PROGRAMME ON
SUBSTANCE
ABUSE

The content and structure of methadone
treatment programmes:
a study in six countries
by
Michael Gossop and
Marcus Grant

WORLD HEALTH ORGANIZATION
The use of methadone in the treatment of drug dependence has provoked a good deal of controversy. However, it is clear that there is considerable variation between methadone treatment programmes and relatively little detail is available about the organization and operation of these programmes. This report examines the content and structure of methadone treatment programmes, and particularly methadone maintenance programmes, in six countries. The six countries were Australia, Canada, France, the Netherlands, Thailand and the UK. The report presents information about the extent of national problems and about such issues as type of dispensing practices, dose- and time-limits for prescribing methadone, programme entry criteria, staffing, integration with other services, and urine testing. Developments and trends during the decade 1980-1990 are discussed and implications for further research and programme development are presented.
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1. Introduction

This report examines the content and structure of methadone treatment programmes in six countries. As such, it forms part of a continuing line of work within WHO's programme on the prevention and control of alcohol and drug abuse. Over recent years, WHO has devoted considerable attention to activities related to the treatment of drug dependence. These activities have included an analysis of the nature and effectiveness of treatment policies, a review of legislation relating to the treatment of drug- and alcohol-dependent persons, the development of training materials for medical and other health personnel, and the preparation of guidelines for assessing the quality of care in drug abuse treatment services.

Within this context, there has been a special focus on substitution drug therapy and, in particular, on the use of methadone within drug dependence treatment systems. A preliminary review, which is described in more detail below, was undertaken in the mid-1980s by Arif and Westermeyer (1988) and some of the conclusions of that review have also been published independently (Arif and Westermeyer, 1990). Based upon this work, a WHO working group met in Geneva in December 1988. The main product of that meeting was a WHO report entitled "Options for the Use of Methadone in the Treatment of Drug Dependence" (WHO/NMH/DAT/89.2), which was presented to the United Nations Commission on Narcotic Drugs in February 1989. In addition, a subsequent WHO report "The Uses of Methadone in the Treatment and Management of Opioid Dependence" (WHO/NMH/DAT/89.1) was developed by Gossop, Grant and Wodak, utilizing the background papers prepared for that meeting. In their concluding observations, the editors note that: "Insufficient attention has been given to the manner in which the effectiveness of methadone as a substitution drug might be maximized. In general, any considered analysis of the issues and procedures, and properly-controlled research has been conspicuous only by its absence ... On this question, there remains considerable confusion both about the identification of goals for the treatment and management of opioid dependence and also about how such goals are related to treatment methods."

It is in part to attempt to reduce that confusion that it was decided to undertake the present study. In doing so, it was fully recognized by WHO that methadone has provoked a good deal of controversy, especially in its role as a substitute for heroin in maintenance programmes. It is unfortunate that one facet of the controversy has taken the form of an argument about whether or not methadone maintenance is a "good" thing or a "bad" thing. A more productive basis for discussion would be a consideration of the circumstances in which this form of treatment might or might not be appropriate and what sorts of specific costs and benefits might be associated with maintenance. One straightforward and useful description of some of the benefits that might follow from maintenance has been offered by Kaplan (1983):

"It places the addict under strong pressures to appear on a fixed schedule for his dose, which in itself adds a degree of stability to his often chaotic life. Moreover, at each appearance of the addict, the programme staff may monitor his progress. They may question him about his work status; subject him to urine-analysis to determine his non-therapeutic drug use; talk to him about his problems; and help him in securing employment" (p.216-217).

Within the last 10 years there have been several important developments concerning the abuse of opiates, including an increased awareness of the health risks associated with drug abuse. Hepatitis B infection is one example of a serious health problem that is commonly associated with drug injection. In some countries the majority of drug injectors become infected with the hepatitis B virus within the first year of injecting. Septicaemia, endocarditis, abscesses
and vascular injury are other health problems found among drug abusers. One of the most worrying recent developments, of course, has been the increasing incidence of HIV infection among drug injectors. In many countries, drug injectors are now one of the high-risk groups most likely to contract and transmit this infection and the recognition of this fact has contributed to the awareness of the need to strengthen national preventive and treatment responses. One option that is widely perceived as offering a potential preventive weapon against health problems, including HIV infection, is methadone maintenance.

