
ALCOHOLIC CARDIOMYOPATHY	48	6	49	4	66	7	67	6	94	8	77	15	59	10	69	4	106	9	60	5	695	74
ALCOHOLIC GASTRITIS	98	23	100	22	129	31	155	22	150	23	112	26	93	14	90	28	113	33	95	19	1135	241
ALCOHOLIC LIVER DISEASE	404	139	358	141	491	157	580	163	489	152	528	173	519	180	570	186	549	164	424	192	4912	1647
TOTAL	897	235	910	251	1126	301	1283	281	1186	265	1169	317	1035	283	1099	307	1185	324	942	314	1083 1	2879

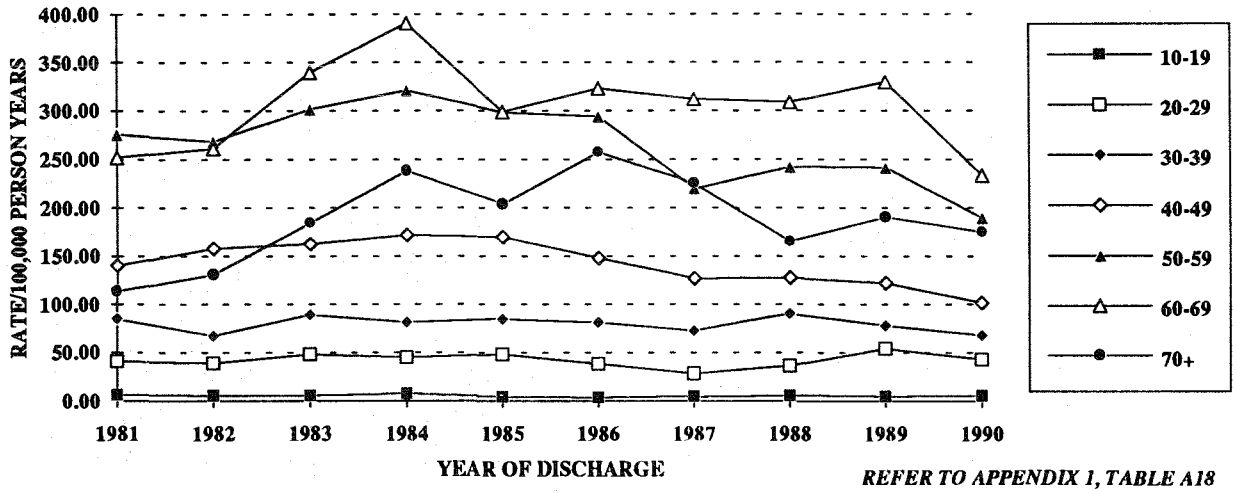
Source: Health Department of Western Australia, Health Services Statistics & Epidemiology Branch

CHART 3.9
ALCOHOL-CAUSED HOSPITAL MORBIDITY,WA: 1981-1990
AGE STANDARDISED RATES OF DISCHARGE, ALL ALCOHOL CONDITIONS
YEAR OF DISCHARGE BY ALCOHOL CONDITION



REFER TO APPENDIX 1, TABLE A17

CHART 3.10
ALCOHOL-CAUSED HOSPITAL MORBIDITY, WA: 1981-1990
AGE SPECIFIC RATES OF DISCHARGE, ALL ALCOHOL CONDITIONS COMBINED
YEAR OF DISCHARGE BY AGE GROUP



REFER TO APPENDIX 1, TABLE A18

Note: 0-9 Age Group Excluded As No Cases Recorded

Age Specific Morbidity: Alcoholic Psychosis

A feature of the pattern of age specific rates due to alcoholic psychosis in Chart 3.11 is that the rate generally increased with age, and that reductions in the rates of the three oldest age groups (50-59, 60-69 and 70 and over) have occurred since 1984. The rates of the 20-29 and 30-39 age groups remained relatively static over the 10 year period, and a modest decline was recorded by the 40-49 age group.

Age Specific Morbidity: Alcoholic Polyneuropathy

A striking aspect of the trends in Chart 3.12 is how the rates of the 40-49, 50-59, 60-69 and 70 and over age groups have all sharply declined since the mid 1980s.

Age Specific Morbidity: Alcoholic Cardiomyopathy

Compared to the rates for the two preceding conditions, which recorded the highest age specific rates by the three oldest age groups, Chart 3.13 shows that the highest rates were recorded by the 50-59 and 60-69 age groups.

Age Specific Morbidity: Alcoholic Gastritis

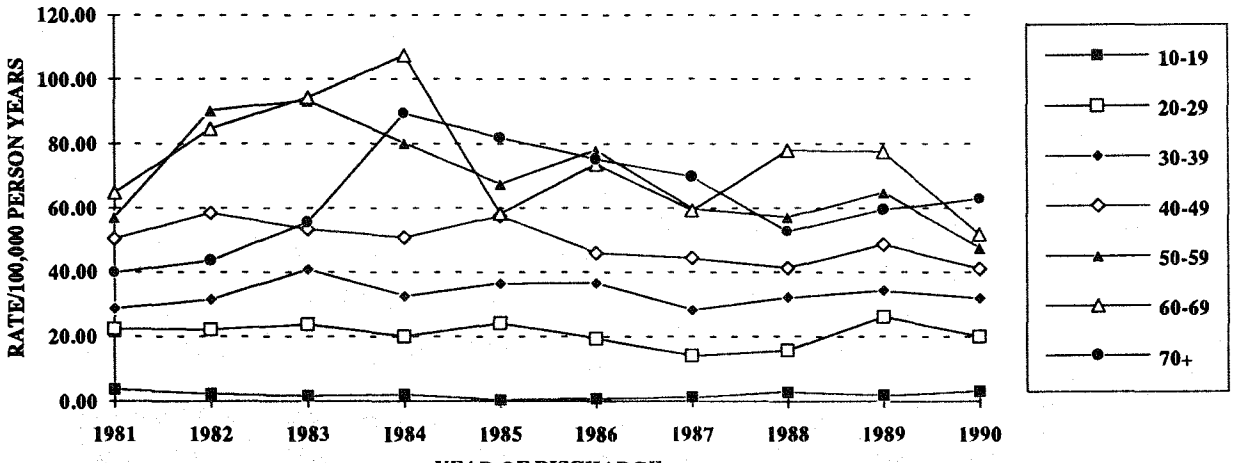
Chart 3.14 clearly shows there is a marked difference in the age specific rates for this condition as compared to the previous three conditions, in that higher rates were recorded by the younger age groups rather than the oldest age groups.

It is notable while the rate of the 20-29 age group increased by 51.4%, from 10.29 in 1981 to 15.89 in 1990, decreases were recorded in all other age groups over the 10 year period. It should also be noted how in 1981 the rate of 20-29 age group was *lower* than the rates of the 30-39, 40-49, 50-59 and 60-69 age groups, but that in 1990 the rate of this age group was *higher* than any of these age groups.

Age Specific Morbidity: Alcoholic Liver Disease

It can be seen in Chart 3.15 over the 10 year period there was a marked increase was recorded by the 70 and over age group, as compared to the other age groups. The morbidity rate of this age group increased by 79.6%, from 55.83 in 1981 to 100.27 in 1990.

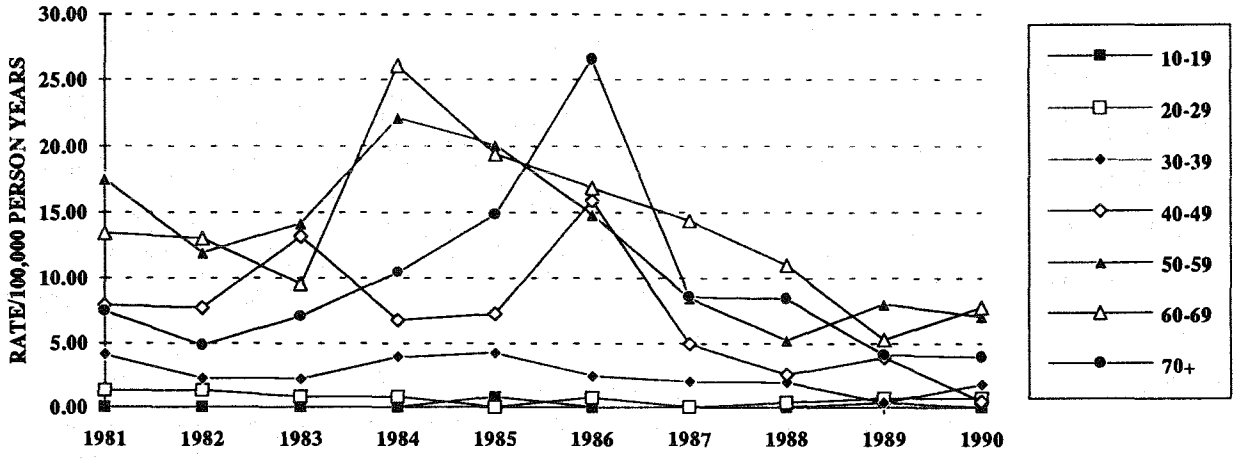
CHART 3.11
ALCOHOL-CAUSED HOSPITAL MORBIDITY, WA: 1981-1990
AGE SPECIFIC RATES OF DISCHARGE, ALCOHOLIC PSYCHOSIS
YEAR OF DISCHARGE BY AGE GROUP



Note: 0-9 Age Group Excluded As No Cases Recorded

REFER TO APPENDIX 1, TABLE A19

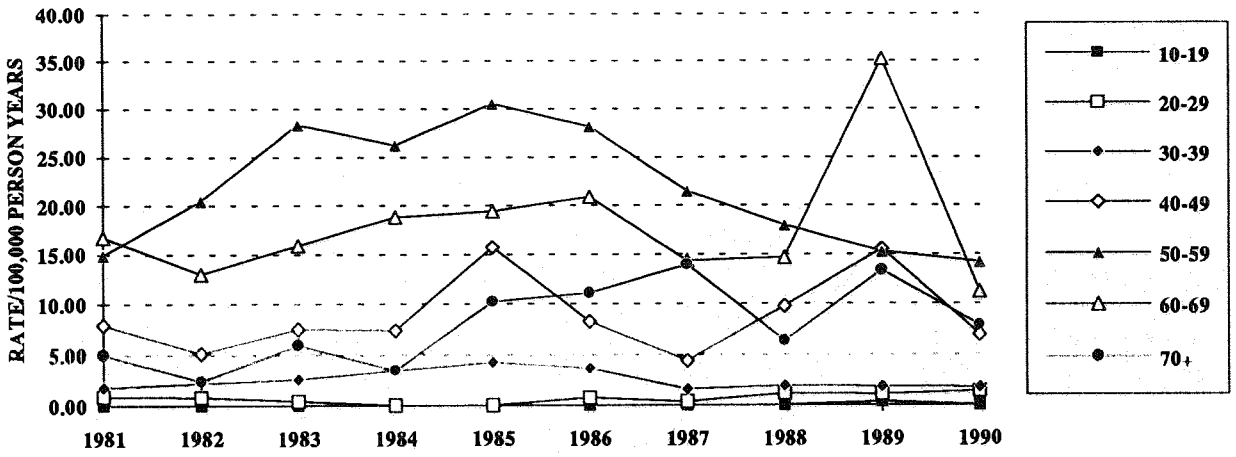
CHART 3.12
ALCOHOL-CAUSED HOSPITAL MORBIDITY, WA: 1981-1990
AGE SPECIFIC RATES OF DISCHARGE, ALCOHOLIC POLYNEUROPATHY
YEAR OF DISCHARGE BY AGE GROUP



Note: 0-9 Age Group Excluded As No Cases Recorded

REFER TO APPENDIX 1, TABLE A20

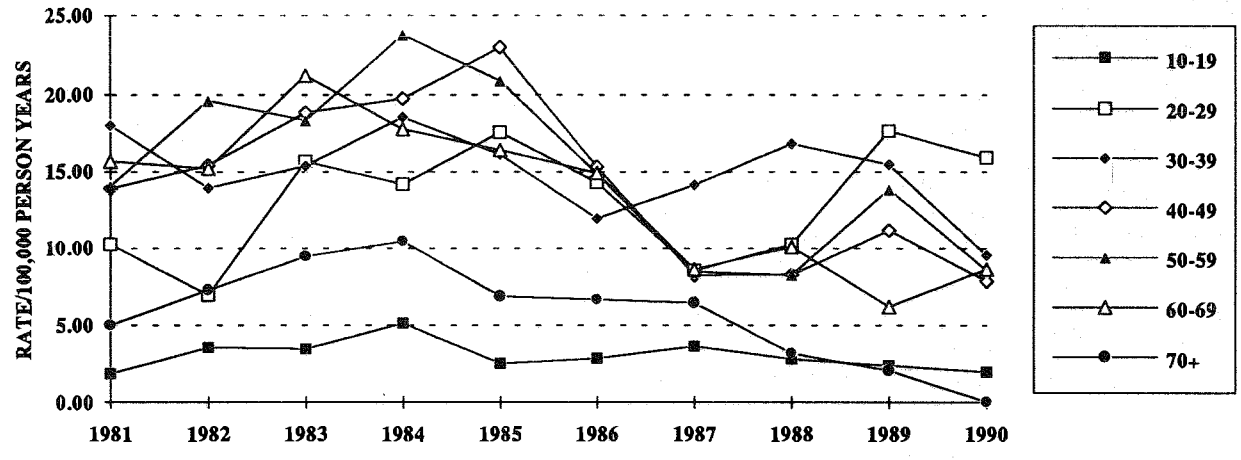
CHART 3.13
ALCOHOL-CAUSED HOSPITAL MORBIDITY, WA: 1981-1990
AGE SPECIFIC RATES OF DISCHARGE, ALCOHOLIC CARDIOMYOPATHY
YEAR OF DISCHARGE BY AGE GROUP



Note: 0-9 Age Group Excluded As No Cases Recorded

REFER TO APPENDIX I, TABLE A21

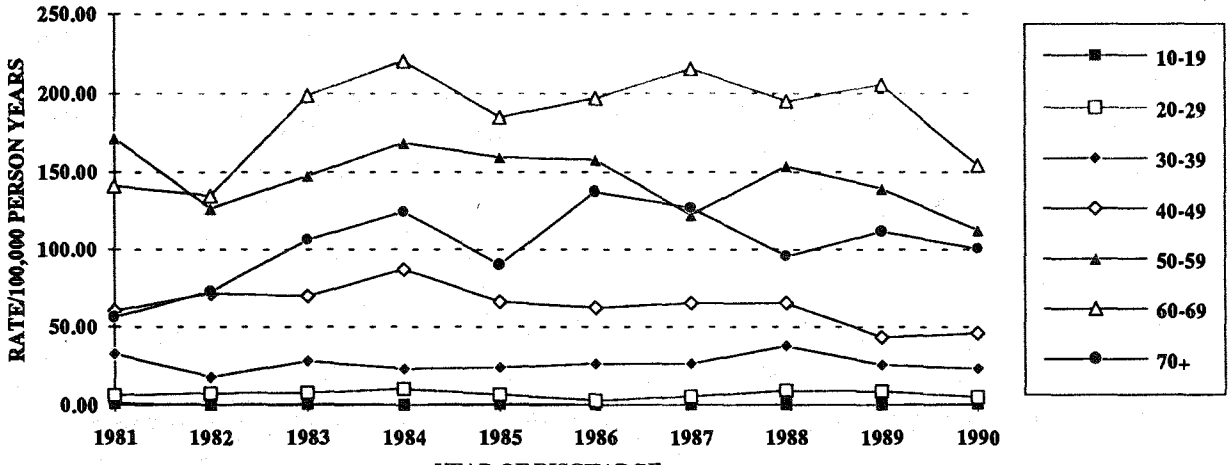
CHART 3.14
ALCOHOL-CAUSED HOSPITAL MORBIDITY, WA: 1981-1990
AGE SPECIFIC RATES OF DISCHARGE, ALCOHOLIC GASTRITIS
YEAR OF DISCHARGE BY AGE GROUP



Note: 0-9 Age Group Excluded As No Cases Recorded

REFER TO APPENDIX I, TABLE A22

CHART 3.15
ALCOHOL-CAUSED HOSPITAL MORBIDITY, WA: 1981-1990
AGE SPECIFIC RATES OF DISCHARGE, ALCOHOLIC LIVER DISEASE
YEAR OF DISCHARGE BY AGE GROUP



REFER TO APPENDIX 1, TABLE A23

Note: 0-9 Age Group Excluded As No Cases Recorded

CHAPTER 4

DRUG-RELATED CRIME DATA 1981 - 1990

CHAPTER 4 - DRUG-RELATED CRIME DATA

4.1 POLICE ARREST/SEIZURE DATA

FEDERAL OFFENCES

As can be seen in Table 12 there is a relatively small number of individuals convicted for Commonwealth drug offences in this State as a result of AFP operations:

TABLE 12
NUMBER OF CONVICTIONS, FEDERAL OFFENCES
WESTERN AUSTRALIA: JANUARY 1988- JUNE 1991

PERIOD	PERSONS CONVICTED
January 1988 - June 1988	10
July 1988 - June 1989	45
July 1989 - June 1990	64
July 1990 - June 1991	45

Source: Australian Federal Police

STATE OFFENCES

Age Group

For the six year period from 1985 to 1990 there were 42,351 charges for drug offences in this State: Table 13.

Broken down by age there were:

- 5,792 (13.68%) charges involved individuals aged less than 18 years of age;
- 12,892 (30.44%) charges involved individuals between the ages of 18 and 21; and
- 23,667 (55.88%) charges involved individuals older than 21 years.

Over the six year period there were increases in the number of charges involving all age groups, for the < 18, 18-21 and >21 age groups the number of charges increased by 179%, 42% and 93%, respectively. Most charges involved the over 21 age group; the proportion of total charges related to this age group increased from 50.3% in 1985 to 53.1% in 1990: Chart 4.1.

Gender

Out of the total of 42,351 charges, 36,163 (85.4%) involved males and 6,188 (14.6%) involved females. The proportion of charges that involved females was highest in the oldest age group and lowest in the youngest age group: Table 14. The proportion of total charges that involved females was 11.1% in the under 18 age group, 13.8% in the 18-21 age group and 15.9% in the over 21 age group.

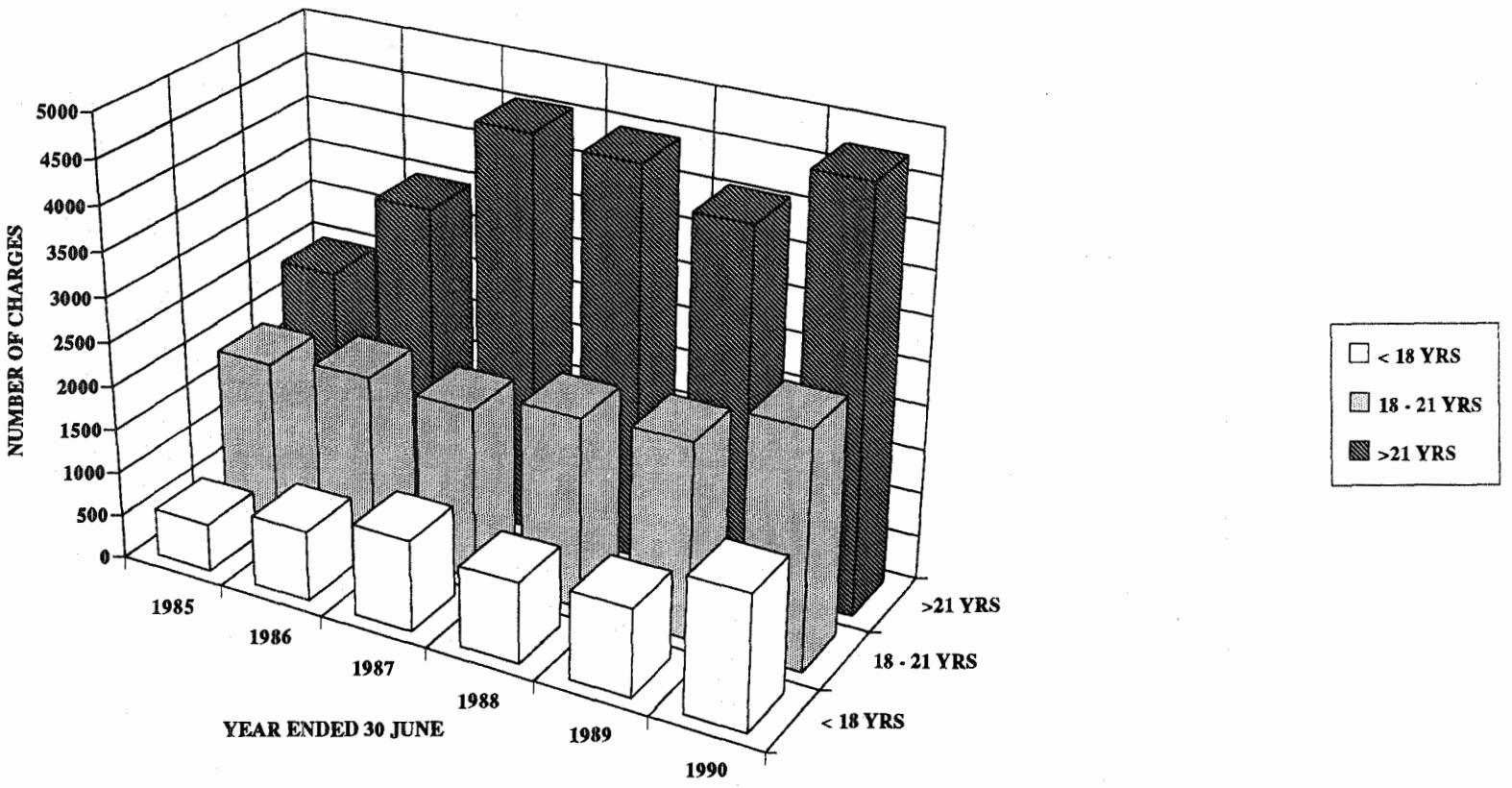
There was a lower proportion of cannabis as compared to amphetamine and heroin charges that involved females. As shown in Table 14, the proportion of cannabis charges between 1985 and 1990 that involved females ranged from 13.3% to 15.0%, the proportion of amphetamine charges between 1986 and 1990 that involved females ranged from 0% to 25.2% and the proportion of heroin charges between 1985 and 1990 that involved females ranged from 20% to 25.3%.

TABLE 13
NUMBER OF DRUG CHARGES BY AGE GROUP BY GENDER, WA: 1985-1990
(Year Ended 30 June)

YEAR		AGE GROUP							
		Under 18 Years		18-21 Years		Over 21 Years		All	
		N	%	N	%	N	%	N	%
1985	M	492	90.8	1,645	87.5	2,057	84.0	4,194	86.1
	F	50	9.2	235	12.5	391	16.0	676	13.9
	Total	542	100.0	1,880	100.0	2,448	100.0	4,870	100.0
1986	M	715	89.6	1,720	85.4	2,945	85.4	5,380	85.9
	F	83	10.4	295	14.6	504	14.6	882	14.1
	Total	798	100.0	2,015	100.0	3,449	100.0	6,262	100.0
1987	M	903	87.1	1,676	96.0	3,867	85.2	6,446	85.7
	F	134	12.9	273	14.0	671	14.8	1,078	14.3
	Total	1,037	100.0	1,949	100.0	4,538	100.0	7,524	100.0
1988	M	810	88.5	1,869	86.4	3,690	83.0	6,369	84.6
	F	105	11.5	295	13.6	755	17.0	1,155	15.4
	Total	915	100.0	2,164	100.0	4,445	100.0	7,524	100.0
1989	M	875	88.6	1,918	86.6	3,402	84.0	6,195	85.4
	F	112	11.4	298	13.4	649	16.0	1,059	14.6
	Total	987	100.0	2,216	100.0	4,051	100.0	7,254	100.0
1990	M	1,354	89.5	2,284	85.6	3,941	83.2	7,579	85.0
	F	159	10.5	384	14.4	795	16.8	1,338	15.0
	Total	1,513	100.0	2,668	100.0	4,736	100.0	8,917	100.0
1985-1990	M	5,149	88.9	11,112	86.2	19,902	84.1	36,163	85.4
	F	643	11.1	1,780	13.8	3,765	15.9	6,188	14.6
	Total	5,792	100.0	12,892	100.0	23,667	100.0	42,351	100.0

Source: Western Australian Police Department, Annual Reports

CHART 4.1
NUMBER OF CHARGES BY AGE GROUP, ALL TYPES OF DRUG OFFENCES, WA: 1985-1990



REFER TO TABLE 13

TABLE 14
NUMBER OF DRUG CHARGES BY SELECTED TYPE OF DRUG BY GENDER, WA: 1985-1990
(Year Ended 30 June)

YEAR		TYPE OF DRUG					
		CANNABIS		HEROIN		AMPHETAMINES	
		N	%	N	%	N	%
1985	M	3954	86.7	158	77.4	-	
	F	606	13.3	46	22.6	-	
	Total	4560	100.0	204	100.0	-	
1986	M	5093	86.7	198	74.7	12	100.0
	F	781	13.3	67	25.3	-	-
	Total	5874	100.0	265	100.0	12	100.0
1987	M	6153	86.0	175	77.1	30	78.9
	F	998	14.0	52	22.9	8	21.1
	Total	7151	100.0	227	100.0	38	100.0
1988	M	6092	85.0	127	75.6	57	75.0
	F	1071	15.0	41	24.4	19	25.0
	Total	7163	100.0	168	100.0	76	100.0
1989	M	5849	85.7	108	80.0	128	74.8
	F	975	14.3	27	20.0	43	25.2
	Total	6824	100.0	135	100.0	171	100.0
1990	M	7212	85.3	87	75.0	186	78.8
	F	1239	14.7	29	25.0	50	21.8
	Total	8451	100.0	116	100.0	236	100.0
1985-1990	M	34353	85.8	853	76.5	413	77.5
	F	5670	14.2	262	23.5	120	22.5
	Total	40023	100.0	1115	100.0	533	100.0

Source: Western Australian Police Department, Annual Reports

Type of Drug

Table 15 shows over the 6 year period the majority of offences involved cannabis; of the 42,351 charges laid, 40,023 (94.5%), were related to this drug as either charges involving plants, leaf material, the refined resin extract or implements or utensils used for smoking that contained detectable quantities of cannabis. [19]

The total number of cannabis charges increased by 85%, from 4,560 charges in 1985 to 8,451 charges in 1990.

There were 1,115 (2.6%) heroin charges and 533 (1.3%) amphetamine charges.