Like many treatment options that are used in the field of drug dependence, "methadone maintenance" is a term that is used without clear definition. Despite the fact that maintenance treatments have been used in many countries for more than 20 years, the precise manner in which this treatment is applied tends not to be explicitly stated.

In the previous WHO study of the uses of methadone in 19 different countries around the world, Arif and Westermeyer (1988) presented a general overview of methadone treatments. However, the Arif and Westermeyer report was not specifically concerned with the content and structure of methadone treatment programmes, nor with the role of methadone maintenance in the prevention of health problems. In addition, much of the data contained in the previous report was collected between 1983-1985, and therefore relates to circumstances prior to the increased concerns in recent years about the prevention of health problems among drug takers. In addition, many countries have experienced significant changes in patterns of drug abuse since the earlier report, and the appearance and growth of HIV infection has had a powerful impact upon service delivery.

In a study of a London drug dependence clinic, Love and Gossop (1985) observed that: "There is surprisingly little detailed information about the operation of the drug clinics." More recently, in a recent national study of treatment effectiveness in the USA, Hubbard et al., (1989) made the same point - that: "Although many studies of the effectiveness of drug abuse treatment have been conducted, there is limited information available about the nature of therapy and services delivered in drug abuse treatment programs": these authors also comment that "Variables in the "black box" that is drug abuse treatment need to be better specified." (p.43). Senay and Uchtenhagen (1990) have drawn attention to the variation that occurs between methadone programmes. This may relate to such issues as programme demands for behavioural change, admission criteria, frequency of urine-analysis, administrative and clinical response to illicit drug abuse, programme requirements regarding behaviour inside and outside clinics, and pressure to attempt detoxification. Each of these, and other related issues may have implications for outcome.

The present study provides information from six countries on:

(i) the content and structure of methadone treatment programmes;

(ii) the characteristics of people attending methadone treatment programmes; and,

(iii) the manner in which methadone maintenance is currently used in the treatment and management of drug problems.

In addition, the study presents data on the changes in practice which have occurred within the past 10 years. As such, it is intended to go some way towards clarifying issues which have for too long remained unnecessarily confused. Whilst it cannot, in itself, provide the full considered analysis which is required, it is hoped that it will also encourage others to undertake the properly-controlled research, which is still so conspicuously absent from this field.
2. Methodology of the study

2.1 Sample

This study focuses upon six countries chosen from the sample of 19 countries that had taken part in a previous WHO study of methadone treatment programmes (Arif and Westermeyer, 1988). Australia, Canada, France, the Netherlands, Thailand, and the UK were selected so as to contain at least one country from each of the WHO regions in which methadone is used as a treatment option. This sample contains at least one representative from Europe, North America, Asia, and Oceania. Based upon the findings of the previous WHO study, the sample was also deliberately constructed in order to represent a spread of views and practices concerning methadone. Countries were chosen that, at the time of the previous report, were:

- not using methadone maintenance (Thailand);
- using maintenance on a very limited basis (France);
- using maintenance but with increasing reluctance (UK);
- using methadone with variable national trends (Canada);
- using methadone with increasing frequency (Australia);
- using methadone with continued enthusiasm (Netherlands).

2.2 Instruments

A Methadone Update Form (MUF) was specially devised to expand and develop some of the important issues raised by the previous Arif and Westermeyer report but also to incorporate new themes and issues that have become prominent since the original study. This questionnaire (MUF) contained 21 items. The general structure of the MUF was to ask for estimates of the current situation with regard to specific issues, to ask about any changes that might have occurred within the past 10 years, and to ask for estimates of the situation prior to any such changes. The MUF contained many items requesting quantitative data and used structured response options, (e.g. q.10. "To what extent is there a problem of diversion of methadone from maintenance programmes on to the black market ?"). This required a response in terms of four categories - no problem, insignificant, some problem, major problem). Some questions permitted open-ended responses (notably those requesting information about changes that might have occurred with respect to a specific issue within the last 10 years); open-ended responses were also requested for items asking for details of the content and structure of treatment programmes, (e.g. q.14. "Have there been any changes in practice regarding upper dose limits within the last 10 years? Describe briefly."). The MUF was completed during October and November 1989, so the 10-year period covers the decade 1980-1990. A copy of the Methadone Update Form (MUF) used in this study is annexed to this report.

2.3 Procedure

The present study used a key informant approach. In each of the six countries, a key informant was identified who was currently involved with drug abuse problems in his country, who was in a sufficiently senior position to be aware of national developments in the country, and who had an active clinical involvement with this field. Questionnaires were sent to a key informant in each of the countries. In addition the informant was requested to provide a report, in which relevant background information about local and national developments, or further information, could be presented to augment the data collected in the Methadone Update Form. Material contained in these supplementary reports has been incorporated in this paper.
3. Extent of drug and drug-related problems

The considerable difficulties attendant upon obtaining accurate national estimates of the number of people who are dependent upon opiates are well known. This point was reiterated by most of the key respondents in their reports. Different countries use different methods and different indicators to make such estimates, and frequently there is considerable variation within any country in the estimates that are available. This variation in estimates may relate to sampling and methodological differences, as well as "real" geographical variation in the extent of drug problems. Bearing in mind their awareness of the available national data and the limitations of the data, and their knowledge of the national situation, key informants were asked to provide their own best estimate of the number of people dependent upon opiates.

The overall estimates for each country were:

- **Australia**: 30-50,000
- **Netherlands**: 15,000
- **Canada**: 10-20,000
- **Thailand**: 100,000
- **France**: 80,000
- **UK**: 75,000.

These figures may also be expressed in relation to the size of the national populations (according to WHO, 1988). Overall national estimates and estimates adjusted for the size of national population are both shown in Figure 1. In the latter case, the largest proportional opiate problem is reported by Australia, followed by Thailand, with the European countries (France, the Netherlands and the UK) reporting opiate problems at a similar sort of level, and Canada reporting the smallest problem.

In Australia, the number of persons injecting heroin "likely to come to the attention of the authorities in a 12-month period" was estimated at 10-14,000 for New South Wales (population 5.5 million) in 1987. As this estimate is essentially based upon the number of persons recognized by the police and the Corrective Services Department, it is believed to understate the number of persons who inject heroin without detection by law enforcement authorities. The technique of this estimate was "capture-recapture". The Department of Community Services and Health in March 1988 estimated that 30-50,000 individuals use heroin regularly and an additional 60,000 use heroin occasionally (definitions and methodology unspecified).

The National Advisory Committee on AIDS commissioned a survey of HIV risk-taking behaviour among almost 2,000 adults in capital cities in 1986. Just under 5% of adults stated that they had self-administered drugs intravenously during their lifetime and almost 2% stated that intravenous self-administration had occurred in the last 12 months. A Drug Indicators Project has been established in the Australian Capital Territory, and it is intended to extend the technique of estimation to cover the nation following a pilot phase of several years. There are no current and reliable estimates of drug users in Australia based on sound methodology, and only limited data is available on the number of persons injecting drugs, preferred drugs for injection, and extent of injection of more than one drug. Amphetamine use is widely believed to be increasing and to involve intravenous administration, but good data is lacking.

Although heroin abuse in the Netherlands increased in the period between 1972 and 1985, during the past few years the abuse of heroin appears to have declined. The number of heroin-dependent users in the Netherlands may be estimated to be about 15,000 (perhaps between 15,000 and 20,000). Approximately half of the total number of people dependent upon heroin may be found in the two largest cities in the Netherlands. Amsterdam has about one-third to one-half of the total number of dependent heroin users in the Netherlands (about 7,700).
In Rotterdam, there are approximately 2,500 people dependent upon heroin. Most of these drug abusers use other drugs as well as heroin. About 30% of them use amphetamines and/or cocaine regularly, and more than half of them are reported to be dependent upon alcohol.

In Thailand, the largest known group of drug-dependent people is the clientele of the drug treatment services. Between 1983 and 1987 the annual treatment population gradually increased from 41,000 to almost 58,000 cases. This was accompanied by an increase in the number of treatment service units from 78 to 108 units. On a regional basis, the increase in the total annual treatment population was most evident in the southern region. The largest drug dependence treatment hospital in the country is located in the suburb of Bangkok. This hospital-based service provided in-patient treatment for about 5,000 to 8,000 cases per year between 1981 and 1984. However, the national proportion of clients from Bangkok dropped from 60.4% in 1983 to 50.3% in 1987.