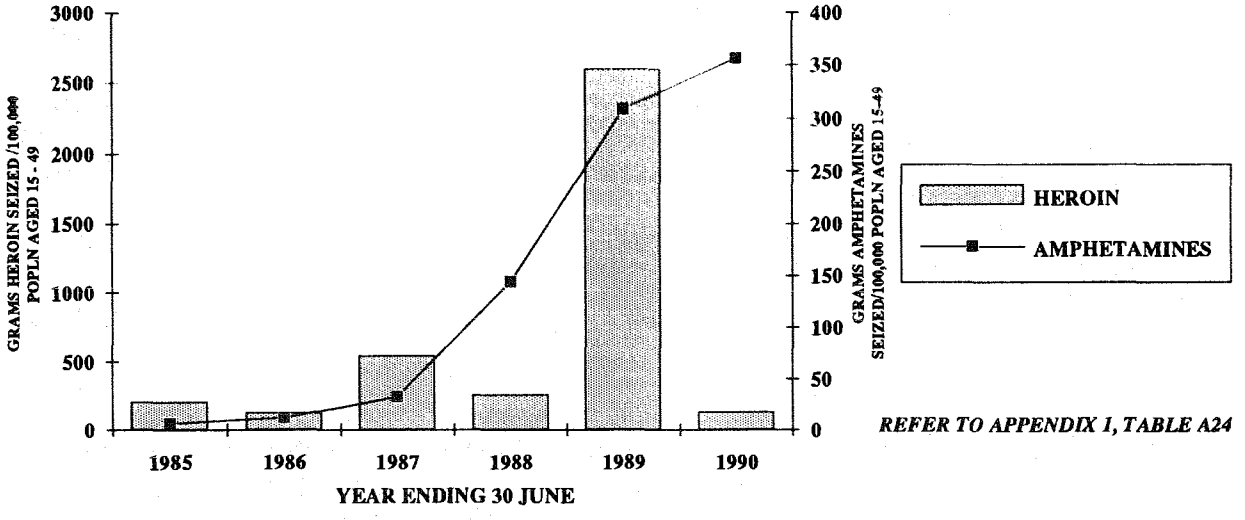
Over the period the annual number of heroin charges decreased: in 1985 there were 204 charges, 4.2% of all drug charges, by 1990 this had dropped to 116 charges, 1.3% of all drug charges.

Drug Seizures

Table 16 shows trends in the quantities of drugs seized in WA from 1985 to 1990. Except for the very large quantity seized in 1989, the amount of heroin seized fluctuated between about 1 and 4.5 kilos per year. In 1985 there was an average of 6.5 grams of heroin seized per charge, by 1990 this had risen to an average of 10.1 grams seized per charge.

To standardise the annual quantities of heroin and amphetamines seized, the quantities seized have been calculated as the rate per 100,000 population aged 15-49: Chart 4.2. [20]

CHART 4.2
GRAMS OF HEROIN & AMPHETAMINES
SEIZED PER YEAR/100,000 POPULATION AGED 15 - 49, WA: 1985 - 1990



REFER TO APPENDIX I, TABLE A24

[19] The Misuse of Drugs Act does not appear to cover situations involving the possession of utensils with detectable traces of prohibited drugs that are not smoked, eg homebake morphine.

[20] In calculating this rate, the denominator of the number of persons aged 15-49 has been used as there are very few individuals outside this age range who use these classes of drugs. See McAllister I & Moore R. ***Drugs and Public Opinion: the Sociology of Drug Use In Australia.*** Canberra: Department of Community Services and Health, 1988.

TABLE 15
NUMBER OF DRUG CHARGES BY TYPE OF DRUG, WA: 1985-1990
(Year Ended 30 June)

DRUG TYPE	1985		1986		1987		1988		1989		1990		1985-1990	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Heroin	204	4.19	265	4.23	227	3.02	168	2.23	135	1.86	116	1.30	1,115	2.63
Cannabis														
(plants)	612	12.57	677	10.81	1,010	13.42	1,055	14.02	1,034	14.25	1,142	12.81	5,530	13.06
(leaf)	2,661	54.64	3,495	55.81	3,816	50.72	3,868	51.41	3,651	50.33	4,565	51.19	22,056	52.08
(resin)	108	2.22	119	1.90	120	1.59	110	1.46	78	1.08	98	1.10	632	1.49
(implements/utensils)	1,179	24.21	1,583	25.28	2,205	29.31	2,130	28.31	2,061	28.41	2,646	29.67	11,804	27.87
All Cannabis	4,560	93.63	5,874	93.80	7,151	95.04	7,163	95.20	6,824	94.07	8,451	94.77	40,023	94.50
Cocaine	2	0.04	-	-	-	-	8	0.11	7	0.10	12	0.13	29	0.07
Amphetamines	-	-	12	0.19	38	0.51	76	1.01	171	2.36	236	2.65	544	1.28
Hallucinogens	9	0.18	20	0.32	22	0.29	19	0.25	35	0.48	30	0.34	135	0.32
Other drugs/plants	57	1.17	24	0.38	8	0.11	21	0.28	9	0.12	45	0.50	153	0.36
Deleterious substances	-	-	32	0.51	73	0.97	65	0.86	66	0.91	7	0.08	243	0.57
Scripts & miscellaneous	38	0.78	35	0.56	5	0.07	4	0.05	7	0.10	20	0.22	109	0.26
TOTAL	4,870	100.0	6,262	100.0	7,524	100.0	7,524	100.0	7,254	100.0	8,917	100.0	42,351	100.0

Source: Western Australian Police Department, Annual Reports

TABLE 16
ANNUAL QUANTITY OF DRUG SEIZURES BY TYPE OF DRUG, WA: 1985-1990
(Year Ended 30 June)

DRUG TYPE	1985	1986	1987	1988	1989	1990
Heroin	1.339 kilos	1.018 kilos	4.454 kilos	2.193 kilos	22.782 kilos	1.17 kilos
Homebake Morphine	N/A	N/A	N/A	N/A	N/A	611 millilitres
Cannabis						
(plants)	33,297	37,704	63,353	44,843	40,498	36,155
(leaf)	362.829 kilos	300.924 kilos	234.392 kilos	270.25 kilos	271.171 kilos	376.500 kilos
(resin)	188.498 kilos	3.648 kilos	3.964 kilos	0.664 kilos	2.565 kilos	0.804 kilos
Cocaine	0.65 grams	32.86 grams	4.37 grams	12.7 grams	104.47 grams	14.22 grams
Amphetamines	43.0 grams	97.4 grams	267.0 grams	1,220.1 grams	2,713.31 grams	3,210.69 grams
LSD	143 doses	513 doses	1,518 doses	710 doses	169 doses	6,069 doses
MDMA (Ecstasy)	N/A	N/A	N/A	4.6 grams 132 capsules 698 tablets	10 grams 42 capsules 1,825 tablets	1.8 grams 7 capsules 13 tablets

Source: Western Australian Police Department, Annual Reports

4.2 COURT STATISTICS

CHILDREN'S COURTS

It can be seen in Table 17 that in the three periods, 1985, 1987 and 1989, the number of drug convictions dealt with per year by Children's Courts remained relatively constant. The proportion of drug convictions of all convictions declined slightly over the three periods.

Type of Drug

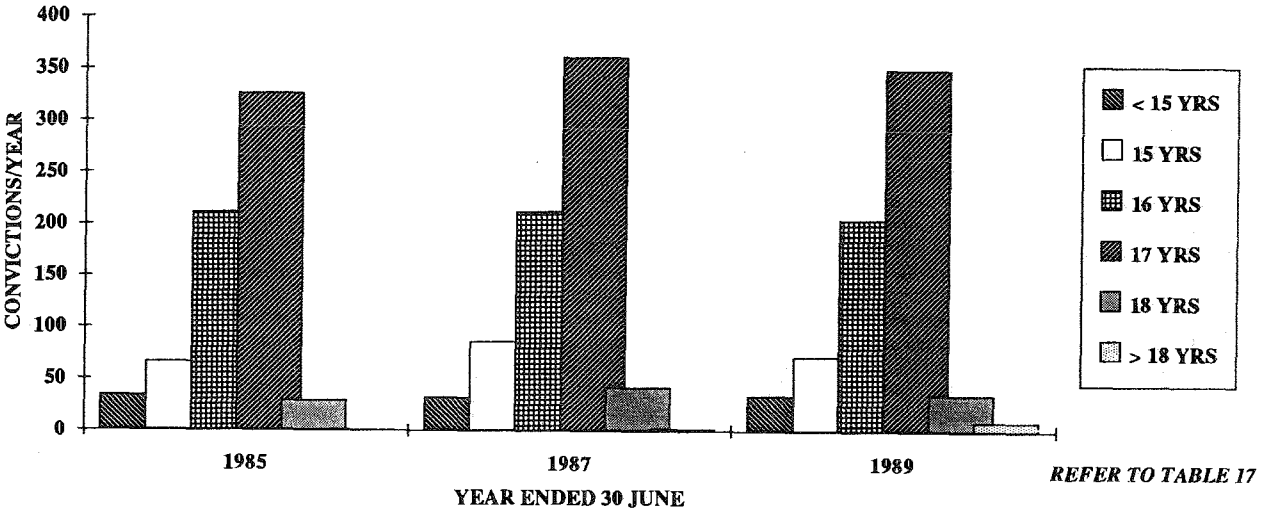
In the Children's Courts convictions for the use or possession of cannabis constituted just over half of all drug convictions. In the year ended 30 June 1989, the first year based on the ANCO system of codes for criminal offences, there were a further 71 convictions (6.4%) recorded for manufacturing/growing and dealing in cannabis. Convictions for the possession or use of narcotics were extremely rare in Children's Courts: Table 18.

Age Group

Convictions in the Children's Courts mostly involved individuals in the 16 and 17 year age groups: Chart 4.3.

There were convictions recorded of persons aged 18 and older, as there were a small number of individuals who were aged less than 18 when charged but who had turned 18 and older by the time a conviction had been recorded.

CHART 4.3
CHILDRENS COURTS, WA: 1985-1989
DRUG OFFENCES, NUMBER OF CONVICTIONS BY AGE GROUP



REFER TO TABLE 17

TABLE 17
CHILDREN'S COURTS, WA: 1985-89
NUMBER OF PERSONS CONVICTED FOR DRUG OFFENCES BY AGE GROUP
(Biennial Series)

AGE GROUP	YEAR ENDED 30 JUNE		
	1985	1987	1989
Under 15	34	32	34
15 years	66	86	72
16 years	211	212	205
17 years	326	361	350
18 years	29	42	35
Over 18	1	2	9
Not known	47	38	37
Total Drug Convictions	**714**	**773**	**742**
Total All Convictions	14,429	17,025	16,916
% Drug/All Convictions	4.9%	4.5%	4.4%

Source: Court Statistics: Children's Courts, Western Australia, Cat. No. 4503.5. Australian Bureau of Statistics.

Note: Persons over 18 are cases who were under 18 years when charged and 18 years and over at date of finalisation.

TABLE 18
NUMBER OF CHARGES AND CONVICTIONS BY ANCO DRUG OFFENCES, CHILDREN'S COURTS, WA: 1985-1989
(Year Ended 30 June)

ANCO DRUG OFFENCES		TOTAL CHARGES			TOTAL CONVICTIONS		
Code	Description	1985	1987	1989	1985	1987	1989
616	Possess and/or use narcotics specified	3	3	1	3	3	1
617	Possess and/or use cannabis, all forms	622	633	619	599	618	607
618	Possess and/or use other drugs, specified	17	79	14	17	74	9
619	Possess and/or use drugs, unspecified	-	-	68	-	-	56
645	Import/export other narcotics, specified	-	-	1	-	-	1
***	Deal and traffic in drugs	29	24	-	28	21	-
657	Deals and traffic in cannabis, all forms	-	-	15	-	-	15
659	Deal and traffic in drugs unspecified	-	-	3	-	-	3
***	Manufacture/grow drugs	62	68	-	60	66	-
667	Manufacture/grow cannabis, all forms	-	-	56	-	-	56
669	Manufacture/grow drugs, unspecified	-	-	12	-	-	12
699	Other drug offences	367	423	367	346	411	358
Total Drug		1100	1230	1156	1053	1193	1118
Total All		28535	35007	33984	26708	32968	32276
% Drug/All Offences		3.65%	3.5%	3.4%	3.9%	3.6%	3.5%

Source: Court Statistics: Children's Court, Western Australia, Cat. No. 4503.5. Australian Bureau of Statistics.
Note: ** Draft ANCO code used in 1985-86 and 1986-87, not compatible with ANCO code.
Data published biennially.

COURTS OF PETTY SESSIONS

In the Courts of Petty Sessions drug convictions constituted between 4% and 4.4% of all convictions in the three periods, 1985, 1987 and 1989: Table 19.

Type of Drug

Data in Table 20 indicates that convictions for the possession and use of cannabis made up just over half of all drug convictions, a similar proportion as was recorded in the Children's Courts. There were a large number of convictions recorded under the code of "other drug offences", the second most frequent ANCO code. Unfortunately the structure of the ANCO code system does not provide adequate details about some specific drug groups, eg amphetamines.

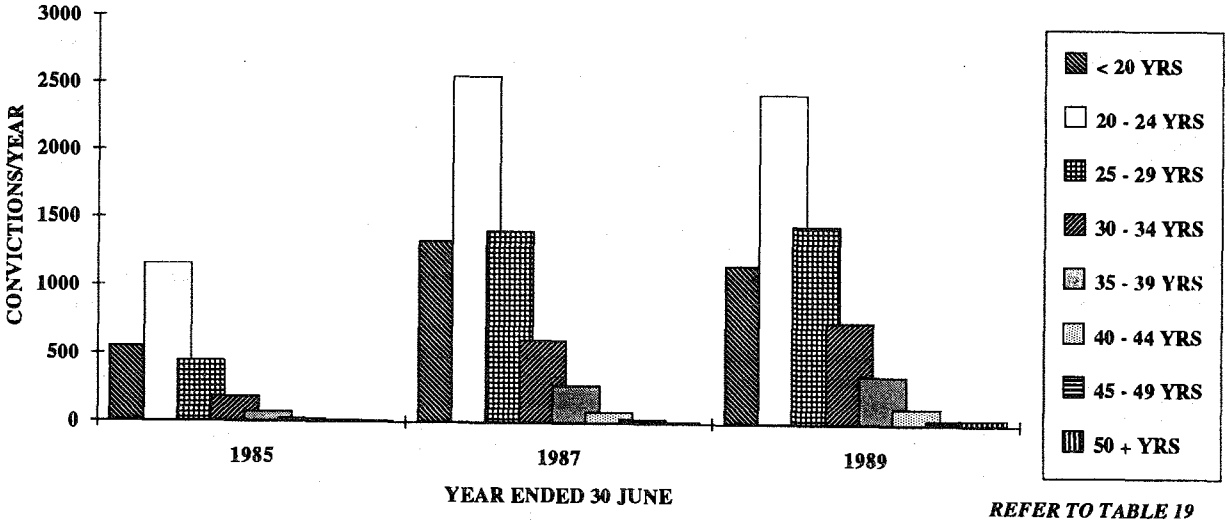
Age Group

The breakdown of annual convictions for drug offences by age group in the Courts of Petty Sessions shows that most convictions were recorded for the 20-24 age group: Chart 4.4.

From the data in Table 19 it may be concluded that the Courts of Petty Sessions convict relatively few individuals aged over 30, as:

- 2,159 (69.1%) convictions in 1985 involved the <30 age group;
- 5,293 (76.2%) convictions in 1987 involved the <30 age group; and
- 5,045 (72.9%) convictions in 1989 involved the <30 age group.

CHART 4.4
COURTS OF PETTY SESSIONS, WA: 1985-1989
DRUG OFFENCES, NUMBER OF CONVICTIONS BY AGE GROUP



REFER TO TABLE 19

TABLE 19
COURTS OF PETTY SESSIONS, WA: 1985-1989
NUMBER OF DRUG CONVICTIONS BY AGE GROUP
(Biennial Series)

AGE GROUP	YEAR ENDED 30 JUNE		
	1985	1987	1989
Under 20 years	553	1,333	1,162
20-24 years	1,160	2,554	2,428
25-29 years	446	1,406	1,455
30-34 years	184	609	752
35-39 years	73	277	359
40-44 years	25	81	117
45-49 years	11	33	38
50+	8	14	42
Not known	664	633	562
Total Drug Convictions	**3,124**	**6,950**	**6,915**
Total All Convictions	78,317	157,404	158,685
% Drug/All Convictions	4.0%	4.4%	4.4%

Source: Court Statistics: Courts of Petty Sessions, Western Australia, Cat. No. 4502.5. Australian Bureau of Statistics.

TABLE 20
NUMBER OF CHARGES AND CONVICTIONS BY ANCO DRUG OFFENCES, COURTS OF PETTY SESSIONS, WA: 1985-1989
(Year Ended 30 June)

ANCO DRUG OFFENCES		TOTAL CHARGES			TOTAL CONVICTIONS		
Code	Description	1985	1987	1989	1985	1987	1989
***	Possess/use of narcotics	39	117	-	33	103	-
613	Possess and/or use opium and its derivatives	-	-	68	-	-	58
614	Possess and/or use cocaine	-	-	2	-	-	2
615	Possess and/or use other narcotics specified	-	-	3	-	-	3
616	Possess and/or use narcotics unspecified	-	-	1	-	-	-
617	Possess and/or use cannabis, all forms	1753	3709	3537	1694	3606	3432
618	Possess and/or use other drugs specified	-	-	50	-	-	48
619	Possess and/or use drugs, unspecified	99	191	244	91	171	220
643	Import/export opium and its derivatives	-	-	5	-	-	3
646	Import/export narcotics unspecified	-	-	1	-	-	-
647	Import/export cannabis all forms	-	-	2	-	-	-
649	Import/export drugs unspecified	-	-	24	-	-	11
653	Deal and traffic in opium and its derivatives	-	-	51	-	-	6
654	Deal and traffic in cocaine and its derivatives	-	-	5	-	-	1
655	Deal and traffic in other narcotics, specified	-	-	-	-	-	-
657	Deal and traffic in cannabis, all forms	-	-	235	-	-	149
***	Dealing and trafficking in drugs	113	436	-	91	214	-
658	Deal and traffic in other drugs, specified	-	-	10	-	-	8
659	Deal and traffic in drugs unspecified	-	-	116	-	-	39
663	Manufacture/grow opium and its derivatives	-	-	2	-	-	3
***	Manufacturing/growing drugs	329	836	-	306	801	-
667	Manufacture/grow cannabis, all forms	-	-	880	-	-	849
669	Manufacture/grow drugs, unspecified	-	1	53	-	1	52
699	Other drug offences	931	2161	2078	909	2055	2034
Total Drug		3264	7450	7367	3124	6950	6915
Total All		83228	172620	173940	78317	157404	158685
% Drug/All Offences		3.9%	5.9%	4.2%	4.0%	4.4%	4.4%

Source: Court Statistics: Courts of Petty Sessions, Western Australia, Cat. No. 4502.5. Australian Bureau of Statistics.
Note: ** Draft ANCO code used in 1984-85 and 1986-87, not compatible with ANCO code.
Date published biennially.

HIGHER CRIMINAL COURTS

In the higher criminal courts of Western Australia, ie the District Court and the Supreme Court, the proportion of drug convictions of all convictions increased slightly from 5.1% in 1986 to 6.9% in 1989: Table 21.

Type of Drug

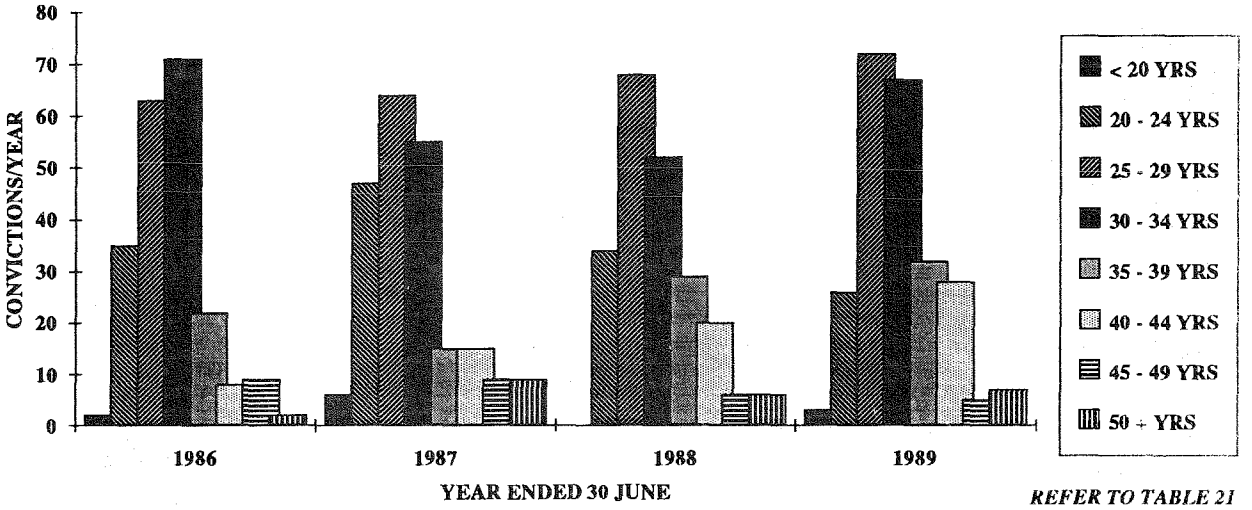
The breakdown of drug convictions by ANCO codes, in Table 22, shows that in 1988 and 1989 (prior to 1988 only draft ANCO code categories are available) offences concerned with cannabis, ie ANCO codes 617, 647, 657 and 667, made up 42.4% and 45.8% of all convictions, respectively.

Age Group

The breakdown in Chart 4.5 of annual convictions by age group in the higher courts shows that though in the latter part of the period 1986-1989 there was a small increase in the number of persons from the 35-39 and 40-44 age groups, the most convictions consistently involved the 25-29 and 30-34 age groups.

If the population of drug offenders dealt with by the higher courts in this State has become older this may be due to changes in law enforcement and sentencing procedures, or may reflect underlying changes in the age structure of the population of individuals involved with drugs.

CHART 4.5
HIGHER CRIMINAL COURTS, WA: 1986-1989
DRUG OFFENCES, NUMBER OF CONVICTIONS BY AGE GROUP



REFER TO TABLE 21

TABLE 21
HIGHER CRIMINAL COURTS, WA: 1986-1989
NUMBER OF DRUG CONVICTIONS BY AGE GROUP
(Annual Series)

AGE GROUP	YEAR ENED 30 JUNE			
	1986	1987	1988	1989
Under 20 years	2	6	-	3
20-24 years	35	47	34	26
25-29 years	63	64	68	72
30-34 years	71	55	52	67
35-39 years	22	15	29	32
40-44 years	8	15	20	28
45-49 years	9	9	6	5
50+	2	9	6	7
Not known	-	2	9	6
Total Drug Convictions	**212**	**232**	**224**	**246**
Total All Convictions	2,669	2,188	5,239	3,562
% Drug/All Convictions	7.9%	10.6%	4.3%	6.9%

Source: Court Statistics: Higher Criminal Courts Western Australia, Cat. No. 4501.5. Australian Bureau of Statistics.

TABLE 22
NUMBER OF CHARGES AND CONVICTIONS BY ANCO DRUG OFFENCES, HIGHER CRIMINAL COURTS, WA: 1986-1989
(Year Ended 30 June)

ANCO DRUG OFFENCES		TOTAL CHARGES				TOTAL CONVICTIONS			
Code	Description	1986	1987	1988	1989	1986	1987	1988	1989
***	Possess/use of narcotics	4	7	-	-	4	7	-	-
613	Possess and/or use opium and its derivatives	-	-	-	3	-	-	-	3
617	Possess and/or use cannabis, all forms	8	3	2	5	7	3	2	5
619	Possess and/or use drugs, unspecified	-	-	1	2	-	-	1	2
643	Import/export opium and its derivatives	-	-	10	4	-	-	10	4
647	Import/export cannabis all forms	-	-	4	2	-	-	4	2
653	Deal and traffic in opium and its derivatives	-	-	106	71	-	-	99	58
654	Deal and traffic in cocaine and its derivatives	-	-	-	1	-	-	-	1
655	Deal and traffic in other narcotics, specified	-	-	12	13	-	-	12	13
657	Deal and traffic in cannabis, all forms	-	-	90	80	-	-	84	78
***	Dealing and trafficking in drugs	203	205	-	-	182	191	-	-
658	Deal and traffic in other drugs, specified	-	-	7	39	-	-	7	37
659	Deal and traffic in drugs unspecified	-	-	-	1	-	-	-	1
663	Manufacture/grow opium and its derivatives	-	-	-	3	-	-	-	3
***	Manufacturing/growing drugs	22	35	-	-	19	30	-	-
667	Manufacture/grow cannabis, all forms	-	-	5	35	-	-	5	34
699	Other drug offences	-	1	-	1	-	1	-	1
Total Drug		237	251	237	264	212	232	224	246
Total All		4538	4339	5722	4336	4142	3912	5239	3562
% Drug/All Offences		5.2%	5.8%	4.1%	6.1%	5.1%	5.9%	4.3%	6.9%

Source: Court Statistics: Higher Criminal Courts, Western Australia, Cat. No. 4501.5. Australian Bureau of Statistics.
Note: ** Draft ANCO code used in 1985-86 and 1986-87, not compatible with ANCO code.

4.3 PRISON DATA

The data in Table 23 shows that the total number of individuals imprisoned for drug offences increased by 86.2%, from 87 in 1982 to a peak of 162 in 1987. Since 1987 the number of individuals has remained static. As a proportion of the total prison population, drug offenders increased from 6.4% in 1982 to 8.4% in 1990.

Type of Offence

Chart 4.6 shows, as would be expected, that *trafficking* offences, ie possession with intent to sell, dealing and selling, which are indictable offences, were the most frequent type of drug offender in the WA prison population.

There was a steady increase from 1982-1990 in the number of prisoners convicted the heading of *manufacture*, though the number of drug offenders in this category were much smaller compared to the *trafficking* group. It is to be noted each year after 1987 the numbers of drug offenders in the *manufacture* category exceeded the numbers in the *possession/use* category.

As would be expected there was a much smaller number of individuals imprisoned for drug offences involving possession or use, as these are ordinarily simple offences. It is possible that these individuals were repeat offenders.