Thailand was the only country in this study to have a substantial problem with opium dependence, and in 1987, just over 5,000 opium-dependent people entered treatment services. Nearly all lived in provincial regions, especially in the upper part of the northern and north-eastern regions. There were marked differences between the patterns of drug abuse found in the cities and in the rural areas of Thailand.

Indeed, within all countries there is considerable geographical variation in the extent (and type) of drug problems. In the UK, some parts of the country have been found to have a sizeable heroin problem, whereas in other adjacent areas the problem appears to be of negligible proportion. There are also regional differences in the route of drug administration in the UK. During the late 1970s and early 1980s the increased availability of south-west Asian heroin led to an increase in heroin abuse, and the pattern of abusing heroin by "chasing the dragon" also became established. In some cities this pattern of chasing the dragon has become a relatively common (and stable) pattern of taking heroin, whereas in other cities intravenous use remains the predominant pattern.

Most drug abusers tend to take a range of different drugs and the term "heroin abuser" should not be understood to imply that the person uses only heroin. In the UK (as in the other countries), poly-drug abuse is the predominant pattern of drug taking. In some areas of the UK there is a worrying problem associated with the abuse of amphetamines by injection. The abuse of amphetamines is a sizable problem in some cities but is largely absent from others. This sort of regional variation is also found in Canada, where there is a concentration of opiate problems in British Columbia (more than 70% of cases in this state); and in the Netherlands, opiate problems are concentrated in Amsterdam and Rotterdam. The observation, that the abuse of heroin or other opioid drugs tended to be most commonly found in large city areas, was made by all respondents.

3.1 Characteristics of patients in treatment

The basic demographic characteristics of patients receiving methadone treatment were broadly similar in all six countries. Reports indicated that there were more males than females, and average ages were reported to be about 25-30 years. In the UK, the majority of patients was reported to be aged between 25-35, with more males than females (3:1). In Australia most patients were reported to be aged between 25-30 years, and the sex ratio was 3:2 (males to females), though the relative numbers of women in treatment has increased in recent years as a result of the decision to offer priority to pregnant women with drug problems.

1 "Chasing the dragon" is a technique of administering heroin by inhalation. Usually, an amount of powdered heroin is placed on a piece of tinfoil and a flame placed underneath. As the heroin heats up, it becomes liquid and runs over the surface of the foil. A vapour is given off and the vapours are "chased" and inhaled through a tube (cf. Gossop, Griffiths & Strang, 1989).
The same sex ratio of 3:2 was reported for the treatment services in Canada, where patients were mostly under 40 years (about 60% aged between 20-30 years), with an increasing number of younger users. About a third of methadone recipients report less than five years opioid dependence. Three-quarters of the people receiving methadone treatment report heroin as their primary drug of abuse, but most also use other drugs (including cocaine, sedative/hypnotic drugs and cannabis).

The age trends reported in Canada contrast with those in the Netherlands, where the average age of people in treatment is rising. It also appears that the age at which people use drugs for the first time in the Netherlands is rising. The percentage of drug abusers in treatment aged under 22 is steadily declining (in 1981 - 14.4%, in 1987 - only 4.8%). Men outnumber women by 3:1. The predominant pattern of heroin use is by "chasing", though there is also a problem of intravenous injection. The most common drug problem involves poly-drug abuse. It is suggested that psychiatric co-morbidity is becoming more evident among drug abusers in treatment.