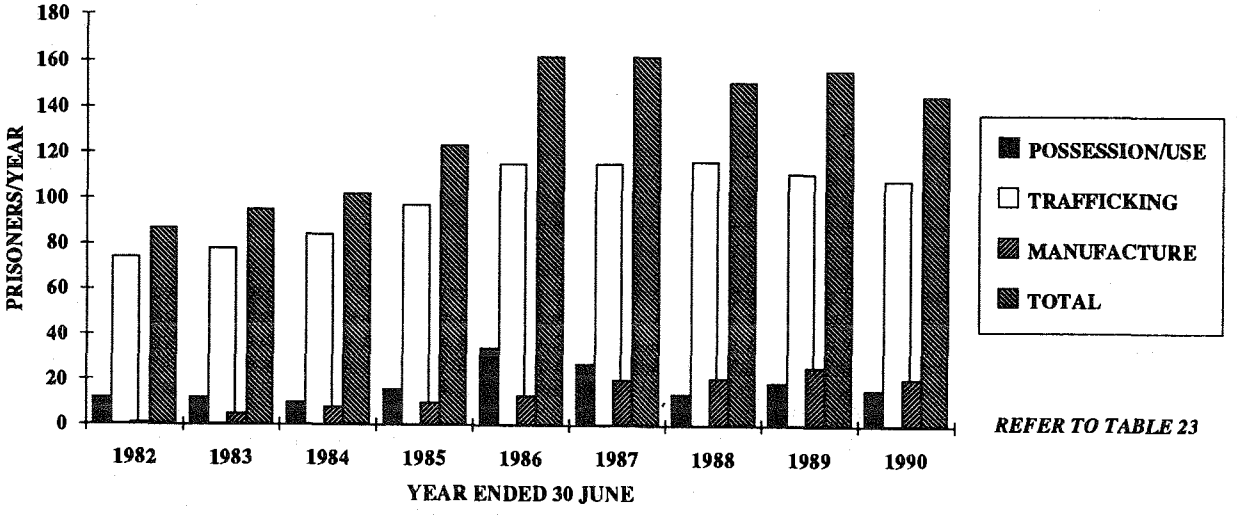
Gender

Table 24 shows that the sex specific ratios for both male and female prisoners for all drug offences increased from 1982 to 1990. The male ratio increased by 11.4%, from 17.6 in 1982 to 19.6 in 1990, and the female ratio increased by 14.3%, from 1.4 in 1982 to 1.6 in 1990.

Though over the period the male ratio remained between about 6 to 10 times higher than the female ratio, from 1986 to 1990 there has been a decrease of 31.7% in the ratio of male drug offenders to the total male prison population. It is to be noted that both the male and female rates peaked in 1986, at 28.7 and 4.2, respectively: Chart 4.7.

The trend in the increase of drug offenders in the female prison population has been more erratic than that for males, which has increased more gradually over the period: Chart 4.8.

CHART 4.6
NATIONAL PRISON CENSUS, WA: 1982-1990
NUMBER OF PRISONERS PER YEAR, DRUG OFFENCES



REFER TO TABLE 23

TABLE 23
NATIONAL PRISON CENSUS: NUMBER OF PRISONERS BY MOST SERIOUS OFFENCE - DRUG OFFENCES
WESTERN AUSTRALIAN PRISON POPULATION BY YEAR ENDING 30 JUNE

TYPE OF DRUG OFFENCE	1982			1983			1984			1985			1986		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
Drug Offence: Possession/Use	12	-	12	11	1	12	8	2	10	15	1	16	30	4	34
Drug Offence: Trafficking	68	6	74	70	8	78	72	2	84	89	8	97	100	15	115
Drug Offence: Manufacture/Grow	-	1	1	5	-	5	8	-	8	10	-	10	13	-	13
Total Drug Offences	80	7	87	86	9	95	88	14	102	114	9	123	143	19	162
Total Prisoners All Offences	1286	64	1350	1437	66	1709	1464	79	1543	1424	71	1495	1520	92	1612
% Drug/All Prisoners	6.2%	10.9%	6.4%	6.0%	13.6%	5.6%	6.0%	17.7%	6.6%	8.0%	12.7%	8.2%	9.4%	20.6%	10.0%

TYPE OF DRUG OFFENCE	1987			1988			1989			1990		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total
Drug Offence: Possession/Use	25	2	27	14	-	14	13	6	19	15	1	16
Drug Offence: Trafficking	106	9	115	106	10	116	99	12	111	103	5	108
Drug Offence: Manufacture/Grow	18	2	20	19	2	21	25	1	26	20	1	21
Total Drug Offences	149	13	162	139	12	151	137	19	156	138	7	145
Total Prisoners All Offences	1546	81	1627	1541	108	1649	1477	91	1568	1621	99	1720
% Drug/All Prisoners	9.6%	16.0%	10.0%	9.0%	11.1%	9.2%	9.3%	20.9%	9.9%	8.5%	7.1%	8.4%

Source: Australian Institute of Criminology, National Prison Census (Annual Series)

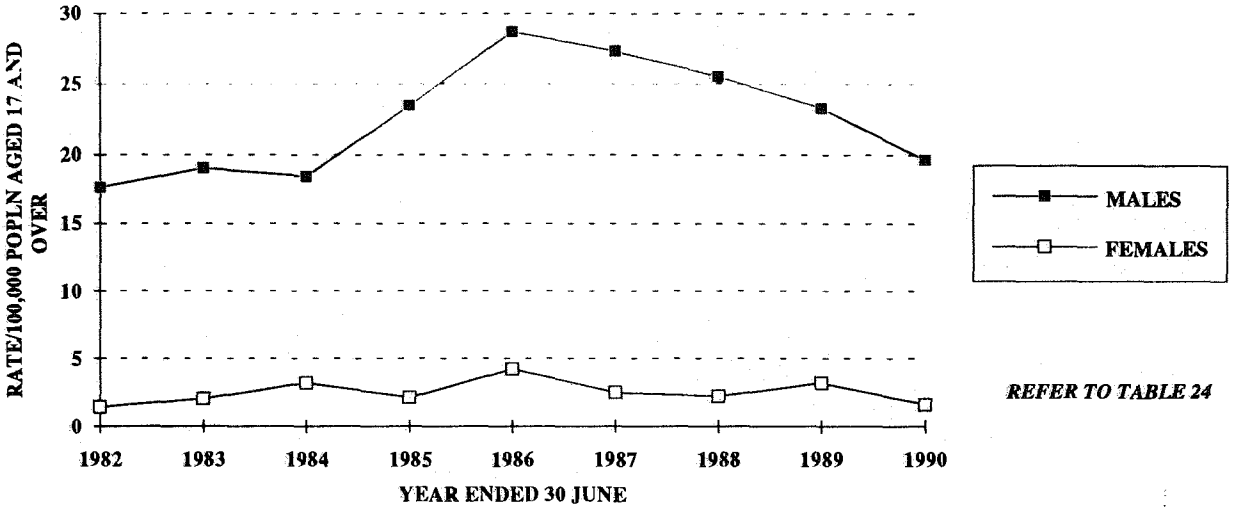
TABLE 24
NATIONAL PRISON CENSUS: SEX SPECIFIC RATIO, DRUG OFFENCES
WESTERN AUSTRALIAN PRISON POPULATION BY YEAR ENDING 30 JUNE

Type of Drug Offences	1982			1983			1984			1985			1986		
Sex - Specific Ratios of Prisoners/100,000 Population	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
- Possession/Use	2.6	-	N/A	2.4	.2	1.3	1.7	.5	1.1	3.1	.2	1.8	6.0	.9	3.7
- Trafficking	15.0	1.4	N/A	15.5	1.8	8.8	15.0	2.7	9.2	18.3	1.9	11.1	20.1	3.3	12.4
- Manufacture	-	-	N/A	1.1	-	.6	1.7	-	.9	2.1	-	1.1	2.6	-	1.4
Total Sex - Specific Ratio	17.6	1.4	N/A	19.0	2.0	10.7	18.4	3.2	11.2	23.5	2.1	14.0	28.7	4.2	17.5

	1987			1988			1989			1990		
Sex - Specific Ratios of Prisoners/100,000 Population	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
- Possession/Use	4.6	.4	2.5	2.6	-	1.3	2.2	1.0	1.6	2.4	.2	1.3
- Trafficking	19.4	1.7	10.6	19.4	1.8	10.7	16.8	2.0	9.3	15.1	1.3	8.1
- Manufacture	3.3	.4	1.8	3.5	.4	1.9	4.3	.2	2.2	2.1	.1	1.1
Total Sex - Specific Ratio	27.3	2.5	14.9	25.5	2.2	13.9	23.3	3.2	13.1	19.6	1.6	10.5

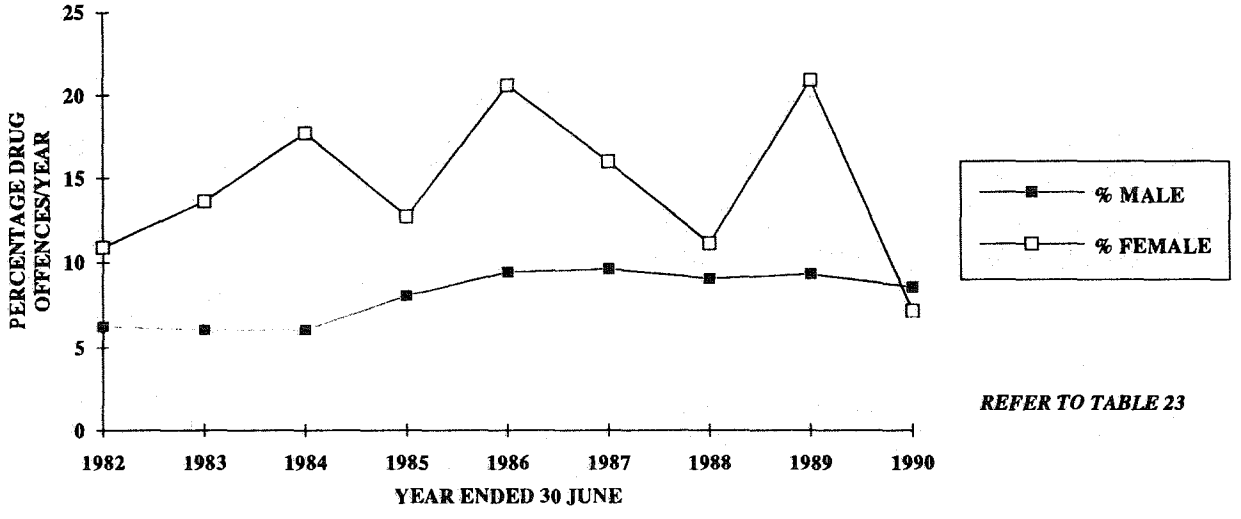
Source: Australian Institute of Criminology, National Prison Census (Annual Series)
Note: Sex Specific Ratio Based on population aged 17 and over

CHART 4.7
NATIONAL PRISON CENSUS, WA: 1982-1990
TOTAL SEX SPECIFIC RATIOS, ALL DRUG OFFENCES



REFER TO TABLE 24

CHART 4.8
NATIONAL PRISON CENSUS, WA: 1982-1990
% MALE & FEMALE PRISONERS FOR DRUG OFFENCES



REFER TO TABLE 23

CHAPTER 5

PUBLIC HEALTH DATA 1981 - 1990

CHAPTER 5 - PUBLIC HEALTH DATA

5.1 HIV/AIDS IN IDUs - NOTIFICATION DATA

From 1984 to 1990 there were 590 notifications for HIV and AIDS in this state. This information has been broken down by risk factor and year of notification in Table 25.

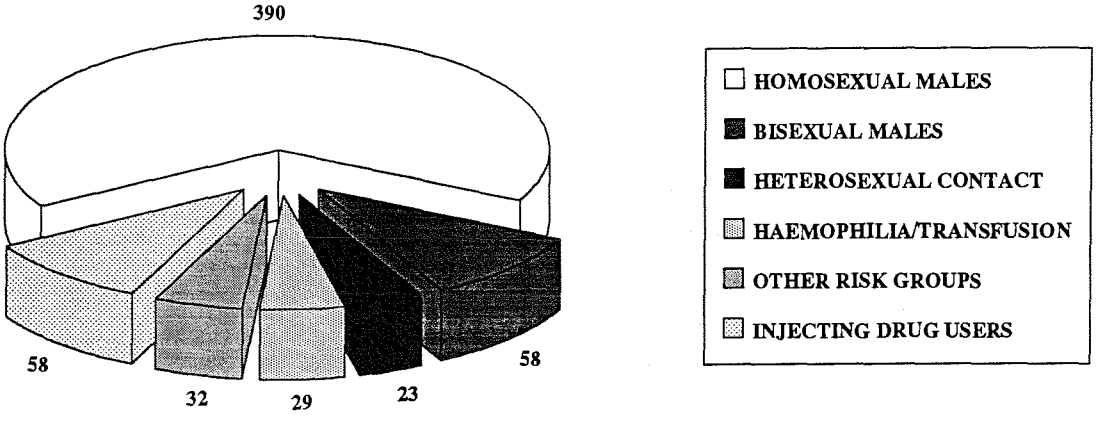
TABLE 25
NUMBER OF HIV & AIDS NOTIFICATIONS BY RISK FACTOR
WESTERN AUSTRALIA: 1984-1990

RISK FACTOR	NOTIFICATIONS	
	N	%
Homosexual Males	390	66.1
Bisexual Males	58	9.8
IDU - Bi/Homosexual Male	31	5.3
IDU - Heterosexual M/F	24	4.1
IDU - Female Prostitute	3	0.5
Female Prostitute	2	0.3
Heterosexual Contact	23	3.9
Perinatally Acquired	1	0.2
Haemophilia	20	3.4
Transfusion Recipient	9	1.5
Other/Undetermined	29	4.9
TOTAL	**590**	**100.0**

Source: Infectious Diseases Registry, Health Services Statistics & Epidemiology Branch, Health Department of WA

As by aggregation of related risk categories over the period 1984-1990 there were 58 notifications where injecting drug use was the risk factor, this means that injecting drug use was the equal second most frequent risk group, together with bisexual males: Chart 5.1

CHART 5.1
TOTAL NUMBER OF HIV/AIDS NOTIFICATIONS BY RISK GROUP, WA: 1984-1990

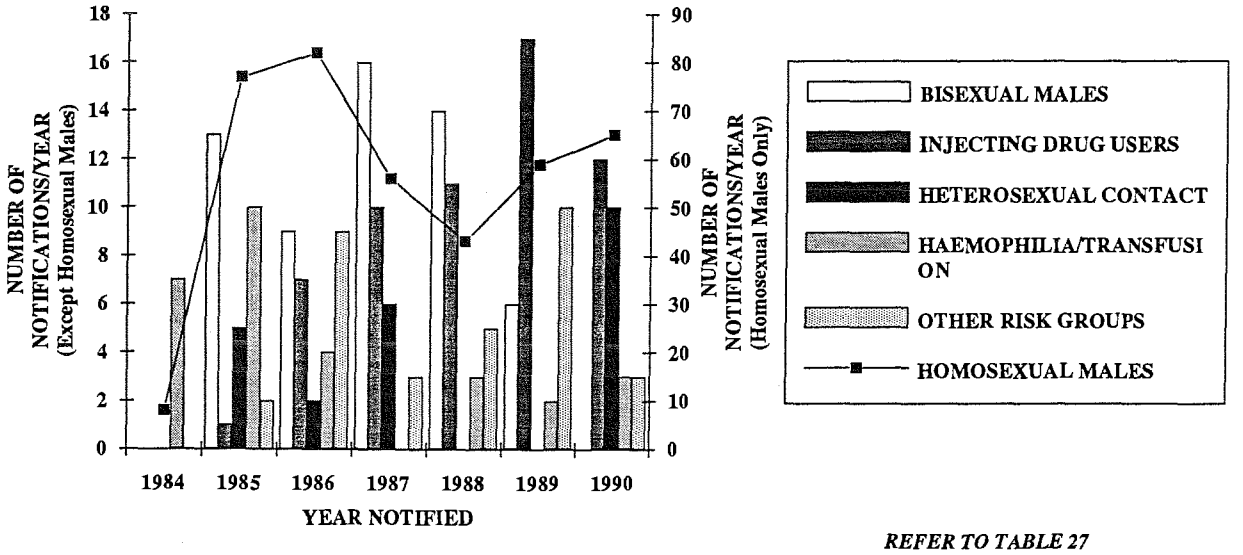


REFER TO TABLE 26

Table 26 shows that the number of notifications increased where the risk factor was injecting drug use from 1 notification in 1985 to a peak of 17 notifications in 1989. There was a small drop to 12 notifications in 1990.

It can be seen that the number of notifications for the bisexual male risk group peaked in 1987, and that after 1988, has been overtaken by injecting drug use as the second most frequent risk group after the homosexual male risk group: Chart 5.2.

CHART 5.2
NUMBER OF HIV/AIDS NOTIFICATIONS/YEAR BY RISK GROUPS, WA: 1984-1990



REFER TO TABLE 27

TABLE 26
ANNUAL NUMBER OF HIV/AIDS NOTIFICATIONS BY RISK FACTOR BY YEAR OF FIRST DIAGNOSIS, WA: 1984-1990

RISK FACTOR	1984	1985	1986	1987	1988	1989	1990	1984-1990
Homosexual Male	8	77	82	56	43	59	65	390
Bisexual Male	-	13	9	16	14	6	-	58
Intravenous Drug Use & Homosexual/Bisexual Male	-	1	2	6	8	8	6	31
Intravenous Drug Use & Female and Heterosexual Male	-	-	3	3	3	9	6	24
Intravenous Drug Use & Female Prostitute	-	-	2	1	-	-	-	3
Female Prostitute	-	-	1	1	-	-	-	2
Heterosexual Contact	-	5	2	6	-	-	10	23
Infant of Infected Mother	-	-	-	1	-	-	-	1
Haemophilia/Coagulation Disorder	7	10	3	-	-	-	-	20
Recipient of Blood Transfusion	-	-	1	-	3	2	3	9
Other/Undetermined	-	2	8	1	5	10	3	29
TOTAL NOTIFICATIONS	**15**	**108**	**113**	**91**	**76**	**94**	**93**	**590**

Source: Health Department of WA, Health Services Statistics & Epidemiology Branch

5.2 HIV/AIDS IN IDUs - DRUG TREATMENT DATA

More recently it has been accepted that HIV testing should be an integral component of treatment programs for drug abusers, especially where injecting drug use has occurred. The rationale for this is based on the concept that treatment should support harm minimisation and evaluate outcome across a broad set of measures, such as improved knowledge about health care, reductions in high risk practices and improvements in social stability rather than focus on a narrow set of goals, such as abstinence.

A good example of this change in emphasis is the methadone program, which prior to the mid 1980s had been primarily focussed on abstinence through a short-term treatment philosophy. The methadone program which now provides a long-term program, is the only source of data in this State about the seroprevalence levels and frequency of testing of its treatment population.

TABLE 27
RATE OF TESTING AND HIV POSITIVE CASES, WA: 1986-1990, METHADONE TREATMENT POPULATION

YEAR	QUARTER	HIV POSITIVE INDIVIDUALS		Total Number of Tests Conducted Per Quarter
		Number	Proportion of Treatment Population Tested	
1986	January-March	3	0.9%	-
	April-June	3	1.0%	2
	July-September	3	1.1%	1
	October-December	2	0.7%	2
1987	January-March	4	1.5%	73
	April-June	3	1.1%	49
	July-September	6	2.0%	122
	October-December	7	2.2%	111
1988	January-March	7	2.0%	92
	April-June	8	2.2%	116
	July-September	8	2.0%	89
	October-December	9	2.0%	124
1989	January-March	6	1.3%	90
	April-June	6	1.3%	112
	July-September	7	1.6%	89
	October-December	8	1.9%	154
1990	January-March	9	2.0%	200
	April-June	8	1.8%	141
	July-September	3	0.6%	140
	October-December	5	1.1%	131

Source: Western Australian Alcohol & Drug Authority
Note: Testing data not available prior to first quarter 1986

The data in Table 27 indicates that HIV positivity of the WA methadone treatment population has been at a very low level over the period 1986 to 1990. These very low seroprevalence levels are consistent with other Australian data and are in stark contrast to a number of countries which have recorded very high levels of prevalence among IDUs.[21]

It is to be noted that only 5 tests were conducted in 1986 compared to 1990 where there were 612 tests conducted. This means there was an monthly average of 51 tests in 1990. Data is not available of a breakdown of the proportion of tests taken at the time of admission to the methadone program, ie readmissions and new clients, compared to re-testing of the treatment population.

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[21] Wodak A. To take up arms against a sea of drugs: AIDS, injecting drug users and drug policy. In Australian Academy of Sciences. ***HIV Infection and AIDS, Proceedings of the 1991 Annual General Meeting of the Australian Academy of Science.*** Canberra, Australian Academy of Science, 1991.

5.3 NOTIFICATIONS OF DRUG ADDICTION

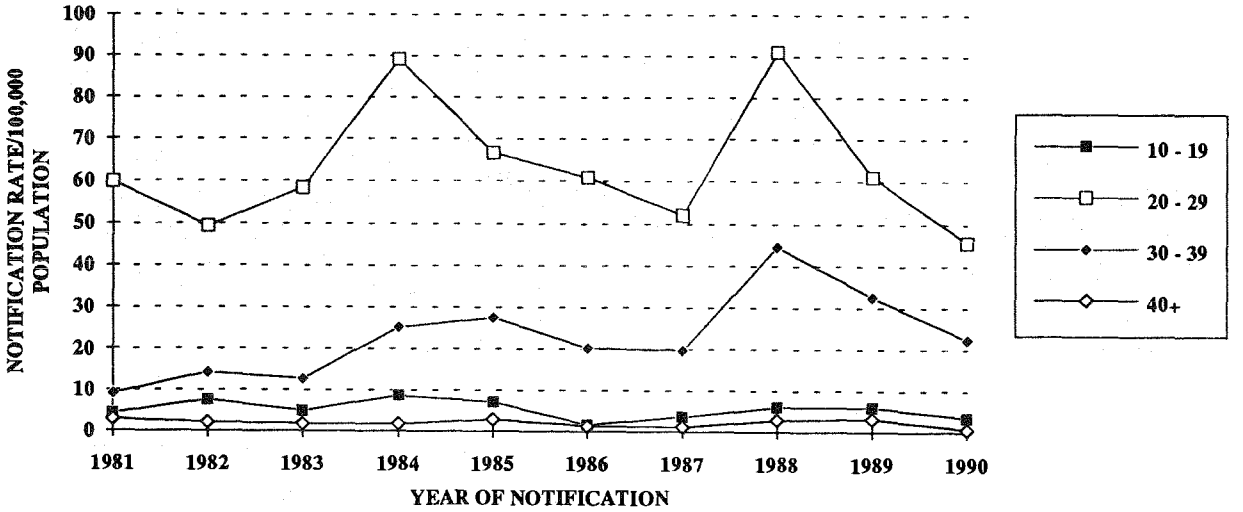
In interpreting Western Australian data on drug notifications it is necessary to take account of periods when unusual increases have occurred; firstly, in 1984 when restrictions were placed on GPs prescribing the addictive drug Temgesic (buprenorphine), and secondly, in 1988 as a result of increased concern about the excessive prescription of tranquillisers, especially of benzodiazepines, to young people. The effect of these two restrictions, which is demonstrated in Chart 5.3 (see over), resulted in excessive number of notifications in 1984 and 1988 of the 20-29 age group.

From 1981 to 1990 there were 2,408 notifications, 902 (37.4%) females and 1,506 (62.6%) males: Table 28.

The most frequent age group notified was the 20-29 age group where there were 1,591 (66.1%) notifications, followed by the 30-39 age group with 556 (23.1%) notifications. There were much smaller numbers notified in the 15-19 age group, which had 130 (5.3%) notifications and the 40 and over age group, which had 99 (4.1%) notifications. There were 32 cases (1.4%) where the age was reported missing.

Because of distortions introduced in 1984 and 1988 through the restrictions placed upon GPs to prescribe certain kinds of drugs, it is not possible to accurately compute age specific rates. However, the data in Chart 5.4 suggests over the 10 year period there may have been a slight increase in the rate of the 30-39 age group.

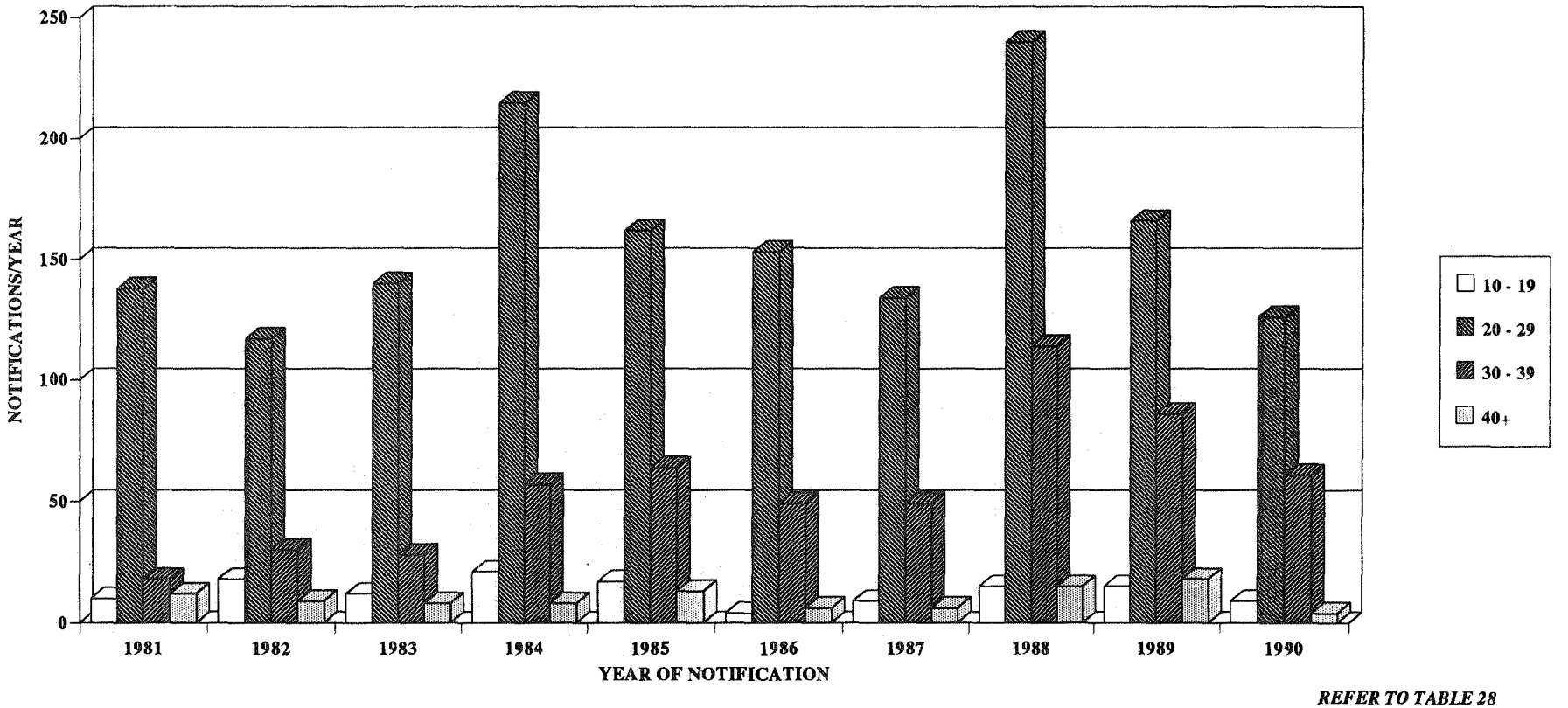
CHART 5.4
AGE SPECIFIC RATES OF NOTIFICATION OF DRUG ADDICTION, WA: 1981-1990
YEAR OF NOTIFICATION BY AGE GROUP



Note: No Cases Reported For 0-9 Age Group (Excluded)

REFER TO APPENDIX 1, TABLE A25

CHART 5.3
NUMBER OF NOTIFICATIONS OF DRUG ADDICTION, WA: 1981-1990
YEAR OF NOTIFICATION BY AGE GROUP



REFER TO TABLE 28

TABLE 28
NUMBER OF NOTIFICATIONS OF ADDICTION BY AGE GROUP AND GENDER, WA: 1981-1990

AGE GROUP	GENDER	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1981-1990
15-19	M	6	8	6	9	8	2	6	9	7	5	66
	F	4	10	6	12	9	2	3	6	8	4	64
	Total	**10**	**18**	**12**	**21**	**17**	**4**	**9**	**15**	**15**	**9**	**130**
20-29	M	89	75	94	134	87	86	82	153	100	81	981
	F	49	42	46	81	75	67	52	87	66	45	610
	Total	**138**	**117**	**140**	**215**	**162**	**153**	**134**	**240**	**166**	**126**	**1591**
30-39	M	11	22	18	33	46	32	34	80	56	41	373
	F	7	8	10	24	18	17	15	34	30	20	183
	Total	**18**	**30**	**28**	**57**	**64**	**49**	**49**	**114**	**86**	**61**	**556**
40+	M	8	7	5	5	9	5	5	8	10	3	65
	F	4	2	3	3	4	1	1	7	8	1	34
	Total	**12**	**9**	**8**	**8**	**13**	**6**	**6**	**15**	**18**	**4**	**99**
Age Missing	M	1	11	3	1	-	1	3	1	-	-	21
	F	1	3	2	-	-	1	1	1	1	1	11
	Total	**2**	**14**	**5**	**1**	**-**	**2**	**4**	**2**	**1**	**1**	**32**
Total	M	115	123	126	182	150	126	130	251	173	130	1506
	F	65	65	67	120	106	88	72	135	113	71	902
	Persons	**180**	**188**	**193**	**302**	**256**	**214**	**202**	**386**	**286**	**201**	**2408**

Source: Health Department of Western Australia, Drug of Dependence Branch.

5.4 AVAILABILITY OF NEEDLES & SYRINGES

N&S Distributed Through Retail Pharmacies

Table 29 shows that from June 1987 to December 1990 a total of 109,160 SS5 Packs were distributed in this State, of which 100,193 (91.7%) were provided through retail pharmacies in the metropolitan area. As there were five N&S included with each SS5 Pack, this represents 545,800 new N&S.

The success of this HIV preventive strategy has been such that in the December quarter 1990 a total of 22,125 SS5 Packs, ie 110,625 N&S were distributed.

The number of N&S distributed through SS5 Packs doubled from 1988 to 1989, and more than trebled from 1989 to 1990.

It is to be noted that this data underestimates the total sale of N&S to IDUs by pharmacies, as loose quantities of N&S can be legitimately sold on request to any member of the public. There is no records of these sales nor information on the proportion of N&S that were purchased by diabetics as compared to IDUs.

TABLE 29
NUMBER OF NEEDLES/SYRINGES DISTRIBUTED AS SS5 PACKS,WA: 1987-1990

YEAR	QUARTER	NUMBER OF SS5 PACKS DISTRIBUTED				TOTAL NEEDLES & SYRINGES DISTRIBUTED
		ADA	COUNTRY CHEMISTS	METRO CHEMISTS	TOTAL	
1987	April-June	-	475	2,093	2,568	12,84
	July-September	-	30	786	816	4,080
	October-December	-	-	1,722	1,722	8,610
1988	January-March	-	-	836	836	4,180
	April-June	-	-	2,869	2,869	14,345
	July-September	-	-	3,054	3,054	15,270
	October-December	-	160	4,868	5,028	25,140
1989	January-March	15	200	4,423	4,638	23,190
	April-June	55	-	4,424	4,479	22,395
	July-September	70	105	4,576	4,751	23,755
	October-December	145	270	7,866	8,281	41,405
1990	January-March	413	550	11,795	12,758	63,790
	April-June	405	905	12,581	13,891	69,455
	July-September	394	2,050	18,900	21,344	106,720
	October-December	675	2,050	19,400	22,125	110,625
TOTAL		2,172	6,795	100,193	109,160	545,800

Source: WA Alcohol and Drug Authority; AIDS Bureau, Health Department of WA.
Note: ADA Data is approximation from record of supplies, includes the number of loose needles and syringes supplied.
Needle and syringe data not available prior to second quarter 1987.

N&S Distributed Through NSE Program Operated By WA AIDS Council

Table 30 shows that from July 1987 to December 1990 a total of 245,604 N&S were distributed in the Perth metropolitan area through programs under the auspices of the WAAC. This data shows a similar pattern of ongoing increases in demand as has occurred for SS5 Packs, as from the December 1989 to the December 1990 quarters the number of N&S distributed increased by nearly two and one-half times.

TABLE 30
NUMBER OF NEEDLES/SYRINGES DISTRIBUTED THROUGH NEEDLE & SYRINGE EXCHANGE PROGRAM WESTERN AUSTRALIA: 1987-1990

YEAR	QUARTER	PSST VAN	WAAC	SAUNA	TOTAL
July 1987 - June 1989		8,925	5,000 (approx)	24,000 (approx)	37,925
1989	July-September	7,793	2,894	5,900	16,587
	October-December	9,754	2,107	8,200	20,061
1990	January-March	13,867	1,743	9,000	24,610
	April-June	10,863	3,264	21,990	36,117
	July-September	14,435	5,159	23,300	42,894
	October-December	16,443	9,467	41,500	67,410
TOTAL		**82,080**	**29,634**	**133,890**	**245,604**

Source: Western Australian AIDS Council
Note: Monthly totals not available before July 1989

Data of N&S distributed through WAAC programs and SS5 Packs are combined in Chart 5.5 and show that:

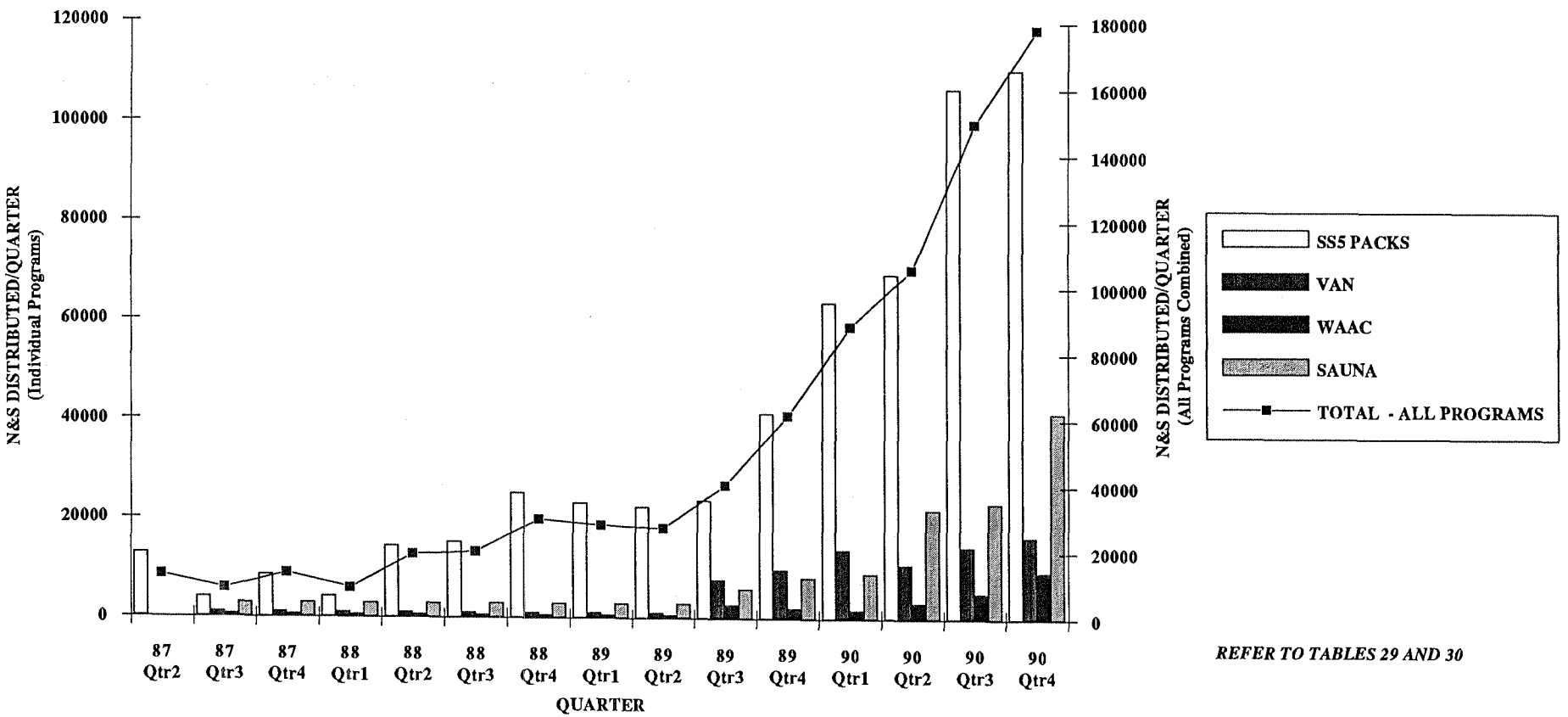
- from the inception of the HIV preventive strategy until the second quarter 1989 there was a moderate rate of increase in the quantity of N&S distributed; [21]
- for each quarter since the September 1989 quarter there were increases in the quantity of N&S.

By the end of the period, at the end of the December 1990 quarter 178,035 N&S were distributed through both programs.

This means that in the December quarter 1990 an average of 1,483 N&S per day were being distributed to IDUs in WA through the NSE program under the auspices of the WAAC and SS5 Packs sold through pharmacies.

[21] Note: quarterly data from the NSE program between July 1987 and June 1989 was calculated by linear interpolation.

CHART 5.5
QUARTERLY TOTALS OF NEEDLES & SYRINGES DISTRIBUTED IN WA: 1987-1990



REFER TO TABLES 29 AND 30

CHAPTER 6

ALCOHOL AND DRUG INFORMATION SERVICE DATA 1981 - 1990

CHAPTER 6 - ALCOHOL AND DRUG INFORMATION SERVICE

Table 31 shows since the inception of ADIS in early 1986 the number of drug-related calls have increased each year.

TABLE 31
NUMBER OF DRUG-RELATED TELEPHONE CALLS, WA: 1987-1990

YEAR	QUARTER	NUMBER OF TELEPHONE CALLS
1986	April-June	899
	July-September	1196
	October-December	1295
	TOTAL	**3390**
1987	January-March	1245
	April-June	1312
	July-September	1371
	October-December	1914
	TOTAL	**5842**
1988	January-March	1843
	April-June	1843
	July September	2238
	October-December	2009
	TOTAL	**7933**
1989	January-March	1702
	April-June	2693
	July September	2265
	October-December	1889
	TOTAL	**8549**
1990	January-March	2245
	April-June	2681
	July-September	2468
	October-December	2230
	TOTAL	**9624**

Source: Western Australian Alcohol & Drug Authority

LICIT DRUGS

Calls logged by ADIS related to the use of alcohol, tobacco, caffeine, analgesics, tranquillisers, sedatives, anti-depressants, prescription drugs and other drugs, have been grouped together as licit drugs. As it is not feasible for ADIS to record whether the drug the subject of a phone call was obtained licitly of illicitly, it is possible that a small number of drugs grouped under this heading were illicitly used.

Alcohol Related Calls

A breakdown of these calls in Table 32 and in Chart 6.1 shows that alcohol-related calls have been the most frequent licit call received by ADIS. Up to the third quarter 1987 about 500 calls per quarter (about 30-40% of total calls) related to alcohol; from 1988-1990 the number of alcohol-related calls had increased and remained at about 800 calls per quarter. At the end of the period, in the December quarter 1990, 32.5% of total calls were related to alcohol. It is likely that the greater number of alcohol-related calls were generated through the effect of the Drink Safe Campaign by the Health Promotion Service Branch.

Tranquilliser Related Calls

There were peaks in June 1989 and June 1990 in the quarterly totals of calls for both tranquillisers and tobacco, which were associated with the QUIT and Minor Tranquilliser campaigns supported by the Health Promotion Service Branch.

Other Drugs Related Calls

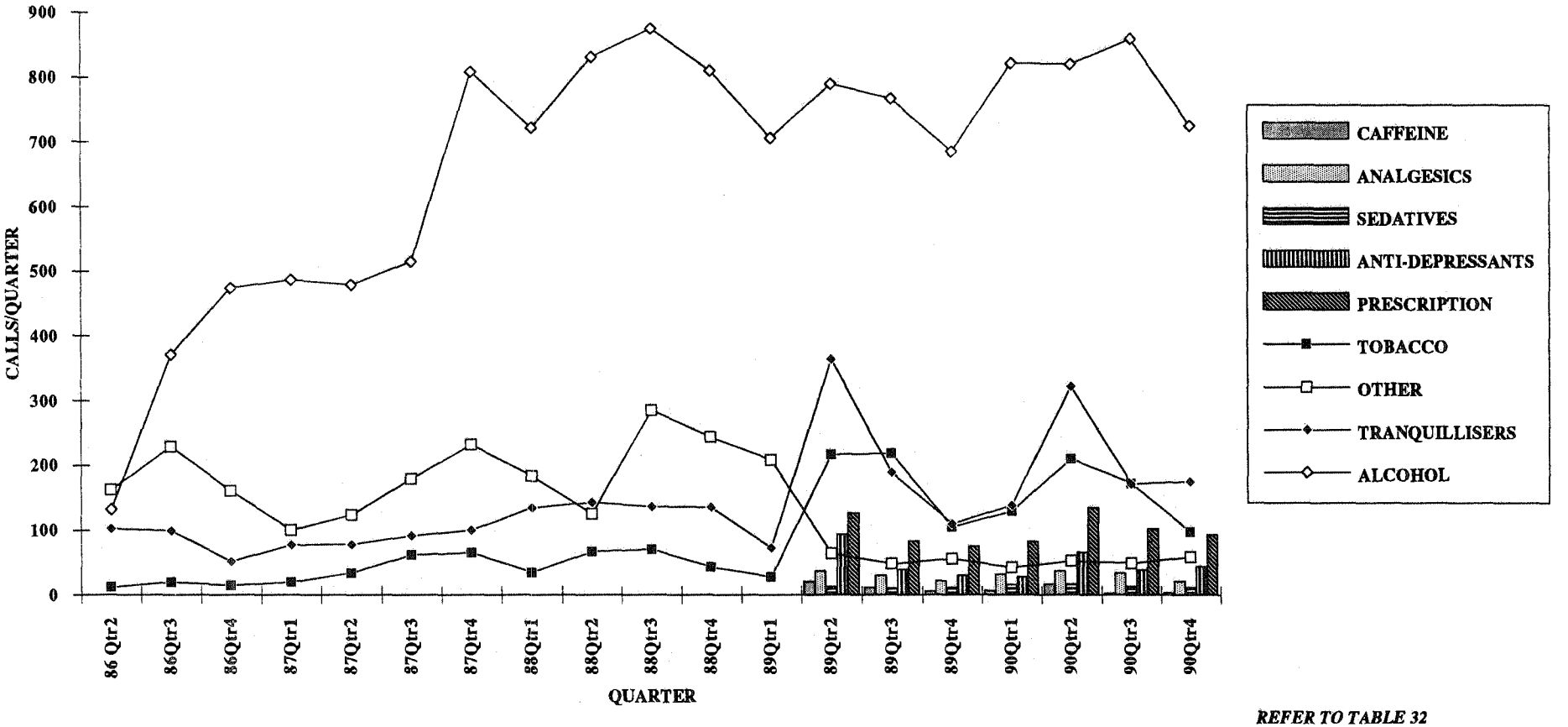
The reduction in calls recorded as "other" after the March 1989 quarter may be due to a change in coding practices, as the decline in the number of calls under this category coincides with increases in the number of tranquilliser and tobacco calls.

TABLE 32
TOTAL NUMBER OF PHONE CALLS PER QUARTER, LICIT DRUGS, WA: 1986-1990

YEAR	QUARTER	ALCOHOL	TOBACCO	CAFFEINE	ANALGESICS	TRANQUILLISERS	SEDATIVES	ANTI-DEPRESSANTS	PRESCRIPTION	OTHER DRUGS
1986	April-June	132	12	-	-	102	-	-	-	162
	July-September	371	20	-	-	-	-	-	-	229
	October-December	474	15	-	-	52	-	-	-	160
1987	January-March	486	20	-	-	77	-	-	-	100
	April-June	479	34	-	-	78	-	-	-	123
	July-September	515	62	-	-	91	-	-	-	179
	October-December	808	65	-	-	100	-	-		232
1988	January-March	721	35	-	-	134	-	-	-	183
	April-June	831	67	-	-	143	-	-	-	125
	July-September	875	70	-	-	136	-	-	-	285
	October-December	810	43	-	-	135	-	-		244
1989	January-March	706	28	-	-	73	-	-	-	208
	April-June	790	217	21	37	364	14	94	127	64
	July-September	767	218	12	31	189	11	40	84	48
	October-December	685	105	6	22	110	12	31	75	56
1990	January-March	822	129	7	32	138	16	28	83	42
	April-June	820	210	17	37	322	17	66	135	53
	July-September	859	172	3	34	171	14	39	102	49
	October-December	725	97	4	21	175	12	44	93	58

Source: Alcohol Drug and Information Service, Western Australian Alcohol & Drug Authority
Note: ADIS phone calls not available prior to second quarter 1986.

CHART 6.1
NUMBER OF ADIS CALLS PER QUARTER, LICIT DRUGS, WA: 1986 - 1990



REFER TO TABLE 32

ILLICIT DRUGS

Calls logged by ADIS related to the use of heroin, cannabis, cocaine, stimulants, hallucinogens, inhalants, polydrugs and MDMA have been grouped together as illicit drugs.

Cannabis Related Calls

An unusual feature of the breakdown of these calls in Table 33 and Chart 6.2 shows there has tended to be a cyclical pattern in the number of cannabis calls, ie there were peaks in the first quarters of each year in 1986, 1988, 1989 and in 1990. This pattern may reflect fluctuations in problems concerned with cannabis because of changes in seasonal availability. Cannabis calls have fluctuated between about 10-15% of the total calls received by ADIS per quarter, except for the June 1986 quarter when ADIS started, when cannabis calls were one-third of all calls received.

Psychostimulant Related Calls

There has been a striking increase in the number of psychostimulant-related calls from the inception of ADIS in 1986 to the end of the period in 1990. The number of psychostimulant calls tended to remain at a low level until the third quarter 1987, then have steadily increased from 60 calls (3.1% of total calls) in the December 1987 quarter to 305 calls (13.7% of total calls) by the December 1990 quarter. By the December 1990 quarter, psychostimulants had overtaken cannabis as the most frequent type of illicit drug call dealt with by ADIS.

Heroin Related Calls

The number of heroin-related calls have tended to remain constant. Up to the September 1987 quarter there were about 150 calls per quarter, since then there were about 200 calls per quarter.

Other Drugs Related Calls

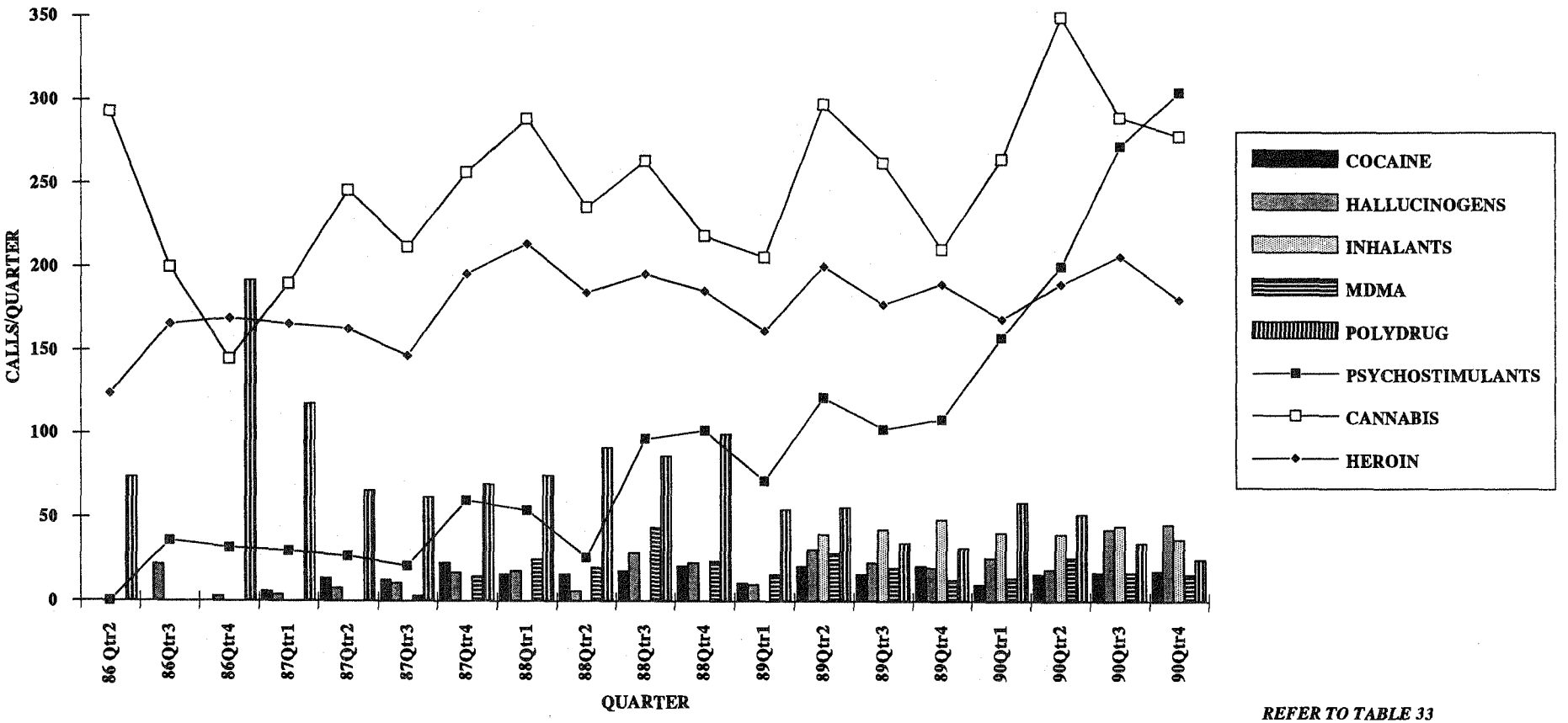
Calls concerned with other illicit drugs have been at low frequencies, though the number of calls under the category of polydrug has declined after 1988. It is unclear whether the decrease in polydrug calls is related to changes in prevalence, or changes in coding practices.

TABLE 33
TOTAL NUMBER OF PHONE CALLS PER QUARTER, ILLICIT DRUGS, WA: 1986-1990

YEAR	QUARTER	HEROIN	CANNABIS	COCAINE	PSYCHOSTIMULANTS	HALLUCINOGENS	INHALANTS	POLYDRUG	MDMA
1986	April-June	124	293	-	-	-	-	74	-
	July-September	166	200	-	36	22	-	-	-
	October-December	169	145	-	32	3	-	192	-
1987	January-March	166	190	6	30	4	-	118	-
	April-June	163	246	14	27	8	-	66	-
	July-September	147	212	13	21	11	-	62	3
	October-December	196	257	23	60	17	-	70	15
1988	January-March	214	289	16	54	18	-	75	25
	April-June	185	236	16	26	6	-	92	20
	July-September	196	264	18	97	29	-	87	44
	October-December	186	219	21	102	23	-	100	24
1989	January-March	162	206	11	72	10	-	55	16
	April-June	201	298	21	122	31	40	56	29
	July-September	178	263	16	103	23	43	35	20
	October-December	190	211	21	109	20	49	32	13
1990	January-March	169	265	10	158	26	41	59	14
	April-June	190	350	16	201	19	40	52	26
	July-September	207	290	17	273	43	45	35	17
	October-December	181	279	18	305	46	37	25	16

Source: Alcohol Drug and Information Service, Western Australian Alcohol & Drug Authority
Note: ADIS phone calls not available prior to second quarter 1986.

CHART 6.2
NUMBER OF ADIS CALLS PER QUARTER, ILLICIT DRUGS, WA: 1986 - 1990



REFER TO TABLE 33

CHAPTER 7

TREATMENT DATA 1981 - 1990

CHAPTER 7 - TREATMENT SERVICES

7.1 TREATMENT POPULATION DATA

At the present the only profile of the clientele of the non-government organisations (NGOs) in this State is from the March 1990 Australia-wide Clients of Treatment Service Agencies (COTSA) one-day census.[22] The definition of client contact data in this survey meant that only 78 (17.5%) of the 445 participants in methadone treatment at the time of the survey were counted. With adjustment to the COTSA data by the inclusion of the remaining 367 individuals in methadone treatment, there were 881 primary clients in treatment programs on census day in March 1990 in WA.

The frequency distribution of the four most frequent groups of clients by the type of principal drug problem was: opiates 449 (51%), alcohol 303 (34%), opiate/poly drug 49 (6%) and benzodiazepines 25 (3%). On the basis of this representative survey just over half the WA treatment population involved persons with opiate-related drug problems and just over one-third of the treatment population involved persons with alcohol-related problems.

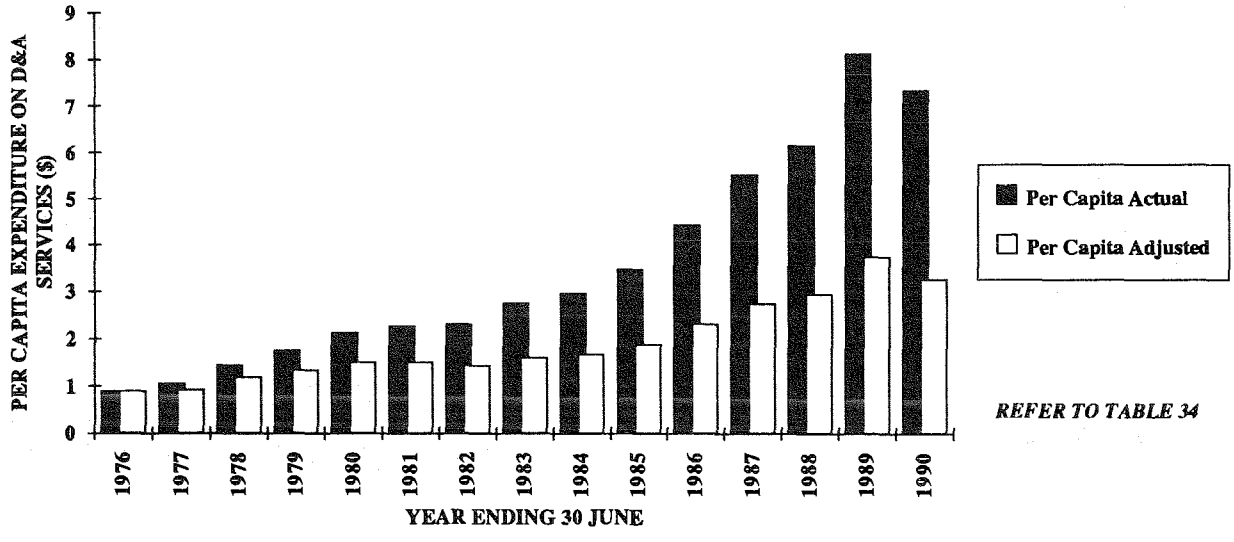
7.2 EXPENDITURE ON DRUG AND ALCOHOL PROGRAMS

Table 34 shows that total annual expenditure on government and non-government programs funded by the ADA rose from $984,670 in 1976 to $11,968,685 in 1990. The inclusion of funding from the National Campaign Against Drug Abuse (NCADA) from the 1986 period is coincident with increased expenditure in this State on drug and alcohol (D&A) services.