In Thailand, opium and heroin are the principal drugs of abuse. These are used on a daily basis by about 95% of all cases during the last 30 days before admission to treatment. About 90% of clients from Bangkok, and the southern and central regions are found to be dependent upon heroin. The average age of the heroin abusers is about 30 years in Bangkok; (average age was similar in all regions). At least half received education above primary school (7 years) and about one-third were unemployed. Intravenous injection is extremely common. For the old cases that had been treated at least once in the past, about 80-95% were found to be injecting intravenously. For the new cases that reported no previous treatment experience, about 65-85% were injecting intravenously. In the north-eastern and northern regions, opium use was more common than heroin use (e.g. in 1987 in the north-eastern region, it was found that the incidence of heroin and opium dependence was 29% and 43% respectively). Opium abusers were often married males, aged between 30 and 40 years, and most were employed (unemployment less than 15%). More than half had received only primary education. A worrying development since 1979 has been that some opium users have started injecting opium intravenously. Opium is dissolved in water over an open fire and filtered by sucking the solution through cotton wool, or the filter of a cigarette, into the syringe for the injection. This problem of intravenous opium injection is more common in the city areas, and old cases also tend to inject intravenously more than the new cases.

3.2 HIV seropositivity rates among injecting drug takers

HIV infection is transmitted between injecting drug takers primarily, but not exclusively, when the equipment used to inject drugs is shared. Many studies have emphasized the geographical variation in seropositivity rates among drug injectors. However, the seroprevalence of HIV infection among injecting drug takers has been found generally to increase over time and HIV/AIDS among drug injectors is a serious public health problem. One of the highest seroprevalence estimates among drug injectors has been reported by the Centre for Communicable Disease Control in Thailand, which suggested that intravenous drug injectors made up 86% of the 8,592 HIV seropositive cases reported between 1984 and July 1989.

In the present study, the overall rates of HIV infection among drug injectors varied considerably. These were estimated to be less than 2% (Australia), less than 5% (Toronto and Montreal, Canada), about 35% (France), about 31% (Amsterdam, Netherlands), about 45% (Thailand), and about 5% (UK). These national estimates, however, should be treated with some caution, since all countries again drew attention to the regional variation that exists within countries. In the UK, for instance, there is a great difference between HIV rates among drug injectors in London (10%) and those in Edinburgh (60%). Similarly, in the Netherlands, 31% of the intravenous drug users in Amsterdam are seropositive, whereas outside Amsterdam the seroprevalence is lower in Arnhem (3.6%) and in Rotterdam (9.7%).
FIGURE 2

METHADONE TREATMENT AND HIV+ RATES

N.B. Columns show percentage of HIV+ persons and estimated percent of opiate dependent persons in methadone treatment.
Figure 2 shows these data and compares them with the estimates made of the percentage of the opiate-dependent population who are attending methadone treatment programmes. It can be seen that the countries reporting the highest seropositivity rates are France, the Netherlands and Thailand. The country with by far the highest percentage of opiate abusers in methadone programmes is the Netherlands, followed by Australia. The presentation of these two sets of data in the same figure, however, does not permit simple conclusions to be drawn, regarding possible relationships between availability of methadone treatment and the risk of HIV infection (reflected in seroprevalence). A multiplicity of factors operate to influence the risk of HIV infection. In these data, there appears to be no consistent relationship between the proportion of opiate addicts in methadone treatment, and the national HIV infection rates among drug abusers.

4. Uses of methadone

The two major uses of methadone in the treatment and management of opiate dependence are in detoxification and within maintenance programmes.

In several of the six countries in the study there has been a marked division of opinion among drug dependence experts about the merits of methadone as a treatment option. For example, in Canada some experts have argued that methadone has no value and should only be used in exceptional cases. Such cases might include the treatment of opiate dependence among pregnant users or the treatment of chronic, long-term dependents, for whom all other options have failed. Others have recommended that, provided that appropriate and careful assessment procedures have been carried out, methadone may have some value as a treatment option. This would include the prescribing of methadone to patients other than "hard-core" abusers. Those who see some role for methadone, tend to see this treatment within the range of responses required to contain the epidemic of HIV infection and to deal with its consequences. Of the six countries in this study, methadone is least-favourably regarded in France, where for many years methadone was seen as having been discredited as a useful form of treatment, and where it has been rejected by most clinicians. However, this view appears to have moderated in recent years.