Table 34 also shows there has been a consistent increase in the proportion of total ADA non-capital expenditure provided to (NGOs); for instance, whereas 5.5% of total expenditure in 1980 went to NGOs, by 1990 this had risen to 31.3%. When adjusted for inflation, from 1976 to 1990 there has been a 2.5 times *increase* in per capita expenditure on D&A services: Chart 7.1.

It is likely that per capita expenditure on D&A services in WA is somewhat higher than these figures as the amount of funding received by NGOs through donations and non-ADA grants is not available.

CHART 7.1
PER CAPITA ADA EXPENDITURE ON DRUG AND ALCOHOL SERVICES IN WA: 1976-1990



[22] Webster P, Mattick RP & Baillie A. ***Clients of Treatment Service Agencies: March 1990 Findings***. Canberra: Commonwealth Department of Health, Housing and Community Services, 1991.

TABLE 34
ADA EXPENDITURE IN WESTERN AUSTRALIA FOR DRUG & ALCOHOL SERVICES: 1976-1990
(Year Ended 30 June)

Year	Total NCDA Grant	FUNDING OF NON GOVERNMENT ORGANISATIONS				Total Non-Capital Expenditure by ADA	PER CAPITA ADA EXPENDITURE	
		NCADA Contribution	Non-Government Agency Support Program	Aboriginal Advancement Program	Total Grants to NGOs		Actual	Adjusted to 1975-76 Prices
1976	-	-	-	-	$ 34,436	$ 984,670	$0.89	$0.89
1977	-	-	-	-	$ 19,249	$ 2,265,346	$1.06	$0.93
1978	-	-	-	-	$ 65,052	$ 1,761,276	$1.44	$1.19
1979	-	-	-	-	$ 98,514	$ 2,173,872	$1.75	$1.34
1980	-	-	-	-	$ 145,577	$ 2,664,384	$2.11	$1.50
1981	-	-	-	-	$ 209,409	$ 2,917,412	$2.25	$1.50
1982	-	-	-	-	$ 242,251	$ 3,074,277	$2.30	$1.43
1983	-	-	-	-	$ 446,405	$ 3,746,755	$2.74	$1.60
1984	-	-	-	-	$ 521,681	$ 4,102,406	$2.95	$1.66
1985	-	-	-	-	$ 705,934	$ 4,911,194	$3.46	$1.87
1986	$ 461,000	$ 437,269	$1,234,335	$ 127,125	$1,376,428	$ 6,468,691	$4.43	$2.29
1987	$ 883,090	$ 590,000	$1,487,580	$ 425,000	$1,785,674	$ 8,265,493	$5.51	$2.29
1988	$1,027,808	$ 628,171	$1,636,178	$ 565,665	$2,496,000	$ 9,484,128	$6.14	$2.93
1989	$1,439,066	$ 687,308	$2,137,716	$ 377,316	$2,782,550	$12,914,376	$8.10	$3.72
1990	$1,217,931	$ 833,368	$2,361,824	$ 382,557	$3,746,000	$11,968,685	$7.32	$3.25

Source: Annual Reports WA Alcohol & Drug Authority

Note: NCADA funding available from July 1985.
Adjusted expenditure calculated from published CPI in Consumer Price Index (Quarterly Series), Cat. No. 6401.0. Australian Bureau of Statistics

7.3 METHADONE PROGRAM

CONSUMPTION OF METHADONE

The data for the period 1981 to 1990, in Table 35, includes a component of consumption of methadone tablets for other medical purposes, eg analgesia. There were two peaks in the annual per capita consumption of methadone in this State over the 10 year period, in 1985 (3.308 grams) and in 1990 (3.022 grams). The trend of increasing per capita methadone consumption in the last two years of the period coincides with an increase in the size of the treatment population and probably also reflects a policy of higher daily dosage levels.

TABLE 35
ANNUAL METHADONE CONSUMPTION, WA: 1981-1990

Year	Western Australia			Australia
	Formulation	Kgs	Grams Per 1000 Population	Kgs
1981	Tablets	0.342		10.323
	Syrup	1.231		24.816
	Ampoules	0.011		0.624
	Total	1.584	1.219	35.763
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
1990	Tablets	1.331		16.681
	Syrup	3.606		134.861
	Ampoules	0.001		0.299
	Total	4.938	3.022	151.841

Source: Department of Health, Housing and Community Services, Drugs of Dependence Branch
Note: 5mg and 10mg tablets aggregated.

ANNUAL TREATMENT DATA

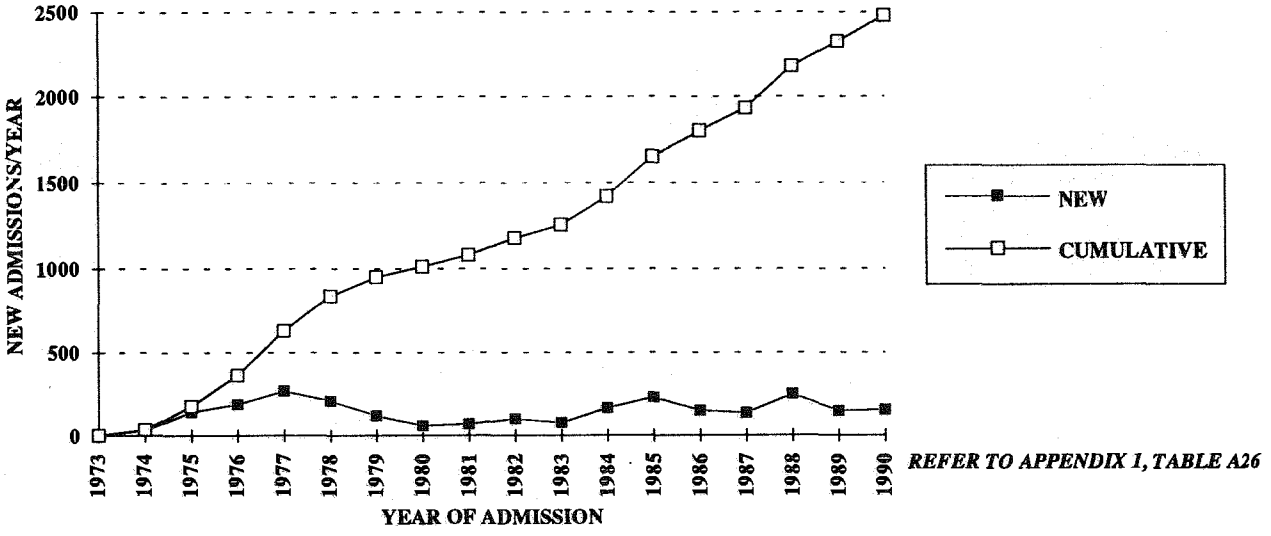
New Admissions: 1973-1990

Chart 7.2 shows there have been three peaks in the number of first-time admissions to the WA methadone program, in 1977, 1985 and 1988, when there were 266, 230 and 247 new admissions, respectively.

From 1973 to 1990 there was a cumulative total of 2,477 new admissions to methadone treatment.

During the 1980s the *proportion* of new admissions of the total annual treatment population peaked in the 1984-1985 period, and subsequently as gradually declined, such that by 1990 only 153 (21.6%) of the 710 persons treated were new: Table A26.

CHART 7.2
CUMULATIVE NEW ADMISSIONS TO METHADONE PROGRAM, WA: 1973 - 1990



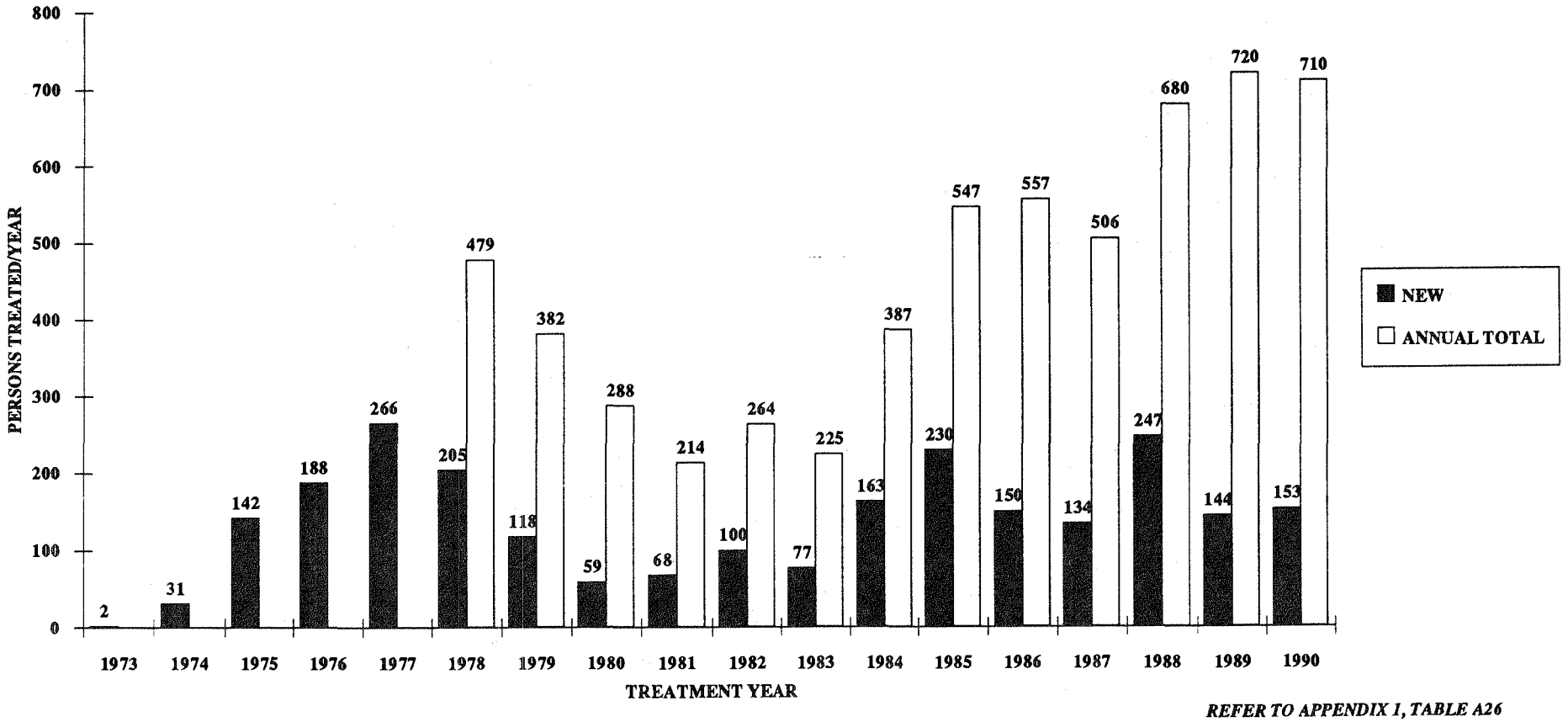
REFER TO APPENDIX 1, TABLE A26

Size of Annual Treatment Population: 1973-1990

Chart 7.3 shows the sharp increase that has occurred since the mid 1980s in the annual number of persons who have participated in the WA methadone program. Much of this growth in the size of the treatment population that has occurred would appear to be largely due to increases in retention rates, as the number of new clients has remained relatively constant at about 150 new admissions per year since 1985, except for 1988, when there were 247 new admissions.

Over the period the size of the treatment population ranged between 214 to 710 persons. There have been phases in the size of the treatment population. From 1981-1983 the annual population was relatively static and remained between 214 and 264 persons; an increase occurred in 1984, when 387 persons were treated; then from 1985 to 1987 the size of the treatment population ranged between 506 and 547 persons; then after a further increase, since 1988-1990 the treatment population has remained relatively static at about 700 persons per year.

CHART 7.3
SIZE OF ANNUAL METHADONE TREATMENT POPULATION, WA: 1973-1990



REFER TO APPENDIX 1, TABLE A26

QUARTERLY TREATMENT DATA

Quarterly treatment data is only available from 1978, when the ADA assumed responsibility for methadone treatment in WA. Data on the age composition of the WA treatment population is only available from the beginning of 1986 when the ADA introduced a computerised database.

Size of Quarterly Treatment Population (1981-1990)

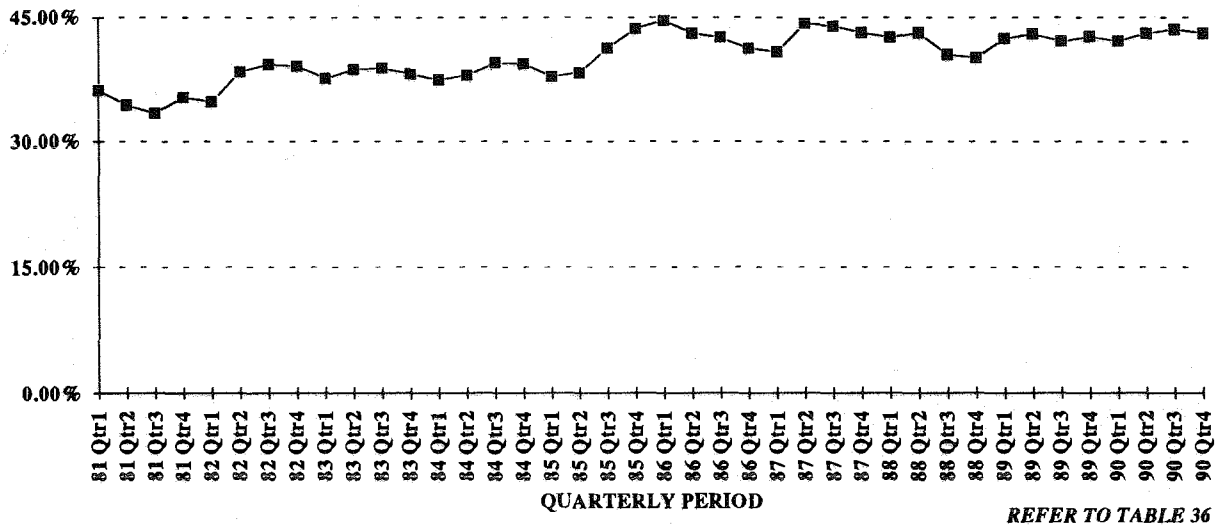
Table 36 shows that marked variations have occurred in the size of the quarterly methadone treatment population over the period 1981 - 1990:

- the lowest number of persons was 87, in the September 1981 quarter;
- the highest number recorded was 475, in the June 1989 quarter;
- very low levels of growth occurred between the December 1980 quarter and first March 1984 quarter;
- high levels of growth have occurred between the June 1987 and the June 1989 quarters;
- in 1990 there was close to 450 persons treated per quarter.

Participation of Females (1981-1990)

The proportion of females in methadone treatment has risen steadily over the period. In 1981 about one-third of the quarterly treatment population was female; by 1990 the proportion of females had increased to nearly 45% of the quarterly treatment population: Chart 7.4.

CHART 7.4
QUARTERLY METHADONE TREATMENT POPULATION, WA: 1981-1990
PROPORTION OF FEMALES



REFER TO TABLE 36

TABLE 36
QUARTERLY METHADONE TREATMENT POPULATION, WA: 1981-1990
NUMBER OF PERSONS TREATED BY GENDER AND NEW ADMISSION STATUS

YEAR	QUARTER	MALES	FEMALES	TOTAL	%FEMALES	NEW ADMISSIONS
1981	January-March	60	34	94	36.2%	9
	April-June	65	34	99	34.3%	15
	July-September	58	29	87	33.3%	15
	October-December	77	42	119	35.3%	29
1982	January-March	77	41	118	34.7%	26
	April-June	80	50	130	38.5%	18
	July-September	88	57	145	39.3%	36
	October-December	92	59	151	39.1%	20
1983	January-March	93	56	149	37.6%	27
	April-June	81	51	132	38.6%	20
	July-September	82	52	134	38.8%	15
	October-December	78	48	126	38.1%	15
1984	January-March	87	52	139	37.4%	26
	April-June	124	76	200	38.0%	49
	July-September	141	92	233	39.5%	49
	October-December	145	94	239	39.3%	34
1985	January-March	148	90	238	37.8%	33
	April-June	182	113	295	38.3%	58
	July-September	194	136	330	41.2%	73
	October-December	202	156	358	43.6%	73
1986	January-March	179	144	323	44.6%	60
	April-June	171	129	300	43.0%	29
	July-September	163	121	284	42.6%	19
	October-December	174	122	284	42.9%	47
1987	January-March	160	110	270	40.7%	26
	April-June	150	119	269	44.2%	26
	July-September	166	130	296	43.9%	36
	October-December	181	137	318	43.1%	37
1988	January-March	201	149	350	42.6%	37
	April-June	207	157	364	43.1%	47
	July-September	243	165	408	40.4%	66
	October-December	274	183	457	40.0%	80
1989	January-March	262	193	455	42.4%	47
	April-June	271	204	475	42.9%	54
	July-September	250	182	432	42.1%	25
	October-December	246	183	429	42.6%	20
1990	January-March	259	188	447	42.1%	38
	April-June	254	192	446	43.0%	26
	July-September	265	204	469	43.5%	46
	October-December	266	201	467	43.0%	39

Source: Western Australia Alcohol & Drug Authority.
Note: From 1981-1985, total clients is number of person in program in last month of the quarter. New admission refers to persons not previously admitted to the WA program.

Age Composition (1986-1990)

Table 37 shows much of the growth in the methadone program over the period has been due to increased admissions in the 30-39 age group. Over the period from the March 1986 quarter to the December 1990 quarter the number of persons in the 30-39 age group *increased* by 131%, from 118 to 273, compared to the 20-29 age group, which *decreased* by 18%, from 193 to 159. There was a small growth in the number of persons in 40 and over age group; the number of persons in the 15-19 age group never exceeded 2 in any quarter.

TABLE 37
QUARTERLY METHADONE TREATMENT POPULATION BY AGE GROUP, WA: 1986-1990

YEAR	QUARTER	15-19	20-29	30-39	40+	MEAN AGE
1986	January-March	2	193	118	10	29.1
	April-June	2	181	108	9	29.6
	July-September	1	161	112	10	29.7
	October-December	-	171	114	11	29.8
1987	January-March	1	145	112	12	30.1
	April-June	1	138	119	11	30.3
	July-September	2	152	131	11	30.6
	October-December	2	156	149	11	30.5
1988	January-March	1	164	169	16	30.7
	April-June	2	160	186	16	30.7
	July-September	2	182	206	18	30.7
	October-December	1	211	226	19	30.8
1989	January-March	-	208	228	19	30.8
	April-June	-	212	244	19	30.9
	July-September	1	169	241	21	31.4
	October-December	1	162	244	22	31.7
1990	January-March	1	165	255	26	31.7
	April-June	2	159	255	30	32.0
	July-September	2	150	284	33	31.9
	October-December	2	159	273	33	31.7

Source: Western Australia Alcohol & Drug Authority.
Note: Age breakdown of methadone treatment population not available prior to 1986.

The effect of age-related trends on the composition of the quarterly methadone treatment population, in Chart 7.5, shows how the growth in the size of the treatment population has largely involved the 30-39 age group.

Though there was a period of growth in the size of the 20-29 age group between the September 1988 and March 1989 quarters, there has been a gradual downward trend in this age group from 1986 to 1990.

CHART 7.5
QUARTERLY METHADONE TREATMENT POPULATION, WA: 1986 - 1990
NUMBER OF PERSONS TREATED BY AGE GROUP

REFER TO TABLE 37

Length of Stay of Total Treatment Population (1986 - 1990)

Length of stay is an important measure of the effectiveness of methadone treatment. There is a large body of research that conclusively indicates longer treatment episodes provide better outcomes than shorter treatment episodes. [24] This could mean, for example, as length of stay is a valid indicator of performance, analysis of retention rates would be an indicator of effectiveness.

Table 38 provides a breakdown of trends in the rates of treatment duration of the WA methadone treatment population over the period 1986 - 1990. This data shows that over the period from the March 1986 quarter to the December 1990 quarter the mean length of stay of the treatment population increased by 55%, from 15.3 months in the March 1986 quarter to 23.6 months in the December 1990 quarter.

For much of the period the most frequent group was the 0-5.9 months length of stay group, which increased from 106 persons in the March quarter 1986 to a peak of 181 persons in the December quarter 1988, dropped to 92 in the December quarter 1989 and then fluctuated between 120 and about 130 for the remainder of the period. See Chart 7.6.

There was a significant increase in the size of the 60 months and over group, which increased from 6 (1.9%) in the March 1986 quarter to 52 (11.1%) of the December 1990 quarter.

The size of the 12-23.9 months group decreased to a low of 42 in the September 1987 quarter and then increased to 95 by the December 1990 quarter.

Length of Stay of Persons Who Separated From Treatment (1986 - 1990)

The data in Table 39 shows that the majority of separations from methadone treatment involve individuals who have been in treatment for comparatively short periods of time.

Up to mid 1989 more than 50% of the individuals who separated each quarter had been in treatment for less than 6 months. For much of the time in the latter half of 1989 and in 1990 the rate dropped to just below 50%, indicating improved retention times of the treatment population. See Chart 7.7.

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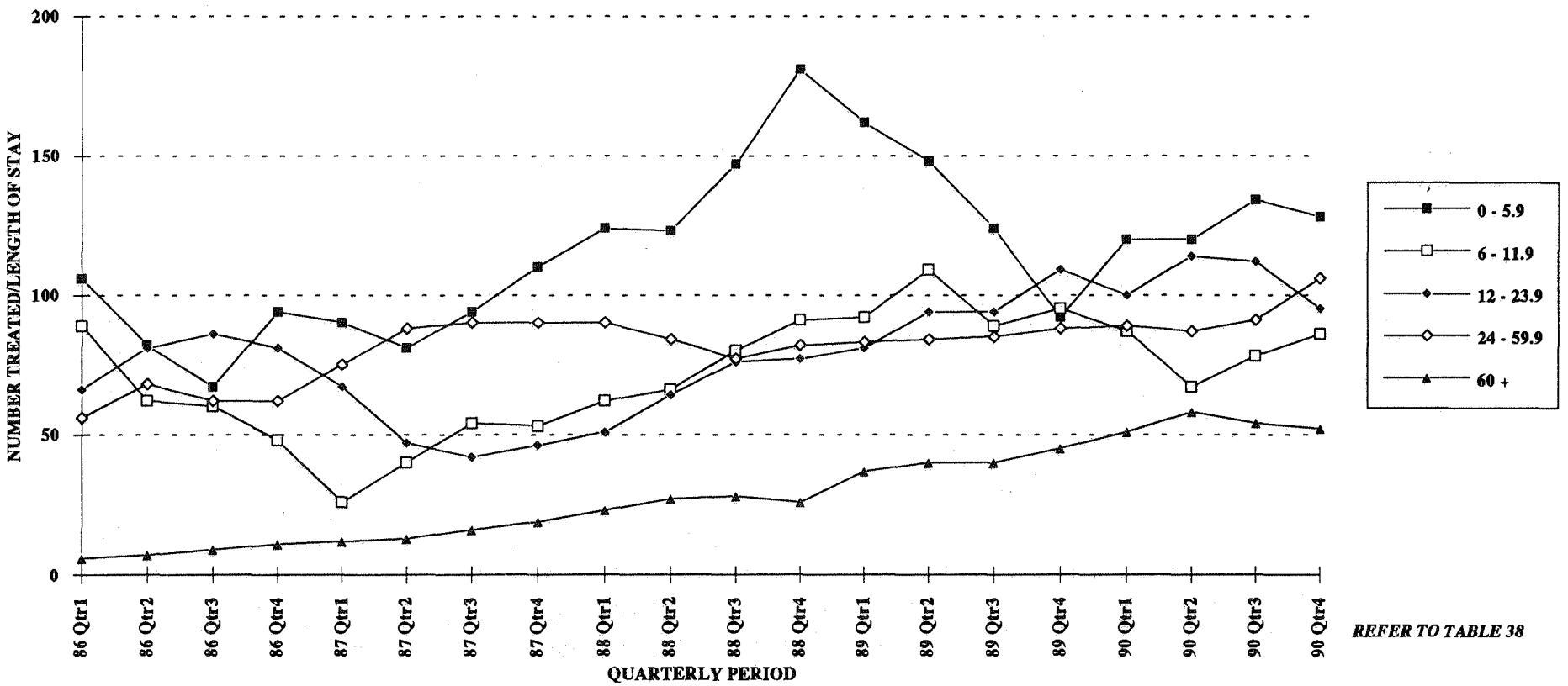
[24] See Cooper JR, Altman F, Brown BS & Czechowicz D. (eds) ***Research On the Treatment of Narcotic Addiction: State of the Art.*** Rockville, MD: National Institute on Drug Abuse, 1983. Gerstein DR & Harwood HJ. (eds) ***Treating Drug Problems: A Study of the Evolution, Effectiveness and Financing of Public and Private Drug Treatment Systems.*** Washington, DC: National Academy Press, 1990. Ball JC & Ross A. ***The Effectiveness of Methadone Treatment: Patients, Programs, Services and Outcome.*** NY: Springer-Verlag, 1991.

TABLE 38
QUARTERLY METHADONE TREATMENT POPULATION, WA: 1986-1990
TOTAL NUMBER OF PERSONS BY LENGTH OF STAY (Months)

YEAR	QUARTER	LENGTH OF STAY (Months)										
		<1	1-2.9	3-5.9	6-8.9	9-11.9	12-23.9	24-35.9	36-59.9	60+	Mean Months	Total
1986	January-March	23	42	41	45	44	66	30	26	6	15.28	323
	April- June	11	27	44	32	30	81	39	29	7	17.41	300
	July-September	14	20	33	33	27	86	36	26	9	18.81	284
	October-December	33	38	23	23	25	81	38	24	11	18.37	296
1987	January-March	20	28	42	12	14	67	38	37	12	20.86	270
	April-June	11	33	37	29	11	47	45	43	13	21.75	269
	July-September	18	43	33	29	25	42	50	40	16	21.28	296
	October-December	14	25	43	22	19	46	46	44	19	21.03	278
1988	January-March	12	24	53	36	21	51	41	49	23	20.50	310
	April-June	21	47	55	38	28	64	28	56	27	20.74	364
	July-September	31	61	55	46	34	76	21	56	28	19.61	408
	October-December	49	67	65	50	41	77	23	59	26	18.52	457
1989	January-March	42	33	87	52	40	81	34	49	37	19.85	455
	April-June	37	61	50	67	42	94	41	43	40	20.25	475
	July-September	13	36	75	38	51	94	44	41	40	22.53	432
	October-December	15	38	39	65	30	109	43	45	45	24.10	429
1990	January-March	22	50	48	34	53	100	42	47	51	23.99	447
	April-June	21	39	60	35	32	114	53	34	58	24.35	446
	July-September	30	52	52	49	29	112	59	32	54	22.59	469
	October-December	28	43	57	41	45	95	66	40	52	23.63	467

Source: Western Australian Alcohol & Drug Authority
Note: Length of stay breakdown of methadone treatment population not available prior to 1986.

CHART 7.6
QUARTERLY METHADONE TREATMENT POPULATION, WA: 1986-1990
NUMBER OF PERSONS TREATED BY LENGTH OF STAY (Months)



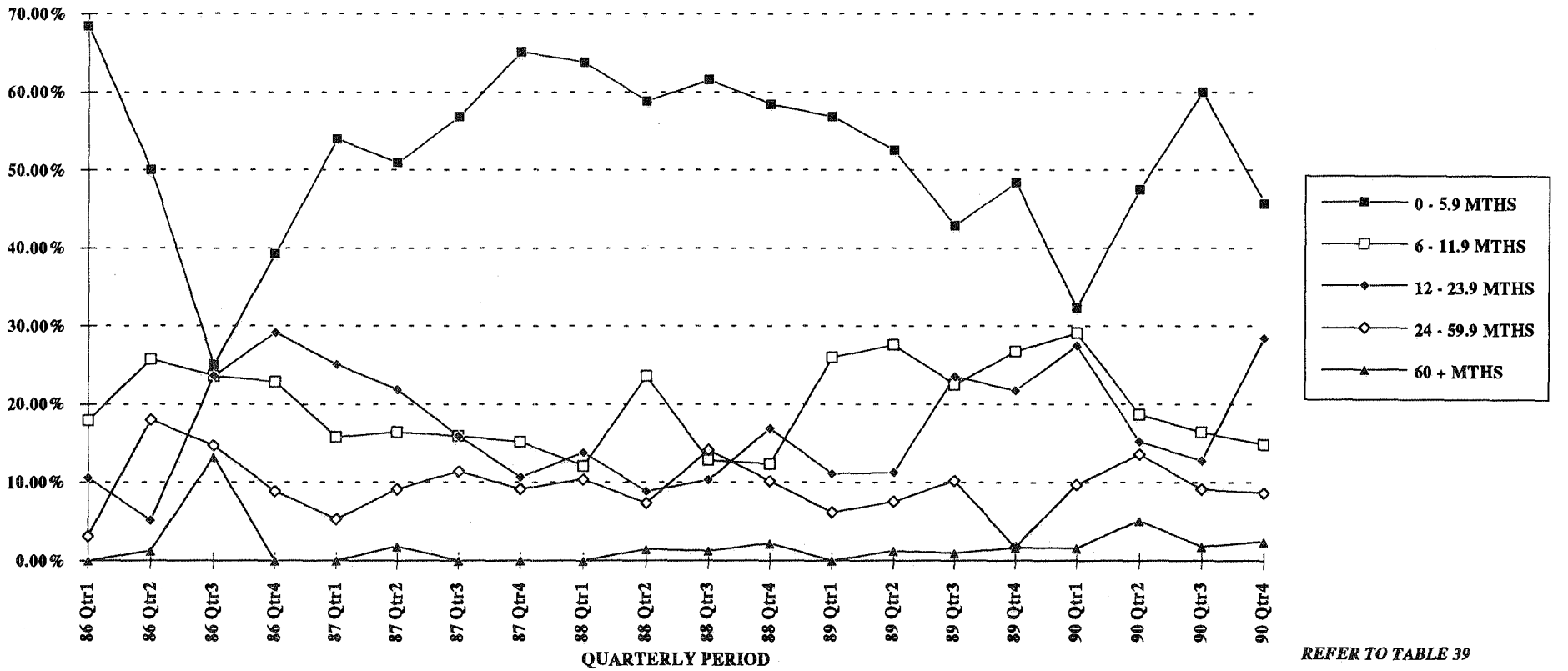
REFER TO TABLE 38

TABLE 39
QUARTERLY METHADONE TREATMENT POPULATION, WA: 1986-1990
LENGTH OF STAY (Months) OF PERSONS WHO CEASED METHADONE TREATMENT

YEAR	QUARTER	LENGTH OF STAY (Months)										
		<1	1-2.9	3-5.9	6-8.9	9-11.9	12-23.9	24-35.9	36-59.9	60+	Mean Months	Total
1986	January-March	20	23	22	11	6	10	1	2	-	5.94	95
	April- June	14	14	11	8	12	4	3	11	1	13.29	78
	July-September	7	1	9	9	7	16	8	2	9	13.26	68
	October-December	16	10	5	14	4	23	6	1	-	10.0	79
1987	January-March	17	14	10	6	6	19	2	2	-	8.78	76
	April-June]	11	8	9	6	3	12	2	3	1	10.50	55
	July-September	9	8	8	3	4	7	3	2	-	9.58	44
	October-December	18	14	11	6	4	7	2	4	-	7.88	66
1988	January-March	18	9	10	4	3	8	4	2	-	7.88	58
	April-June	11	14	15	8	8	6	4	1	1	8.86	68
	July-September	27	16	15	8	2	8	3	8	1	10.98	78
	October-December	21	22	9	4	7	15	7	2	2	9.42	89
1989	January-March	17	18	11	9	12	9	1	4	-	7.63	81
	April-June	20	9	13	17	5	9	3	3	1	8.40	80
	July-September	13	10	19	14	8	23	7	3	1	11.15	98
	October-December	11	6	12	7	9	13	-	1	1	9.24	60
1990	January-March	11	8	1	7	11	17	1	5	1	12.43	62
	April-June	11	9	8	5	6	9	2	6	3	15.23	89
	July-September	11	18	4	7	4	7	4	1	1	8.94	55
	October-December	10	12	15	7	5	23	7	-	2	11.99	81

Source: Western Australian Alcohol & Drug Authority
Note: Length of stay breakdown of methadone treatment population not available prior to 1986.

CHART 7.7
QUARTERLY METHADONE TREATMENT POPULATION, WA: 1986 - 1990
PROPORTION OF POPULATION WHO CEASED TREATMENT BY LENGTH OF STAY (Months)



REFER TO TABLE 39

7.4 CENTRAL DRUG UNIT: 1986-1990

Table 40 shows there have been two peaks in the number of admissions to the CDU, of 216 in July-December 1987 and 153 in July-December 1990. The reason for the first peak in 1987 is unclear, as the Court Diversion Service did not commence until 1988 (see below).

The number of re-admissions to the CDU initially increased to 41 in the July-December 1987 period followed by a decline in 1988. There has been a longer term trend for the number of readmissions to increase, and by July-December 1990 they had risen to 91.

The number of new admissions peaked in the July-December 1987 period, and except for a sharp drop in the January-June 1988 period have remained relatively static at around 90 in the last three periods.

However, the proportion of new admissions has gradually *decreased* since the first period 1988: Table 40.

TABLE 40
NUMBER OF ADMISSIONS TO CENTRAL DRUG UNIT: 1987-1990

YEAR	PERIOD	NEW ADMISSIONS		READMISSIONS		ALL ADMISSIONS
		N	%	N	%	N
1987	January-June July-December	69 175	71.1 81.0	28 41	28.9 19.0	97 216
1988	January-June July-December	43 106	93.5 79.1	3 28	6.5 20.9	46 134
1989	January-June July-December	102 89	73.4 66.9	37 44	26.6 33.1	139 133
1990	January-June July-December	90 91	62.5 59.5	54 62	37.5 40.5	144 153

Source: Western Australian Alcohol & Drug Authority

7.5 COURT DIVERSION SERVICE: 1988 - 1990

From its inception to the end of 1990 there were 314 cumulative referrals to the CDS, ie an average of 28.5 referrals per quarter. As the data in Table 41 does not distinguish between new admissions and readmissions, it is not possible to accurate compute the number of persons who have participated in the CDS.

TABLE 41
NUMBER OF QUARTERLY REFERRALS TO COURT DIVERSION SERVICE, WA: 1988-1990

YEAR	QUARTER	REFERRALS	CUMULATIVE REFERRALS
1988	April-June	39	39
	July-September	21	60
	October-December	19	79
1989	January-March	28	107
	April-June	38	145
	July-September	30	175
	October-December	31	206
1990	January-March	16	222
	April-June	28	250
	July-September	41	291
	October-December	23	314

Source: Western Australian Alcohol & Drug Authority

7.6 OTHER ADA PROGRAMS

Primary Drug Problem By Gender (1988 - 1990)

In the period 1988-1990 there were 3,642 new admissions to the ADA of which 2,621 (71.96%) were males and 1,021 (28.04%) were females.[25]

Table 42 shows there were higher ratios of males to females in all primary drug problem groups with the exception of benzodiazepines, barbiturates and other drugs group. Admissions with a primary problem related to alcohol had the highest male:female ratio, 3.9:1.

Primary Drug Problem By Age Group (1988 - 1990)

Table 43 contains data on the five most frequent groups of primary drug problems.

Alcohol
Of the 1,916 alcohol admissions:

- 168 (8.8%) involved the 15-19 age group;
- 601 (31.4%) involved the 20-29 age group;
- 585 (30.5%) involved the 30-39 age group; and
- 188 (9.8%) involved the over 50 age group.

The number of new alcohol admissions *increased* by 16.9%, from 556 in 1988 to 650 in 1990.

Opiates
Of the 564 illicit opiate admissions:

- 20 (3.6%) involved the 15-19 age group;
- 342 (60.6%) involved the 20-29 age group; and
- 185 (32.8%) involved the 30-39 age group.

The number of new opiate admissions *decreased* by 40%, from 247 in 1988 to 148 in 1990. [26]

Benzodiazepines
There was a more even distribution of admissions by age group for the benzodiazepine group; one-quarter of cases involved both the 20-29 and 30-39 age groups; 34 (27.6%) cases involved the 50 and over age group and 23 (18.7%) cases were of the 40-49 age group. Only 4 (3.3%) cases involved the 15-19 age group.

The number of new benzodiazepine admissions *decreased* by 21.6%, from 45 in 1988 to 37 in 1990.

Amphetamines
Admissions for amphetamines involved three age groups. In the 15-19 age group there were 22 (17.4%) cases; in the 20-29 age group there were 82 (65.1%) cases; and in the 30-39 age group there were 22 (17.4%%) cases.

The number of new amphetamine admissions *increased* four-fold, from 17 cases in 1988 to 70 cases in 1990.

Cannabis
Cannabis admissions have mostly involved two age groups, the 20-29 age group, which recorded 50 (58.1%) cases and the 15-19 age group, which recorded 18 (20.9%) cases.

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[25] As the ADA has only operated a computerised registration system since March 1988, it has not been possible to perform tabulations prior to this date.
[26] Most of this group were admitted to the methadone program (see Table 6.2).

TABLE 42
NUMBER OF NEW ADMISSIONS, TYPE OF PRIMARY DRUG PROBLEM BY GENDER, ALL ADA PROGRAMS: 1988-1990

PRIMARY DRUG	1988			1989			1990			1988-1990		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Alcohol	447	109	556	553	157	710	528	122	650	1528	388	1916
Illicit Opiates	165	82	247	100	69	169	90	58	148	355	209	564
Prescribed Opiates	17	9	26	8	6	14	12	4	16	37	19	56
Barbiturates	2	4	6	-	-	-	-	-	-	2	4	6
Benzodiazepines	12	33	45	10	31	41	17	20	37	39	84	123
Amphetamines	13	4	17	25	14	39	48	22	70	86	40	126
Cocaine	1	2	-	-	-	-	1	-	1	2	2	4
Cannabis	17	8	25	24	14	38	21	2	23	62	24	86
Other drugs	14	14	28	7	16	23	8	12	20	29	42	71
Not Available	234	74	308	111	63	174	136	72	208	481	209	690
Total New Admissions	922	339	1261	838	370	1208	861	312	1173	2621	1021	3642

Source: Western Australian Alcohol & Drug Authority
Note: Accurate data not available prior to March 1988

TABLE 43
NUMBER OF NEW ADMISSIONS, TYPE OF PRIMARY DRUG PROBLEM BY AGE GROUP, ALL ADA PROGRAMS: 1988-1990

PRIMARY DRUG PROBLEM	YEAR	AGE GROUP						
		15-19	20-29	30-39	40-49	50-59	60+	Total
Alcohol	1988	52	189	144	126	27	18	556
	1989	62	212	226	125	50	35	710
	1990	54	200	215	123	29	29	650
	Total	168	601	585	374	106	82	1916
Illicit Opiates	1988	6	159	75	5	-	2	247
	1989	7	103	54	4	1	-	169
	1990	7	80	56	4	-	1	148
	Total	20	342	185	13	1	3	564
Benzodiazepines	1988	2	7	13	7	8	8	45
	1989	-	11	12	7	4	7	41
	1990	2	13	6	9	6	1	37
	Total	4	31	31	23	18	16	123
Amphetamines	1988	1	13	3	-	-	-	17
	1989	6	29	4	-	-	-	39
	1990	15	40	15	-	-	-	70
	Total	22	82	22	-	-	-	126
Cannabis	1988	6	12	6	-	-	1	25
	1989	6	26	3	2	1	-	38
	1990	5	12	3	2	-	-	23
	Total	18	50	12	4	1	1	86

Source: Western Australian Alcohol & Drug Authority
Note: Accurate data not available prior to March 1988. Prescribed opiates, barbiturates, cocaine and other drug groups excluded because of small numbers.

7.7 SOBERING UP CENTRES

The Perth centre, operated by the Salvation Army, recorded 258 admissions between the time of its inception on 28th May 1990 and the end of December 1990.

Of the 258 admissions, 73 (28.3%) involved persons of Aboriginal descent: Table 44.

TABLE 44
CUMULATIVE NUMBER OF ADMISSIONS TO SOBERING-UP CENTRES, WA: 1990

QUARTER		PERTH SOBERING-UP CENTRE		
		Aborigines	**Other**	**Total**
1990	April-June	9	68	77
	July-September	25	164	189
	October-December	73	185	258

Source: Western Australian Alcohol & Drug Authority
Note: Perth centre opened 28 May 1990; other centres not opened in 1990.

CHAPTER 8

ALCOHOL CONSUMPTION DATA 1981 - 1990

CHAPTER 8 - ALCOHOL CONSUMPTION DATA

8.1 ESTIMATED ALCOHOL CONSUMPTION (SALES DATA)

Alcohol Consumption 1988-1990

A correction has been applied to the annual data published by the ORG, to account for the effect of double counting of sales of alcohol recorded under the heading of Liquor Purchases by Wholesalers in ORG annual reports. [27] Sales recorded under this heading are mostly sales to liquor merchants. This separate tabulation arises because wholesalers were made responsible for collection of tax under section 58 of the *Liquor Licensing Act 1988*. [28] A breakdown of the volume of alcohol purchases by class of alcohol has been extracted from annual reports of the ORG for the period 1988-1990: Table 45.

TABLE 45
SUMMARY OF ANNUAL SALES BY TYPE OF ALCOHOL, WA: 1988-1990
(Year Ended 30 June)

		1988	1989	1990
HIGH BEER	Value ($)	$278,921,000	$252,479,000	$254,328,000
	Volume (Litres)	163,140,000	151,153,000	144,260,000
	Absolute Alcohol	7,620,768	6,983,136	6,673,968
LOW BEER	Value ($)	$61,056,000	$84,339,000	$99,341,000
	Volume (Litres)	36,475,000	55,663,000	61,882,000
	Absolute Alcohol	1,264,130	1,916,775	2,136,225
TOTAL BEER	Value ($)	$339,977,000	$336,818,000	$353,669,000
	Volume (Litres)	194,884,000	200,247,000	200,076,000
	Absolute Alcohol	8,884,898	8,899,911	8,810,193
HIGH WINE	Value ($)	$82,636,000	$90,143,000	$98,868,000
	Volume (Litres)	24,574,000	26,908,000	27,495,000
	Absolute Alcohol	2,924,306	3,202,052	3,271,905
LOW WINE	Corrected	$1,686,000	$2,258,000	$3,013,000
	Volume (Litres)	853,000	1,076,000	1,334,000
	Absolute Alcohol	51,180	64,560	80,040
TOTAL WINE	Corrected	$84,322,000	$92,401,000	$101,881,000
	Volume (Litres)	25,427,000	27,984,000	28,829,000
	Absolute Alcohol	2,975,486	3,266,612	3,351,945
SPIRITS	Value ($)	$85,034,000	$97,705,000	$115,419,000
	Volume (Litres)	5,541,000	6,198,000	7,088,000
	Absolute Alc	2,133,285	2,386,230	2,728,880
TOTAL	Value ($)	$509,333,000	$526,924,000	$570,969,000
	Absolute Alcohol	13,993,669	14,552,753	14,891,018

Source: Office of Racing and Gaming Annual Reports
Note: Conversion factors for the calculation of absolute alcohol: Low beer 0.035, High beer 0.048, Low wine 0.06, High wine 0.119, Spirits 0.385.

[27] I am indebted to Dr Ian Smith, Senior Research Psychologist, WA Alcohol & Drug Authority for his observations of the ORG sales data and the effect of double counting.
[28] The Liquor Licensing Act 1988 was assented to on 8 December 1988.

Table 45 shows that over the three year period:

the annual **volume** of absolute alcohol sold as:

- low alcohol beer **increased** by 69.0%;
- high alcohol beer **decreased** by 12.4%:
- low alcohol wine **increased** by 56.4%;
- high alcohol wine **increased** by 11.9%:
- spirits **increased** by 27.9%;
- the total volume of all forms of alcohol **increased** by 6.5%.

the annul **value** of alcohol sold as:

- low alcohol beer **increased** by 62.7%;
- high alcohol beer **decreased** by 8.8%:
- low alcohol wine **increased** by 78.7%;
- high alcohol wine **increased** by 19.6%:
- spirits **increased** by 35.7%;
- the total value of all forms of alcohol **increased** by 12.0%.

Conversion Factors

It is assumed that the 1988-1990 summaries of alcohol sales correspond to this State's annual consumption of specific classes of alcohol. The volume of absolute alcohol consumption from 1988 to 1990 has been calculated by the application of conversion factors. The *Health (Food Standards) Regulations 1987* stipulate the permissible range of ethanol (ie absolute alcohol) content of alcohol products in WA: [29]

Beer

- Low alcohol. Range: 0.05% - 1.15%.
- Reduced alcohol (includes "light" beers). Range: 1.15% - 3.8%. [30]

Note: The alcohol content of Swan Special Light is 0.9% and as it is below the legal minimum alcohol content of 1.15% for beer, sales of this product are not included in ORG tables of alcohol purchases.

For the calculation of the volume of absolute alcohol, conversion factors of 3.5% and 4.8% have been applied to low and high alcohol beer, respectively.

Wine

- Low alcohol. Range: not more than 1.15%.
- Reduced alcohol. Range: 1.15% - 6.1%.
- High alcohol. Range: 11% - 18%. The upper limit includes fortified wines, the lower limit includes table (ie unfortified) wines.

For the calculation of the volume of absolute alcohol, conversion factors of 6.0% and 11.9% have been applied to low and high alcohol wine, respectively.

Spirits

Spirits are defined in the *Health (Food Standards) Regulations 1987* as having an alcohol content of not less than 37.0%.

For the calculation of the volume of absolute alcohol a conversion factor of 38.5% has been applied to spirits. (This factor is the same as used by the ABS.)

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[29] Alcohol content is defined as the volume (mls) of ethanol per litre of alcohol measured at 20 degrees Celsius.

[30] Section 4 of **Liquor Licensing Regulations 1989** have varied the upper limit of alcohol content of reduced alcohol beer and wine. This has been adopted in place of the range specified in the **Health (Food Standards) Regulations 1987.**

Estimated Per Capita Alcohol Consumption 1968-1990

The data from alcohol sales for 1988-1990 and estimated consumption for the period 1968-1984 have been combined in Table 46.

TABLE 46
ESTIMATED PER CAPITA ALCOHOL CONSUMPTION (Mls Absolute Alcohol) ,WA: 1968-1990
(Population age 15 years and over)

YEAR	BEER	WINE	SPIRITS	TOTAL
1968	8.93	1.94	1.31	12.18
1969	9.17	2.07	1.29	12.53
1970	9.25	1.89	1.43	12.57
1971	9.14	1.81	1.44	12.39
1972	8.93	1.72	1.51	12.16
1973	9.13	1.72	1.71	12.56
1974	9.74	1.95	1.71	13.40
1975	10.17	2.06	1.63	13.86
1976	10.08	2.17	1.57	13.82
1977	10.16	2.10	1.71	13.97
1978	10.53	2.19	1.79	14.51
1979	10.30	2.52	1.44	14.26
1980	9.92	2.61	1.36	13.89
1981	9.50	2.73	1.47	13.70
1982	9.35	2.62	1.54	13.51
1983	9.03	2.72	1.55	13.30
1984	8.97	2.74	1.48	13.19
1985	N/A	N/A	N/A	N/A
1986	N/A	N/A	N/A	N/A
1987	N/A	N/A	N/A	N/A
1988	7.50	2.51	1.80	11.82
1989	7.26	2.66	1.95	11.87
1990	7.00	2.66	2.17	11.83

Note: N/A = not available

The data series in Table 46 suggests that total annual consumption peaked in 1978, when it was estimated that 14.51 litres of absolute alcohol per capita was consumed in WA. Over the period 1988-1990 total per capita alcohol consumption remained static, at just under 12 litres of absolute alcohol per capita. As the accuracy of the data for the period 1968-1984 has not been determined, it is not possible to be certain as to whether there was a decrease in the annual rate of consumption over the period 1978 to 1990 nor as to the magnitude of that decrease.

A number of trends in the apparent consumption of alcohol in WA over the period 1968-1990 may be indicated by this data series:

Beer
The annual per capita consumption of absolute alcohol consumed as beer peaked in 1978, at 10.53 litres per capita. In 1978 beer made up 72.6% of the total consumption of alcohol whereas by 1990 the proportion of total alcohol consumed as beer had declined and made up only 58.9% of the total consumption.

Wine
The drop in the annual per capita consumption of beer has been offset by increases in the consumption of wine and spirits. As shown in Chart 8.1, the per capita consumption of wine has remained above 2 litres per capita since 1975.

Spirits
Per capita consumption spirits rose by 36.6%, from 1.31 in 1968 to 1.79 in 1979, then after an apparent slight decline, increased again in the late 1980s.

CHART 8.1
ESTIMATED APPARENT ANNUAL CONSUMPTION OF ALCOHOL, WA: 1968-1990
(Per Head of Population Aged 15 Years and Older)

REFER TO TABLE 46

8.2 ESTIMATED ALCOHOL CONSUMPTION (SELF-REPORT SURVEY DATA)

There have been three major ABS population surveys of self-reported alcohol consumption in WA in 1977, 1985 and 1991. For the 1991 survey the ABS was commissioned by the Health Promotion Services Branch of the health Department of WA. These surveys provide representative data of trends in age and sex specific alcohol consumption in this State. However, interpretation of the results across the period 1977-1991 requires adjustment as there was a change in the unit of self-reported alcohol use after the 1977 survey. To compare the data from all three surveys, the 1977 results of the average daily consumption as *grams of absolute alcohol*, have been converted to average daily consumption as *mls of absolute alcohol*, as used in the 1985 and 1991 surveys.

Conversion of Consumption From Grams To Mls of Absolute Alcohol

- 1977 level of *light consumption* (< 40 gms per day) is regarded as equivalent to the level of *light drinker* (< 50 mls per day) in the 1985 and 1991 surveys.
- 1977 level of *medium consumption* (40-79 gms per day) is regarded as equivalent to the level of *medium drinker* (50-99 mls per day) in the 1985 and 1991 surveys.
- 1977 levels of *heavy* (80-119 gms per day) and *very heavy consumption* (at least 120 gms per day) have been aggregated, as they are regarded as equivalent to the level of *heavy drinker* (100 mls and over per day) in the 1985 and 1991 surveys.

Average Daily Consumption

The 1985 and 1991 surveys use the concept of the average daily consumption of alcohol, being $^1/_7$ of the total reported consumption of standard drinks in the 7 days that immediately preceded the day of interview. Average daily consumption provides a four-point scale of individual alcohol consumption:

- **none**
- **light drinker:** <50 mls per day
- **medium drinker:** 50 - 99 mls per day
- **heavy drinker:** 100 mls and over per day

A standard drink is defined as being equivalent to:

- one 285 ml (middie) glass of beer, or
- one 120 ml glass of table wine, or
- one 30 ml nip of spirits, or
- one 60 ml glass of fortified wine.

For example, an average daily consumption of 50 mls of absolute alcohol, ie a light drinker, would have involved the consumption of the following number of standard drinks:

3.5 glasses of beer each day, or
3.5 glasses of table wine each day, or
4.5 glasses of fortified wine each day, or
4.5 nips of spirits each day.

An average daily consumption of 50 mls of absolute alcohol per day would closely follow the recommended level of low risk male drinking of up to 4 standard drinks per day, and exceed the recommended level of low risk female drinking of up to 3 standard drinks per day.

Average daily alcohol consumption can be classified as being either *high risk*, ie when there is a definite risk of physical and neurological damage and social problems, or *low risk*, ie not normally regarded as a risk to health. The different risk levels of average daily alcohol consumption for males and females are set out in the Table 47.