France first authorized the use of methadone for the treatment of drug problems in 1973. At this time a commission of experts was convened to provide guidelines about the manner in which this drug might be used. In practice, the clinical application of this treatment was extremely cautious. Only four hospital services were authorized to prescribe methadone, and in addition other restrictions were placed upon the type of patients to whom the drug might be given, and the manner in which the drug could be prescribed. Of the four hospitals authorized to use methadone for the treatment of drug problems, only two took the opportunity to try the drug. Both of these hospitals (the Sainte-Anne and the Fernant-Widal Hospital) were in Paris, and each had the capacity to treat 20 patients. There continues to be a national reluctance to expand the basis upon which methadone is used in the treatment of drug problems.

4.1 Detoxification

There is a marked difference between the six countries in the extent to which methadone is used in the detoxification of opiate-dependent patients. In the UK, methadone is regarded as the "treatment of choice" in most centres, and it is the most widely-used option in detoxification. In Canada, the Netherlands and Thailand, methadone is also widely used, but is not the dominant detoxification treatment option that it is in the UK. In the Netherlands and Thailand, methadone is used in most centres. In Thailand, for example, methadone was introduced in 1960, subsequent to the identification of the country's first heroin epidemic. Since then it has been extensively applied as the prime drug for detoxification in the
### Table 1

**Uses of Methadone for Detoxification and/or Maintenance Purposes**

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<th>Countries</th>
<th>Uses</th>
<th>Detox.</th>
<th>Maint.</th>
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<tr>
<td>Australia</td>
<td>Occasionally/ some centres</td>
<td>All/virtually all centres</td>
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<tr>
<td>Canada</td>
<td>Common in some centres</td>
<td>Occasionally in some centres</td>
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<tr>
<td>France</td>
<td>Not Used</td>
<td>Common in some centres</td>
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<td>Netherlands</td>
<td>Used in most centres</td>
<td>Used in most centres</td>
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<tr>
<td>Thailand</td>
<td>Used in most centres</td>
<td>Not Used</td>
<td></td>
</tr>
<tr>
<td>UK</td>
<td>All/virtually all centres</td>
<td>Occasionally/ some centres</td>
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majority of treatment services. The application of methadone is confined solely to short-term detoxification for opiate dependence, which generally extended over a period of two to six weeks. There are 134 treatment units which have been licensed for service delivery. Of these, 111 were open in 1988, and the majority were using methadone as a detoxification agent. Thailand was the only country in the study to use tincture of opium (in conjunction with other medications) as a detoxification agent. Other countries have also used tincture of opium for this purpose, either because of savings in costs, or because of the unavailability of methadone. In Canada, methadone is also "commonly used in some centres" for detoxification.

In contrast, the use of methadone for detoxification in Australia has declined, and in France this practice has been abandoned in favour of alpha adrenergic agonists, such as clonidine (most often in a hospital setting), minor analgesics and benzodiazepines. In Australia, there has been an increasing tendency during the past 10 years for detoxification centres to prefer other forms of drug cover (such as clonidine), or non-medical detoxification options to the use of methadone, though methadone is still "occasionally used in some centres". In France, whereas methadone was occasionally used in some centres between about 1973-76, it has since been abandoned.

4.2 Maintenance prescribing

There was considerable variation between the six countries in the extent to which methadone is prescribed for maintenance purposes. Except for a number of limited clinical trials, no maintenance prescribing occurs as part of routine clinical practice in Thailand. About 10 years ago, methadone maintenance treatment was first tried out in two official drug dependence treatment units. There was very little interest among the treatment personnel. Furthermore, the Treatment Regulation of the Ministry of Public Health, which limited the detoxification period to 45 days, questioned the legitimacy of providing services beyond this period, since methadone was generally considered as a detoxification agent. One important factor associated with the trial of methadone at this time, was the lack of interest and negative attitudes of the professional therapists, as well as policy makers; it was widely believed that the substitution of methadone for other opiates was not acceptable philosophically. For the majority of policy makers and service personnel, the desirable treatment goal was complete abstinence, despite the evidence that multiple relapses were the most likely outcome, after drug abusers had been through the existing treatment services. At the time of preparation of the previous WHO report on methadone (Arif and Westermeyer, 1988), the chapter on Thailand noted that: "There is no methadone maintenance system" (p.32).