TABLE 47
HIGH AND LOW RISK DRINKING LEVELS OF MALES AND FEMALES

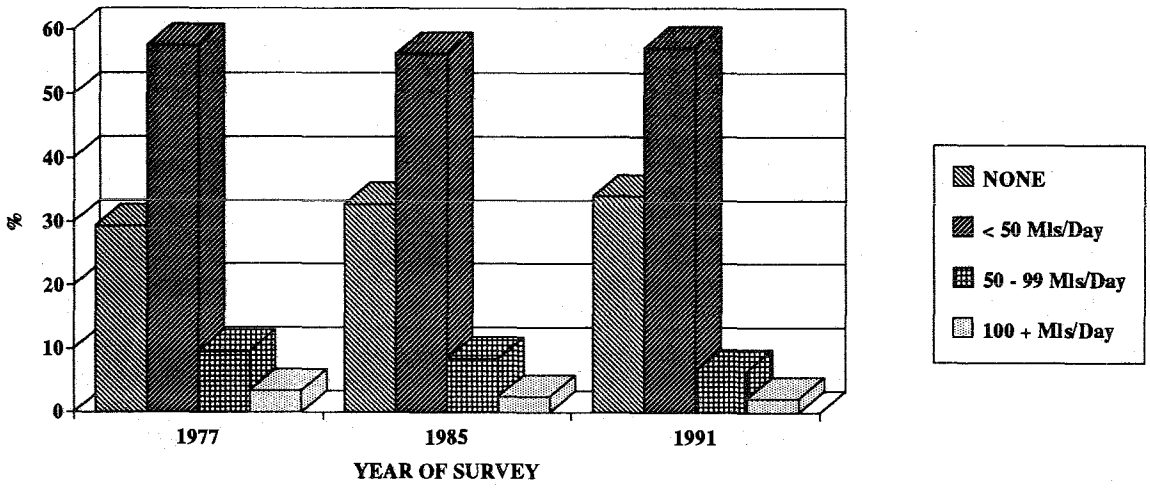
LEVEL OF RISK	MALE DRINKERS	FEMALE DRINKERS
Low Risk	Up to 4 standard drinks per day	Up to 3 standard drinks per day
High Risk	6 or more standard drinks per day	4 or more standard drinks per day

Average Daily Consumption By Gender: 1977 - 1991

Over the period from 1977 to 1991 the proportion of drinkers in the WA population decreased by 6.5%, from 70.6% to 66.0%: Chart 8.2. There was:

- a *decrease* of 0.7%, from 57.6% to 57.2 %, in the proportion of drinkers in the **light** (ie <50 mls) drinker group;
- a *decrease* of 31.2%, from 9.6% to 6.6%, in the proportion of drinkers in the **medium** (ie 50-99 mls) drinker group; and
- a *decrease* of 35.3%, from 3.4% to 2.2%, in the proportion of drinkers in the **heavy** (ie 100 mls and over) drinker group.

CHART 8.2
% OF ALL DRINKERS BY LEVEL OF CONSUMPTION, WA: 1977-1991
AVERAGE DAILY ALCOHOL CONSUMPTION (Mls Absolute Alcohol)



REFER TO APPENDIX 1, TABLE A27

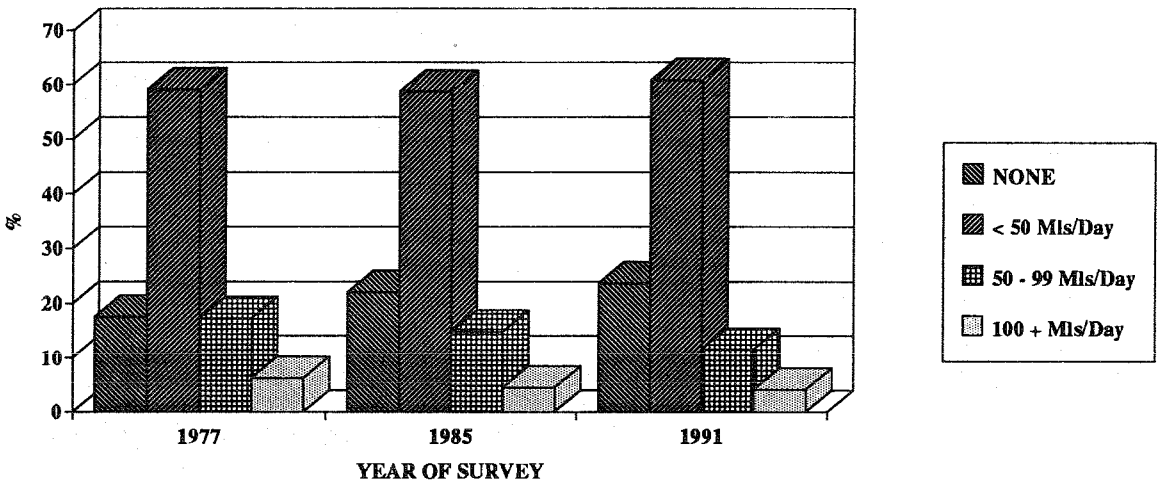
It can be seen in the following disaggregation of male and female drinking patterns over the period 1977-1991 the major reason for these changes in the total drinking population was a change away from heavy to light average daily alcohol consumption by the male drinking population.

Males

Over the period 1977-1991 the proportion of male drinkers in the WA population *decreased* by 7.4%, from 82.5% to 76.4%: Chart 8.3. There was:

- an *increase* of 2.9% in the percentage of male drinkers in the **light** (ie <50 mls) drinker group, from 59.1% in 1977 to 60.8% in 1991;
- a *decrease* of 33.1% in the percentage of male drinkers in the **medium** (ie 50-99 mls) drinker group, from 17.2% in 1977 to 11.5% in 1991 and
- a *decrease* of 33.9% in the percentage of male drinkers in the **heavy** (ie 100 mls and over) drinker group, from 6.2% in 1977 to 4.1% in 1991.

CHART 8.3
% OF MALE DRINKERS BY LEVEL OF CONSUMPTION, WA: 1977-1991
AVERAGE DAILY ALCOHOL CONSUMPTION (Mls Absolute Alcohol)



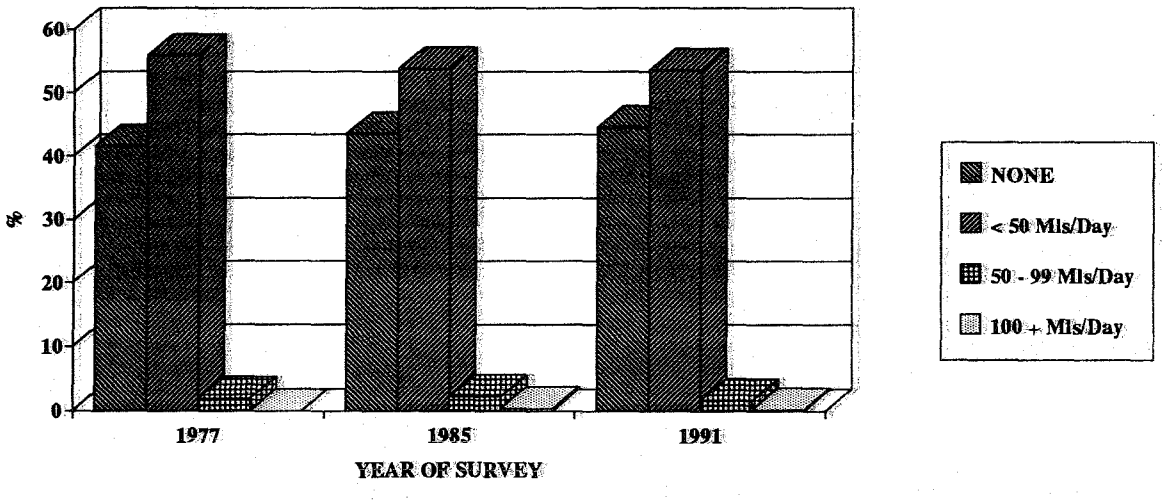
REFER TO APPENDIX 1, TABLE A28

Females

Over the period 1977-1991 the proportion of female drinkers in the WA population *decreased* by 5.1%, from 58.4% to 55.4%: Chart 8.4. There was:

- a *decrease* of 4.1% in the percentage of female drinkers in the **light** (ie <50 mls) drinker group, from 55.9% in 1977 to 53.6% in 1991;
- a *decrease* of 1.6% in the percentage of female drinkers in the **medium** (ie 50-99 mls) drinker group, from 1.9% in 1977 to 1.6% in 1991; and
- there may have been an *increase* in the percentage of female drinkers in the **heavy** (ie 100 mls and over) drinker group after 1977 (when no heavy drinkers were reported).

CHART 8.4
% OF FEMALE DRINKERS BY LEVEL OF CONSUMPTION, WA: 1977-1991
AVERAGE DAILY ALCOHOL CONSUMPTION (Mls Absolute Alcohol)



REFER TO APPENDIX 1, TABLE A29

Average Daily Consumption By Age Group and Type of Beverage: 1985 - 1991

A breakdown of consumption data by age group is only available for the 1985 and 1991 surveys: Table 48. This data shows that overall the daily average consumption of all types of beverages by all drinkers *decreased* by 10.6% from 1985 to 1991, from 27.3 mls to 24.4 mls. Over the period of the two surveys there were age specific changes in consumption:

- the 18-24 age group *decreased* by 11.7%;
- the 25-44 age group *decreased* by 12.2%;
- the 45-64 age group *decreased* by 5.6%; and
- the 65 and over age group *increased* by 22.9%

This data shows that the highest average daily alcohol consumption levels in both surveys occurred in the 18-24 age group and mostly involved the consumption of beer. The highest average daily consumption of spirits occurred in the 18-24 age group whereas the average daily consumption of both wine and fortified wine tended to increase with age. Beer consumption decrease with age, though in both surveys similar levels were recorded by both the 18-24 and 25-44 age groups.

Males

The average daily total alcohol consumption of all types of beverages by the male drinking population *decreased* by 11.0% from 36.3 mls in 1985 to 32.3 mls in 1991: Table 49.

Beer was the most significant form of alcohol consumption of the male drinking population in both 1985 and 1991. There was a *decrease* of 14.3% in the average daily consumption of beer, from 28 mls (of absolute alcohol) in 1985 to 24.0 mls in 1991. It is to be noted that there was an *increase* of 34.3% in the average daily beer consumption by the 65 and over age group from 1985 to 1991.

In both 1985 and 1991 the average daily consumption of absolute alcohol consumed as wine remained static, at 4.7 mls. The average daily consumption of wine *increased* with age in both the 1985 to 1991 surveys, peaking in the 45-64 age group. It is to be noted there were small *increases* from the 1985 to 1991 surveys in the average daily consumption of wine by both the 45-64 and 65 and over age groups.

Females

The total average daily consumption of all types of beverages by the female drinking population *decreased* by 9.4% from 14.9 mls in 1985 to 13.5 mls in 1991: Table 50.

Wine as compared to other beverages, was the most significant form of alcohol consumption in every age group, except the 65 and over age group. There was an *increase* of 14.8%, from 6.1 mls in 1985 to 7.0 mls in 1991 in the consumption of wine by female drinkers. It is to be noted while the total consumption of wine *decreased* by 12.9% between the 1985 and 1991 surveys, in both the 25-44 and 45-64 age groups consumption of wine *increased* by 14.5% and 32.2% respectively, between the 1985 and 1991 surveys.

The average daily consumption of spirits decreased by 9.1%, from 2.2 mls in 1985 to 2.0 mls in 1991. While in both surveys the consumption of spirits was highest in the 18-24 age group, from 1985 to 1991 consumption of this age group *decreased* by 21.6%.

The average daily consumption of beer *decreased* by 31.2% from 4.8 mls in 1985 to 3.3 mls in 1991. However, there were significant *increases* of 23.8% and 9.3% in the consumption of beer from 1985 to 1991 by the 18-24 and 65 and over age groups, respectively.

TABLE 48
AVERAGE DAILY ALCOHOL CONSUMPTION (Mls Absolute Alcohol), WA: 1985-1991
ALL DRINKERS - AGE GROUP BY TYPE OF BEVERAGE

TYPE OF BEVERAGE	AGE GROUP (Years)									
	18-24		25-44		45-64		65 and over		Total	
	1985	1991	1985	1991	1985	1991	1985	1991	1985	1991
Beer	21.4	18.0	20.2	16.7	15.7	13.8	7.4	9.6	18.3	15.3
Wine	3.8	4.2	5.5	5.6	6.6	7.6	3.3	4.0	5.3	5.6
Spirits	5.4	5.0	1.8	1.8	1.3	1.5	2.1	2.5	2.3	2.2
Fortified wine	0.3	0.1	0.6	0.2	0.8	0.4	1.2	1.0	0.6	0.3
Other Beverages	1.5	1.4	0.6	0.9	0.9	0.7	0.4	0.6	0.8	0.9
Per Drinker	**32.4**	**28.6**	**28.6**	**25.1**	**25.2**	**23.8**	**14.4**	**17.7**	**27.3**	**24.4**
Per Person	**23.1**	**19.2**	**20.9**	**17.6**	**16.3**	**15.4**	**6.6**	**8.3**	**18.4**	**16.1**

Source: Alcohol Consumption Patterns, Western Australia October 1985, Cat. 4301.5. Australian Bureau of Statistics.
Alcohol Consumption Patterns, Western Australia March 1991. Health Promotion Service/Australian Bureau of Statistics.

TABLE 49
AVERAGE DAILY ALCOHOL CONSUMPTION (Mls Absolute Alcohol), WA: 1985-1991
MALES - AGE GROUP BY TYPE OF BEVERAGE

TYPE OF BEVERAGE	AGE GROUP (Years)									
	18-24		25-44		45-64		65 and over		Total	
	1985	1991	1985	1991	1985	1991	1985	1991	1985	1991
Beer	35.5	28.6	30.9	26.8	23.1	21.0	9.9	13.3	28.0	24.0
Wine	1.9	3.2	4.5	3.9	7.0	7.4	4.1	4.3	4.7	4.7
Spirits	5.6	5.9	2.0	1.7	1.3	1.7	1.9	2.8	2.4	2.4
Fortified wine	0.3	-	0.6	0.3	0.6	0.3	1.0	0.4	0.6	0.3
Other Beverages	0.9	0.8	0.4	1.1	0.7	0.9	0.4	0.5	0.6	0.9
Per Male drinker	**44.2**	**38.5**	**38.4**	**33.7**	**32.6**	**31.3**	**17.3**	**21.3**	**36.3**	**32.3**
Per Male	**34.3**	**27.8**	**32.2**	**27.1**	**24.6**	**23.4**	**10.3**	**13.1**	**28.3**	**24.6**

Source: Alcohol Consumption Patterns, Western Australia October 1985, Cat. 4301.5. Australian Bureau of Statistics.
Alcohol Consumption Patterns, Western Australia March 1991. Health Promotion Service/Australian Bureau of Statistics.

TABLE 50
AVERAGE DAILY ALCOHOL CONSUMPTION (Mls Absolute Alcohol), WA: 1985-1991
FEMALES - AGE GROUP BY TYPE OF BEVERAGE

TYPE OF BEVERAGE	AGE GROUP (Years)									
	18-24		25-44		45-64		65 and over		Total	
	1985	1991	1985	1991	1985	1991	1985	1991	1985	1991
Beer	4.2	5.2	5.0	2.7	4.9	2.9	4.3	4.7	4.8	3.3
Wine	6.2	5.4	6.9	7.9	5.9	7.8	2.3	3.6	6.1	7.0
Spirits	5.1	4.0	1.5	1.8	1.4	1.1	2.2	2.2	2.2	2.0
Fortified wine	0.2	0.2	0.5	0.2	1.0	0.5	1.4	1.7	0.7	0.4
Other Beverages	2.2	2.1	0.8	0.6	1.2	0.3	0.5	0.8	1.1	0.8
Per Female drinker	**18.0**	**16.8**	**14.7**	**13.1**	**14.3**	**12.6**	**10.7**	**12.9**	**14.9**	**13.5**
Per Female	**11.6**	**10.3**	**9.0**	**7.8**	**7.7**	**6.9**	**3.8**	**4.6**	**8.4**	**7.5**

Source: Alcohol Consumption Patterns, Western Australia October 1985, Cat. 4301.5. Australian Bureau of Statistics.
Alcohol Consumption Patterns, Western Australia March 1991. Health Promotion Service/Australian Bureau of Statistics.

GLOSSARY

Crude Rates

A crude rate is simply an expression of the proportion of persons in a population who die or are afflicted by a certain disease. A crude death rate, for example, would be calculated by dividing the number of deaths occurring in a population over a given time interval by the average population over that time interval. The numbers produced from such calculations often involve many decimal places making them difficult to work with. Therefore, such rates are often multiplied by 100,000 to produce a rate per 100,000. For example, if in a population of 2,700, 31 deaths occurred in a one year time period, the crude death rate is:

$$\frac{31}{2700} \times 100{,}000 = 1148 \text{ deaths per } 100{,}000 \text{ person years.}$$

This means that if you were to observe a population of 100,000 persons for one year, subject to this inherent mortality rate, you would observe 1148 deaths in that year. Such rates are called "crude" because no mathematical adjustments such as standardisation (see later) have been done on the rates - they are calculated using only the observed raw data.

Age Structure

The age structure of a region is the distribution of the population over the age groups making up that population. For example, region A may have a high proportion of its persons aged over 50, while in region B only a small proportion of its persons aged over 50. Region A would thus be said to have an older age structure compared to region B. Such differences in age structure are a major reason for the need to standardise rates (see later).

Age Specific Rates

This is the rate for a specified age group. The numerator and denominator refer to the same age group. Example:

$$\text{Age specific mortality rate (age 25-34)} = \frac{\text{Number of deaths among residents (age 25-34 in an area in a year)}}{\text{Average (or midyear) population (age 25-34 in the area in that year)}} \times 100{,}000$$

The multiplier (usually 100,000) is chosen to produce a rate that can be expressed as a convenient number. [31]

Age Standardised Rate

The standardisation of rates is an adjustment made to the rates of two or more populations to allow their values to be meaningfully compared. For example, age structure may differ between two populations - population A may be a very young one in a new industrial town whereas another, population B, may be an old retired population in an old residential suburb. Obviously we would not expect the age incidence of mortality to be the same in both regions. It is possible however, that the calculated mortality rates could be similar in both regions due to averaging out effects, thus masking the possibility that age specific rates in area B may be higher at younger ages and lower at older ages than in area B due to the different age structures.

For this reason, it is necessary to standardise crude mortality rates by applying them to a known standard population to allow meaningful comparison. This standardised rate then represents the mortality rate that would have been observed in the standard population had it experienced the same mortality as region A. By calculating the standardised rate for region B we may then directly compare the rates for A and B to see which region has the higher mortality.

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[31] From Last JM (ed.). *A Dictionary of Epidemiology*. NY, Oxford University Press, 1988.

The age standardised rate is calculated as follows:

$$\text{ASR} = \frac{100{,}000}{W} \sum_i \frac{x_i \, w_i}{n_i} \quad \text{(per 100,000 person years)}$$

where:

x_i = number of deaths observed in age group i

n_i = number of persons in age group i

w_i = number of persons in age group i in the standard population

W = total number of persons in the standard population

$\sum_i$ = summation over all the i age groups

Again, age standardised rates are often multiplied by 100,000 to produce manageable numbers. As before, a rate of say 110 deaths per 100,000 person year means that in a group of 100,000 persons observed for one year, 110 deaths occurred.

Standard Error

If we count the number of deaths in an area over a given period of time we will observe a certain number. If we were able to repeat this experiment, or if we counted the number of deaths in a subsequent time period or in a different population we would almost certainly count a different number, each time we performed this experiment. This is inherent variability. The number of deaths will vary due to random fluctuations because we are studying a finite sample of lives.

The Standard Error provides a measure of this variability. For example, a large standard error in association with a calculated age standardised rate shows that this rate is based on numbers of deaths which vary greatly from year to year or age group to age group ie there is a larger statistical error associated with this measurement.

A small standard error shows that the rate is based on a series of deaths which do not show too great a variation over time or age and is therefore a better indicator of the true underlying rate.

Standard Error is calculated as follows:

$$SE = \frac{10^5}{W} \left(\sum_i \frac{x_i}{n_i} \left(1 - \frac{x_i}{n_i} \right) \frac{w_i^2}{n_i} \right)^{\frac{1}{2}}$$

where:

W = 100,000

x_i = observed number of deaths in age group i

n_i = population in age group i

w_i = standard population in age group i

Standard Rate Ratio

This is the ratio of the age standardised rate for region A to the age standardised rate for region B, expressed a s a percentage. A value greater than 100% shows that region A has a higher mortality rate than region B, while a value less than 100% would show that region A has a lower mortality rate than region B.

APPENDIX 1

CHART TABLES

TABLE A1
AGE SPECIFIC MORTALITY RATES, WESTERN AUSTRALIA
YEAR OF REGISTRATION BY AGE GROUP, ALL DRUG (EXCEPT ALCOHOL) DEATHS
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	-	-	-	-	-	-	-	-	-	-
10-19	0.42	-	0.82	2.47	0.82	1.22	3.21	1.99	1.97	1.18
20-29	4.33	4.21	7.08	9.95	10.29	8.34	6.59	6.06	4.40	3.61
30-39	4.55	5.22	4.53	4.86	6.44	8.23	4.03	5.86	6.03	7.32
40+	3.37	3.73	4.32	4.86	4.30	4.09	5.48	2.44	2.88	3.99
Age Standardised Rate (All Ages)	2.39	2.50	3.21	4.18	3.94	3.85	3.87	2.81	2.70	2.95
(Standard Error)	(0.41)	(0.41)	(0.46)	(0.53)	(0.50)	(0.48)	(0.49)	(0.40)	(0.39)	(0.40)

TABLE A2
AGE STANDARDISED MORTALITY RATES, WESTERN AUSTRALIA
YEAR OF REGISTRATION BY TYPE OF DRUG (EXCEPT ALCOHOL) DEATHS
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Opiates	0.20	0.81	0.76	1.32	1.67	1.15	0.97	1.38	1.17	1.05
Barbiturates	0.64	0.73	0.89	0.89	0.40	0.42	0.31	-	0.18	-
Tranquillisers/Sedatives/Anti-Depressants	0.69	0.76	0.96	1.56	0.93	0.88	1.73	0.98	0.79	1.15
Volatile Substances	0.15	-	-	0.07	0.07	0.25	0.27	0.14	0.20	0.26
Other & Unspecified Drugs	0.21	0.20	0.59	0.33	0.89	1.14	0.59	0.31	0.37	0.36
All Drugs	2.39	2.50	3.21	4.18	3.94	3.85	3.87	2.81	2.70	2.95

TABLE A3
AGE SPECIFIC MORTALITY RATES, WESTERN AUSTRALIA
YEAR OF REGISTRATION BY AGE GROUP, OPIATE DEATHS
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	-	-	-	-	-	-	-	-	-	-
10-19	-	-	-	1.24	-	-	1.61	-	-	-
20-29	0.87	2.11	2.50	4.98	6.99	3.18	2.33	4.55	2.20	1.81
30-39	0.51	1.42	1.81	1.33	3.43	3.70	2.02	3.91	4.90	4.03
40+	-	0.93	0.45	0.44	0.43	0.61	0.20	0.56	0.72	0.87
Age Standardised Rate (All Ages)	0.20	0.81	0.76	1.32	1.67	1.15	0.97	1.38	1.17	1.05
(Standard Error)	(0.14)	(0.24)	(0.25)	(0.32)	(0.38)	(0.31)	(0.28)	(0.33)	(0.30)	(0.27)

TABLE A4
AGE SPECIFIC MORTALITY RATES, WESTERN AUSTRALIA
YEAR OF REGISTRATION BY AGE GROUP, BARBITURATE DEATHS
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	-	-	-	-	-	-	-	-	-	-
10-19	-	-	-	0.41	-	-	-	-	-	-
20-29	0.87	1.26	1.25	1.66	0.82	0.40	-	-	0.73	-
30-39	2.02	1.90	0.91	0.44	0.43	0.82	-	-	-	-
40+	2.17	0.93	1.82	1.55	0.43	0.82	0.98	-	0.18	-
Age Standardised Rate (All Ages)	0.64	0.73	0.89	0.89	0.40	0.42	0.31	-	0.18	-
(Standard Error)	(0.28)	(0.22)	(0.25)	(0.25)	(0.16)	(0.16)	(0.14)	-	(0.10)	-

TABLE A5
AGE SPECIFIC MORTALITY RATES, WESTERN AUSTRALIA
YEAR OF REGISTRATION BY AGE GROUP, TRANQUILLISER/SEDATIVE/ANTI-DEPRESSANT DEATHS
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	-	-	-	-	-	-	-	-	-	-
10-19	-	-	0.41	0.41	0.41	-	0.80	0.40	-	-
20-29	1.73	0.42	1.25	2.90	0.82	1.19	1.94	1.14	1.10	0.36
30-39	1.52	1.42	0.91	2.65	0.86	2.47	1.21	1.56	0.75	2.20
40+	0.72	1.63	1.82	2.21	1.93	1.23	3.52	1.69	1.62	2.60
Age Standardised Rate (All Ages)	0.69	0.76	0.96	1.56	0.93	0.88	1.73	0.98	0.79	1.15
(Standard Error)	(0.22)	(0.23)	(0.26)	(0.32)	(0.25)	(0.23)	(0.33)	(0.24)	(0.21)	(0.25)

TABLE A6
AGE SPECIFIC MORTALITY RATES, WESTERN AUSTRALIA
YEAR OF REGISTRATION BY AGE GROUP, OTHER & UNSPECIFIED DRUG DEATHS
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	-	-	-	-	-	-	-	-	-	-
10-19	-	-	0.41	-	-	1.22	-	0.80	1.18	-
20-29	-	0.42	2.08	0.41	1.23	1.99	1.94	0.38	-	0.36
30-39	0.51	0.47	0.91	0.44	1.72	1.23	0.81	0.39	0.38	1.10
40+	0.48	0.23	0.23	0.66	1.50	1.43	0.59	0.19	0.36	0.52
Age Standardised Rate (All Ages)	0.21	0.20	0.59	0.33	0.89	1.14	0.59	0.31	0.37	0.36
(Standard Error)	(0.12)	(0.12)	(0.20)	(0.15)	(0.24)	(0.27)	(0.19)	(0.14)	(0.15)	(0.14)

TABLE A7
AGE SPECIFIC MORTALITY RATES, WESTERN AUSTRALIA
YEAR OF REGISTRATION BY AGE GROUP, ALCOHOL DEATHS, ALL CAUSES
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	-	-	-	-	-	-	-	-	-	-
10-19	-	-	-	-	-	-	-	-	-	-
20-29	0.43	0.84	0.42	2.07	2.47	0.40	0.39	1.90	1.84	1.44
30-39	2.02	3.80	3.63	3.09	3.86	0.41	4.03	3.91	3.77	3.29
40+	14.21	17.04	14.09	18.35	18.06	19.24	16.24	17.84	17.30	12.67
Age Standardised Rate (All Ages)	3.00	3.90	3.26	4.23	4.39	3.61	3.72	4.26	4.12	3.13
(Standard Error)	(0.37)	(0.44)	(0.36)	(0.46)	(0.45)	(0.41)	(0.35)	(0.38)	(0.36)	(0.26)

TABLE A8
AGE STANDARDISED MORTALITY RATES, WESTERN AUSTRALIA
YEAR OF REGISTRATION BY CAUSE OF DEATH, ALCOHOL DEATHS
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Alcoholic Psychosis	0.08	0.52	0.15	0.21	0.21	0.07	0.11	0.12	0.29	0.06
Alcohol Dependence	0.68	0.73	0.78	0.74	0.92	1.24	0.75	1.12	0.51	0.80
Alcoholic Cardiomyopathy	0.43	0.29	0.37	0.39	0.62	0.59	0.28	0.65	0.43	0.25
Alcoholic Liver Cirrhosis	2.00	2.85	2.32	3.02	2.62	2.14	2.84	2.62	3.04	1.83
Alcoholic Poisoning	0.09	-	-	0.07	0.30	0.15	0.07	0.07	0.03	0.46
All Conditions	3.00	3.90	3.26	4.23	4.39	3.61	3.72	4.26	4.12	3.13
(Standard Error)	(0.37)	(0.44)	(0.36)	(0.46)	(0.45)	(0.41)	(0.35)	(0.38)	(0.36)	(0.26)

Note: Alcohol Abuse and Alcoholic Gastritis not included

TABLE A9
DRUG-RELATED HOSPITAL DISCHARGES BY YEAR OF DISCHARGE, WESTERN AUSTRALIA
AGE STANDARDISED RATES OF POISONINGS (ALL CAUSES) BY TYPE OF DRUG: ALL DRUGS
(Rate per 100,000 person years)

TYPE OF DRUG	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Opiates	16.63	20.20	19.72	18.98	19.00	20.60	17.30	18.60	19.48	22.09
Barbiturates	5.81	3.74	4.74	4.01	2.21	1.86	0.74	0.79	0.50	0.25
Tranquillisers/Sedatives/Anti-Depressants	79.58	76.09	77.79	76.21	72.30	69.96	60.19	58.87	55.25	56.33
Cocaine	0.25	0.10	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.30
Psychostimulants	0.40	0.21	0.34	0.45	0.57	0.53	1.59	1.59	1.10	1.02
Hallucinogens	0.37	0.57	0.35	0.37	0.38	0.06	0.13	0.16	0.13	0.13
Volatile Substances	9.56	7.58	7.02	7.91	5.26	4.36	3.62	2.50	2.75	2.50
Alcohol	11.48	9.37	9.27	9.67	8.18	2.36	3.36	1.65	1.36	1.96
All Drugs	124.07	117.86	119.42	117.61	107.90	99.74	86.94	84.15	80.56	84.57
(Standard Error)	(3.06)	(2.93)	(2.91)	(2.88)	(2.73)	(2.58)	(2.38)	(2.31)	(2.22)	(2.25)

TABLE A10
DRUG-RELATED HOSPITAL DISCHARGES BY YEAR OF DISCHARGE, WESTERN AUSTRALIA
AGE SPECIFIC RATES OF POISONINGS (ALL CAUSES) BY TYPE OF DRUG: ALL DRUGS COMBINED
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	82.07	65.07	56.97	57.41	49.30	45.82	39.63	27.06	25.04	26.89
10-19	116.38	128.40	126.60	121.98	111.34	122.93	97.18	119.27	108.19	113.41
20-29	221.45	226.26	216.83	230.54	210.26	175.01	149.70	153.09	151.60	148.47
30-39	172.25	157.54	168.70	137.41	151.11	141.96	116.51	113.33	109.22	113.81
40+	90.53	79.13	91.13	92.64	77.17	69.78	71.24	58.23	56.94	65.10
Age Standardised Rate (All Ages)	124.07	117.86	119.42	117.61	107.90	99.74	86.94	84.15	80.56	84.57
(Standard Error)	(3.06)	(2.93)	(2.91)	(2.88)	(2.73)	(2.58)	(2.38)	(2.31)	(2.22)	(2.25)

TABLE A11
DRUG-RELATED HOSPITAL DISCHARGES BY YEAR OF DISCHARGE, WESTERN AUSTRALIA
AGE SPECIFIC RATES OF POISONINGS (ALL CAUSES) BY TYPE OF DRUG: OPIATES
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	1.38	2.73	2.71	-	2.24	0.44	0.43	0.83	0.81	2.37
10-19	34.40	41.14	40.83	32.97	34.55	50.72	36.94	43.73	45.64	61.22
20-29	38.49	46.77	39.54	46.86	41.56	38.54	37.62	40.92	36.34	29.62
30-39	15.15	19.93	19.95	16.79	24.04	22.63	16.93	15.24	16.57	23.42
40+	6.74	7.24	9.54	11.05	8.60	7.78	7.83	6.76	10.27	9.37
Age Standardised Rate (All Ages)	16.63	20.20	19.72	18.98	19.00	20.60	17.30	18.60	19.48	22.09
(Standard Error)	(1.10)	(1.19)	(1.17)	(1.14)	(1.13)	(1.17)	(1.06)	(1.09)	(1.10)	(1.18)

TABLE A12
DRUG-RELATED HOSPITAL DISCHARGES BY YEAR OF DISCHARGE, WESTERN AUSTRALIA
AGE SPECIFIC RATES OF POISONINGS (ALL CAUSES) BY TYPE OF DRUG: BARBITURATES
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	-	-	-	-	-	-	-	-	-	-
10-19	4.25	2.91	5.36	4.12	1.65	0.81	0.40	1.99	0.39	0.00
20-29	14.71	8.01	9.16	9.95	6.58	3.97	1.16	0.76	0.37	0.36
30-39	9.60	6.17	4.08	3.98	2.58	0.82	2.42	1.56	1.13	1.10
40+	4.82	3.73	5.68	3.76	1.72	3.07	0.59	0.38	0.72	0.17
Age Standardised Rate (All Ages)	5.81	3.74	4.74	4.01	2.21	1.86	0.74	0.79	0.50	0.25
(Standard Error)	(0.64)	(0.51)	(0.57)	(0.52)	(0.38)	(0.35)	(0.21)	(0.22)	(0.17)	(0.11)

TABLE A13
DRUG-RELATED HOSPITAL DISCHARGES BY YEAR OF DISCHARGE, WESTERN AUSTRALIA
AGE SPECIFIC RATES OF POISONINGS (ALL CAUSES) BY TYPE OF DRUG: TRANQUILLISERS/SEDATIVES/ANTI-DEPRESSANTS
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	36.22	25.94	21.25	21.25	25.10	22.69	17.05	13.74	12.92	12.26
10-19	62.01	68.15	63.92	66.76	63.34	62.89	47.39	64.80	53.90	46.31
20-29	147.49	150.42	145.67	152.18	143.60	130.71	104.33	105.34	110.49	110.54
30-39	127.29	121.95	131.97	107.37	109.47	117.28	94.74	94.96	88.88	85.63
40+	67.42	60.69	70.22	69.64	60.19	58.32	62.04	49.77	44.87	54.16
Age Standardised Rate (All Ages)	79.58	76.09	77.79	76.21	72.30	69.96	60.19	58.87	55.25	56.33
(Standard Error)	(2.42)	(2.32)	(2.32)	(2.29)	(2.21)	(2.13)	(1.95)	(1.90)	(1.81)	(1.80)

TABLE A14
DRUG-RELATED HOSPITAL DISCHARGES BY YEAR OF DISCHARGE, WESTERN AUSTRALIA
AGE SPECIFIC RATES OF POISONINGS (ALL CAUSES) BY TYPE OF DRUG: PSYCHOSTIMULANTS
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	0.46	0.00	0.45	0.00	0.45	0.44	0.00	0.00	0.00	0.00
10-19	0.42	0.42	0.00	0.82	1.23	2.43	6.43	5.57	3.15	0.78
20-29	0.43	0.84	0.83	1.24	1.23	0.00	2.33	3..03	2.20	3.97
30-39	0.00	0.00	0.91	0.88	0.43	0.00	0.00	0.39	1.51	1.10
40+	0.48	0.00	0.00	0.00	0.00	0.00	0.20	0.19	0.00	0.35
Age Standardised Rate (All Ages)	0.40	0.21	0.34	0.45	0.57	0.53	1.59	1.59	1.10	1.02
(Standard Error)	(0.18)	(0.12)	(0.16)	(0.17)	(0.20)	(0.20)	(0.33)	(0.33)	(0.26)	(0.24)

TABLE A15
DRUG-RELATED HOSPITAL DISCHARGES BY YEAR OF DISCHARGE, WESTERN AUSTRALIA
AGE SPECIFIC RATES OF POISONINGS (ALL CAUSES) BY TYPE OF DRUG: VOLATILE SUBSTANCES
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	38.05	28.67	24.87	30.29	17.03	17.02	13.64	9.16	9.69	9.10
10-19	2.12	4.16	5.36	3.30	4.11	1.62	1.20	0.40	1.57	1.18
20-29	2.16	2.11	2.50	1.66	2.47	1.19	1.55	1.89	1.10	1.81
30-39	2.53	0.95	0.91	0.88	0.86	0.00	0.81	0.39	0.38	0.00
40+	0.48	0.23	0.23	0.88	0.86	0.41	0.20	0.19	0.36	0.00
Age Standardised Rate (All Ages)	9.56	7.58	7.02	7.91	5.26	4.36	3.62	2.50	2.75	2.50
(Standard Error)	(0.96)	(0.85)	(0.81)	(0.87)	(0.69)	(0.63)	(0.57)	(0.46)	(0.48)	(0.45)

TABLE A16
DRUG-RELATED HOSPITAL DISCHARGES BY YEAR OF DISCHARGE, WESTERN AUSTRALIA
AGE SPECIFIC RATES OF POISONINGS (ALL CAUSES) BY TYPE OF DRUG: ALCOHOL
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	5.50	6.83	7.69	5.42	4.48	5.24	8.52	2.91	1.62	2.77
10-19	12.32	11.22	9.90	13.19	8.64	4.46	4.42	2.39	3.15	3.14
20-29	16.87	16.01	17.48	18.24	13.99	1.19	2.33	1.14	0.73	1.81
30-39	17.68	8.07	10.43	7.07	12.88	1.23	1.61	0.78	0.75	1.83
40+	10.11	7.24	5.45	7.30	5.80	0.20	0.39	0.94	0.72	0.87
Age Standardised Rate (All Ages)	11.48	9.37	9.27	9.67	8.18	2.36	3.36	1.65	1.36	1.96
(Standard Error)	(0.93)	(0.84)	(0.83)	(0.84)	(0.75)	(0.44)	(0.52)	(0.35)	(0.31)	(0.37)

TABLE A17
ALCOHOL-RELATED HOSPITAL DISCHARGES BY YEAR OF DISCHARGE, WESTERN AUSTRALIA
AGE STANDARDISED RATES OF DISCHARGE BY TYPE OF CONDITION: ALL CONDITIONS
(Rate per 100,000 person years)

ALCOHOL CONDITION	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
ALCOHOLIC PSYCHOSIS	24.79	30.31	32.45	31.69	28.47	28.22	23.48	24.44	28.08	22.89
ALCOHOLIC POLYNEUROPATHY	4.45	3.55	4.16	5.62	5.26	5.86	2.94	2.18	1.95	1.73
ALCOHOLIC CARDIOMYOPATHY	4.00	3.85	5.16	5.09	6.86	5.96	4.28	4.48	6.71	3.65
ALCOHOLIC GASTRITIS	8.32	8.34	10.70	11.54	11.20	8.68	6.31	6.71	8.19	6.35
ALCOHOLIC LIVER DISEASE	39.53	35.21	44.13	50.08	42.56	44.29	42.87	45.10	40.94	34.02
All Alcohol Conditions	81.09	81.26	96.59	104.02	94.35	93.01	79.88	82.91	85.88	68.64
(Standard Error)	(2.43)	(2.41)	(2.58)	(2.66)	(2.50)	(2.44)	(2.23)	(2.24)	(2.23)	(1.96)

TABLE A18
ALCOHOL-RELATED HOSPITAL DISCHARGES BY YEAR OF DISCHARGE, WESTERN AUSTRALIA
AGE SPECIFIC RATES OF DISCHARGE BY TYPE OF CONDITION:ALL CONDITIONS COMBINED
(Rate per 100,000 person years)

ALCOHOL CONDITION	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	-	-	-	-	-	-	-	-	-	-
10-19	6.44	5.80	5.67	7.73	4.63	3.68	4.82	5.96	5.11	5.89
20-29	40.73	38.68	48.48	45.21	48.46	38.34	27.92	35.96	53.96	42.63
30-39	85.34	67.54	89.42	81.51	85.04	81.44	72.17	90.23	77.58	68.07
40-49	136.48	153.76	158.32	167.22	165.16	143.93	126.89	127.06	122.10	101.73
50-59	275.62	268.54	301.74	321.47	298.37	294.02	220.15	242.10	240.80	189.51
60-69	249.66	258.60	336.98	387.42	296.56	320.94	311.78	308.54	329.65	233.29
70+	112.90	130.07	183.57	237.34	203.17	256.06	225.38	165.65	190.41	174.98
Age Standardised Rate (All Ages)	81.09	81.26	96.59	104.02	94.35	93.01	79.88	82.91	85.88	68.64
(Standard Error)	(2.43)	(2.41)	(2.58)	(2.66)	(2.50)	(2.44)	(2.23)	(2.24)	(2.23)	(1.96)

TABLE A19
ALCOHOL-RELATED HOSPITAL DISCHARGES BY YEAR OF DISCHARGE, WESTERN AUSTRALIA
AGE SPECIFIC RATES OF DISCHARGE BY TYPE OF CONDITION: ALCOHOLIC PSYCHOSIS
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	-	-	-	-	-	-	-	-	-	-
10-19	3.68	2.23	1.75	2.15	0.42	0.82	1.20	2.78	1.97	3.14
20-29	22.38	22.17	23.81	20.09	24.23	19.57	13.96	15.52	26.06	19.87
30-39	28.76	31.52	40.97	32.52	36.57	36.79	28.22	32.03	34.27	31.84
40-49	48.93	56.88	51.96	49.32	56.04	44.73	44.30	41.15	48.45	40.97
50-59	57.06	90.37	93.36	80.37	67.55	78.20	59.83	56.97	64.75	47.55
60-69	64.36	84.05	93.72	106.69	57.89	73.08	59.30	77.82	77.56	51.65
70+	39.70	43.36	55.31	89.15	81.72	75.05	69.76	52.42	59.38	62.91
Age Standardised Rate (All Ages)	24.79	30.31	32.45	31.69	28.47	28.22	23.48	24.44	28.08	22.89
(Standard Error)	(1.34)	(1.46)	(1.49)	(1.45)	(1.35)	(1.33)	(1.20)	(1.21)	(1.27)	(1.12)

TABLE A20
ALCOHOL-RELATED HOSPITAL DISCHARGES BY YEAR OF DISCHARGE, WESTERN AUSTRALIA
AGE SPECIFIC RATES OF DISCHARGE BY TYPE OF CONDITION: ALCOHOLIC POLYNEUROPATHY
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	-	-	-	-	-	-	-	-	-	-
10-19	-	-	-	-	-	-	-	-	0.39	-
20-29	1.34	1.30	0.85	0.84	0.00	0.80	0.00	0.38	0.73	0.72
30-39	4.17	2.25	2.20	3.90	4.25	2.48	2.02	1.95	0.38	1.83
40-49	7.73	7.50	12.84	6.62	7.08	15.48	4.92	2.57	3.88	0.46
50-59	17.56	11.94	14.17	22.14	20.11	14.86	8.44	5.25	8.00	7.10
60-69	13.32	12.93	9.48	25.90	19.30	16.79	14.35	10.99	5.29	7.75
70+	7.44	4.82	7.06	10.42	14.76	26.49	8.59	8.39	4.09	3.93
Age Standardised Rate (All Ages)	4.45	3.55	4.16	5.62	5.26	5.86	2.94	2.18	1.95	1.73
(Standard Error)	(0.57)	(0.51)	(0.54)	(0.62)	(0.59)	(0.61)	(0.43)	(0.36)	(0.34)	(0.31)

TABLE A21
ALCOHOL-RELATED HOSPITAL DISCHARGES BY YEAR OF DISCHARGE, WESTERN AUSTRALIA
AGE SPECIFIC RATES OF DISCHARGE BY TYPE OF CONDITION: ALCOHOLIC CARDIOMYOPATHY
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	-	-	-	-	-	-	-	-	-	-
10-19	-	-	-	-	-	-	-	-	0.39	-
20-29	0.90	0.87	0.43	0.00	0.00	0.80	0.39	1.14	1.10	1.44
30-39	1.86	2.25	2.64	3.47	4.25	3.72	1.61	1.95	1.88	1.83
40-49	7.73	5.00	7.34	7.22	15.34	8.03	4.38	9.77	15.51	6.90
50-59	14.92	20.46	28.34	26.24	30.56	28.15	21.48	17.99	15.28	14.20
60-69	16.64	12.93	15.80	18.65	19.30	20.74	14.35	14.65	35.26	11.19
70+	4.96	2.41	5.88	3.47	10.22	11.04	13.95	6.29	13.31	7.86
Age Standardised Rate (All Ages)	4.00	3.85	5.16	5.09	6.86	5.96	4.28	4.48	6.71	3.65
(Standard Error)	(0.55)	(0.53)	(0.61)	(0.60)	(0.69)	(0.63)	(0.52)	(0.53)	(0.63)	(0.46)

TABLE A22
ALCOHOL-RELATED HOSPITAL DISCHARGES BY YEAR OF DISCHARGE, WESTERN AUSTRALIA
AGE SPECIFIC RATES OF DISCHARGE BY TYPE OF CONDITION: ALCOHOLIC GASTRITIS
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	-	-	-	-	-	-	-	-	-	-
10-19	1.84	3.57	3.49	5.15	2.53	2.86	3.61	2.78	2.36	1.96
20-29	10.29	6.95	15.73	14.23	17.66	14.38	8.53	10.22	17.62	15.89
30-39	18.09	13.96	15.42	18.64	16.16	11.99	14.11	16.80	15.44	9.51
40-49	13.52	15.00	18.34	19.25	22.41	14.91	8.20	8.23	11.14	7.83
50-59	14.04	19.61	18.34	23.78	20.91	14.86	8.44	8.24	13.82	8.52
60-69	15.53	15.09	21.06	17.61	16.25	14.81	8.61	10.07	6.17	8.61
70+	4.96	7.23	9.41	10.42	6.81	6.62	6.44	3.15	2.05	0.00
Age Standardised Rate (All Ages)	8.32	8.34	10.70	11.54	11.20	8.68	6.31	6.71	8.19	6.35
(Standard Error)	(0.77)	(0.76)	(0.85)	(0.88)	(0.86)	(0.75)	(0.62)	(0.63)	(0.68)	(0.07)

TABLE A23
ALCOHOL-RELATED HOSPITAL DISCHARGES BY YEAR OF DISCHARGE, WESTERN AUSTRALIA
AGE SPECIFIC RATES OF DISCHARGE BY TYPE OF CONDITION: ALCOHOLIC LIVER DISEASE
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	-	-	-	-	-	-	-	-	-	-
10-19	0.92	0.00	0.44	0.43	0.84	0.00	0.00	0.40	0.00	0.78
20-29	5.82	7.39	7.65	10.05	6.57	2.80	5.04	8.71	8.44	4.70
30-39	32.47	17.56	28.19	22.98	23.81	26.46	26.21	37.50	25.61	23.06
40-49	58.58	69.38	67.85	84.81	64.29	60.78	65.09	65.33	43.12	45.57
50-59	172.04	126.17	147.54	168.93	159.24	157.96	121.97	153.66	138.95	112.14
60-69	139.81	133.61	196.92	218.57	183.82	195.53	215.19	195.01	205.37	154.09
70+	55.83	72.26	105.91	123.88	89.67	136.86	126.64	95.41	111.59	100.27
Age Standardised Rate (All Ages)	39.53	35.21	44.13	50.08	42.56	44.29	42.87	45.10	40.94	34.02
(Standard Error)	(1.71)	(1.59)	(1.75)	(1.86)	(1.70)	(1.69)	(1.64)	(1.66)	(1.55)	(1.39)

TABLE A24
ANNUAL RATE OF SEIZURES OF HEROIN & AMPHETAMINES, WA: 1985-1990
(Grams per 100,000 population aged 15-49)

TYPE OF DRUG	Year Ended 30 June					
	1985	1986	1987	1988	1989	1990
Heroin	206.58	128.87	544.12	259.12	259.6	129.93
Amphetamines	6.63	12.33	32.62	144.15	309.17	356.55

TABLE A25
AGE SPECIFIC RATES OF NOTIFICATION OF DRUG ADDICTION, WA: 1981-1990
(Rate per 100,000 person years)

AGE GROUP	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
0-9	-	-	-	-	-	-	-	-	-	-
10-19	4.25	7.51	4.95	8.65	6.99	1.62	3.61	5.96	5.90	3.53
20-29	59.69	49.30	58.27	89.15	66.66	60.79	51.97	90.94	60.93	45.52
30-39	9.09	14.24	12.70	25.18	27.47	20.16	19.75	44.55	32.39	22.32
40+	2.89	2.10	1.82	1.77	2.79	1.23	1.17	2.82	3.24	0.69
Age Standardised Rate (All Ages)	12.33	11.62	12.32	19.41	16.11	12.83	11.71	21.87	15.74	10.82
(Standard Error)	(0.92)	(0.88)	(0.90)	(1.12)	(1.01)	(0.88)	(0.84)	(1.12)	(0.94)	(0.77)

TABLE A26
METHADONE TREATMENT POPULATION, WA: 1973-1990

YEAR	TOTAL NUMBER OF PERSONS TREATED	NEW ADMISSIONS		
		ANNUAL	% NEW OF TOTAL	CUMULATIVE
1973	N/A	2	-	2
1974	N/A	31	-	33
1975	N/A	142	-	175
1976	N/A	188	-	363
1977	N/A	266	-	629
1978	479	205	42.8	834
1979	382	118	30.9	952
1980	288	59	20.5	1011
1981	214	68	31.8	1079
1982	264	100	37.9	1179
1983	225	77	34.2	1256
1984	387	163	42.1	1419
1985	547	230	42.0	1649
1986	557	150	26.9	1799
1987	506	134	26.5	1933
1988	680	247	36.3	2180
1989	720	144	30.0	2324
1990	710	153	21.6	2477

Source: WA Alcohol & Drug Authority
Note: Size of annual treatment population not available for period 1973-1977

TABLE A27
AVERAGE DAILY ALCOHOL CONSUMPTION (Mls Absolute Alcohol), WA: 1977-1991
ALL DRINKERS - AGE GROUP BY LEVEL OF CONSUMPTION BY YEAR OF SURVEY

LEVEL OF CONSUMPTION (Mls Absolute Alcohol/Day)	AGE GROUP (Years)														
	18-24			25-44			45-64			65 +			Total		
	1977	1985	1991	1977	1985	1991	1977	1985	1991	1977	1985	1991	1977	1985	1991
None	-	28.7	31.2	-	27.1	29.3	-	35.3	34.7	-	54.4	52.9	29.4	32.8	34.1
< 50 Mls	-	57.3	58.1	-	59.9	60.9	-	54.9	56.5	-	44.1	44.6	57.6	56.3	57.2
50-99 Mls	-	9.8	7.3	-	10.1	7.5	-	8.0	6.7	-	1.5	2.2	9.6	8.5	6.6
100+ Mls	-	4.2	3.4	-	2.9	2.3	-	1.8	2.0	-	-	0.4	3.4	2.5	2.2
Total Male Drinkers	-	71.3	68.8	-	72.9	70.7	-	64.7	65.2	-	45.6	47.2	70.6	67.2	66.0
Total Males	-	100.0	100.0	-	100.0	100.0	-	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0

Source: Alcohol and Tobacco Consumption Patterns February 1977, Cat. 4312. Australian Bureau of Statistics
Alcohol Consumptions Western Australia October 1985, Cat. 4301.5. Australian Bureau of Stastistics
Alcohol Consumption Patterns Western Australia March 1991. Australian Bureau of Statistics/Health Promotions Services

Note: Alcohol Consumption by specific age group not separately available for WA in 1977 survey.

TABLE A28
AVERAGE DAILY ALCOHOL CONSUMPTION (Mls Absolute Alcohol), WA: 1977-1991
MALES - AGE GROUP BY LEVEL OF CONSUMPTION BY YEAR OF SURVEY

LEVEL OF CONSUMPTION (Mls Absolute Alcohol/Day)	AGE GROUP (Years)														
	18-24			25-44			45-64			65 +			Total		
	1977	1985	1991	1977	1985	1991	1977	1985	1991	1977	1985	1991	1977	1985	1991
None	-	22.3	25.9	-	16.2	18.9	-	24.6	24.4	-	40.5	38.0	17.5	22.0	23.6
< 50 Mls	-	55.2	55.7	-	60.7	63.8	-	58.1	60.	-	57.3	58.0	59.1	58.7	60.8
50-99 Mls	-	15.4	12.1	-	17.8	13.1	-	14.1	11.8	-	2.2	3.3	17.2	14.8	11.5
100+ Mls	-	7.1	6.3	-	5.4	4.2	-	3.2	3.8	-	-	0.8	6.2	4.5	4.1
Total Male Drinkers	-	77.7	74.1	-	83.8	81.1	-	75.4	75.6	-	59.5	62.1	82.5	78.0	76.4
Total Males	-	100.0	100.0	-	100.0	100.0	-	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0

Source: Alcohol and Tobacco Consumption Patterns February 1977, Cat. 4312. Australian Bureau of Statistics
Alcohol Consumptions Western Australia October 1985, Cat. 4301.5. Australian Bureau of Stastistics
Alcohol Consumption Patterns Western Australia March 1991. Australian Bureau of Statistics/Health Promotions Services

Note: Alcohol Consumption by specific age group not separately available for WA in 1977 survey.

TABLE A29
AVERAGE DAILY ALCOHOL CONSUMPTION (Mls Absolute Alcohol), WA: 1977-1991
FEMALES - AGE GROUP BY LEVEL OF CONSUMPTION BY YEAR OF SURVEY

LEVEL OF CONSUMPTION (Mls Absolute Alcohol/Day)	AGE GROUP (Years)														
	18-24			25-44			45-64			65 +			Total		
	1977	1985	1991	1977	1985	1991	1977	1985	1991	1977	1985	1991	1977	1985	1991
None	-	35.4	36.8	-	38.5	40.1	-	46.4	45.8	-	64.6	64.4	41.6	43.6	44.6
< 50 Mls	-	59.4	60.5	-	59.0	57.9	-	51.5	52.9	-	34.4	34.3	55.9	53.8	53.6
50-99 Mls	-	4.0	2.3	-	2.2	1.6	-	1.6	1.4	-	1.0	1.3	1.9	2.2	1.6
100+ Mls	-	1.2	0.5	-	0.3	0.3	-	0.4	-	-	-	-	-	0.4	0.2
Total Female Drinkers	-	64.6	63.3	-	61.5	59.8	-	53.6	54.3	-	35.4	35.6	58.4	56.4	55.4
Total Females	-	100.0	100.0	-	100.0	100.0	-	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0

Source: Alcohol and Tobacco Consumption Patterns February 1977, Cat. 4312. Australian Bureau of Statistics
Alcohol Consumptions Western Australia October 1985, Cat. 4301.5. Australian Bureau of Stastistics
Alcohol Consumption Patterns Western Australia March 1991. Australian Bureau of Statistics/Health Promotions Services

Note: Alcohol Consumption by specific age group not separately available for WA in 1977 survey.