Since the identification of the HIV epidemic among drug abusers in Bangkok at the beginning of 1988, there has been a widespread sense of urgency directed towards the control and prevention of the transmission of HIV infection. This has led to a renewed interest in methadone maintenance as a preventive measure for HIV transmission. Around the end of 1988, two well known drug dependence treatment units launched clinical trials of maintenance prescribing. Early outcome data indicated that there was some reduction of drug use during the first six weeks of methadone maintenance. However, occasional intravenous administration of heroin was still evident in practically all cases, and retention in treatment beyond three months was lower than 10%. The consequent impact on prevention of HIV transmission is as yet unclear. In August 1989, the Ministry of Public Health decided to proceed with a national clinical trial of methadone maintenance. At the time of preparing the present report, this trial is in the final stages of design.

In Canada, although maintenance is occasionally used, this is less frequent than 10 years ago. This is related to the reduction in the number of government-sponsored methadone clinics in the province of British Columbia from 1987. The availability of methadone treatment, as well as other forms of drug treatment in
Canada, varies between the provinces. In Australia, the Netherlands and the UK, there has been an increase in the use of maintenance options. Methadone maintenance is widely used in drug treatment centres in Australia (virtually all centres), and in the Netherlands (most centres), where medically prescribed methadone is described as being easily available. These two countries tend to use maintenance more widely than the UK, or France (where it is still used very restrictively).

In Australia, there is a continuous pressure to expand maintenance services. Support for further expansion of methadone (and other treatment modalities) is widespread in the community, from all political parties, and is usually recommended in reports on the subject. The major resistance to expansion comes from some local communities, who object to services being developed in a particular neighbourhood (i.e. their own). Despite the availability of extra funding under the National Campaign Against Drug Abuse (NCADA), it has been difficult to expand methadone services beyond the current 10-15% real growth per annum occurring in most states. Demand for methadone treatment exceeds supply in most parts of the country and availability of additional resources is a major constraint on further growth of services. Attempts are being made to reduce unit costs (currently approximately $A3,000) per patient per year) and expand services.

4.3 Problems of definition

The term "methadone maintenance" has been widely used, but it has seldom been clearly defined. The lack of any explicit definition of the term may lead to confusion. Hence, the UK respondent noted that it is difficult to make a clear distinction between the use of methadone as a withdrawal drug and as a maintenance drug:

"Whereas in some countries, methadone will either be used as a detoxification agent over the short-term (e.g. up to three weeks) or for long-term prescribing in methadone maintenance programmes over periods often extending into years, in the UK the majority of prescribing of oral methadone to opiate addicts involves prescribing of oral methadone for varying periods of time between these above descriptions of detoxification and maintenance. Thus, many opiate addicts receive methadone as part of their treatment in steadily-decreasing doses over many weeks or months."

The UK report indicates that the term "maintenance" will be used for any prescribing of methadone for periods in excess of a month or two (thereby indicating that it is not a simple detoxification approach). However, many practices covered by this operational definition of maintenance prescribing would not be described as methadone maintenance in the UK, as this term is usually reserved for the long-term, non-reducing prescribing of oral or injectable (or combined oral and injectable) methadone.

Two terms that are used in this report are change-oriented and low-threshold methadone programmes. The Netherlands has played an important role in developing these two treatment services, and they are described in the Dutch national report.

4.4 Change-oriented methadone programmes

In the first methadone programmes that were implemented in the Netherlands, the primary goal of the treatment was abstinence from the non-medical use of drugs. In the first decade of the methadone programmes in the Netherlands (after 1968), abstinence from methadone was also preferred to methadone maintenance. Most methadone programmes tried to reach this goal by a slow reduction of the methadone dosage over a period of a few months, in combination with counselling. Contacts with the counsellor were obligatory in most programmes. Regular medical examinations and daily urine analyses were frequently used in conjunction with the
goal of reaching drug abstinence, and intake criteria were applied, for example, dependence upon opiates for at least two years. The average methadone dosage was regularly 30-40 mg. When the heroin epidemic in the Netherlands became more widespread the change-oriented programmes developed a waiting list. In 1976 the spread of heroin abuse became more visible in the streets, in the sense of increasing criminal activities and harassment in certain downtown areas.

4.5 Low-threshold programmes

As a result of the developments described above, the city government in Amsterdam placed some pressure on the change-oriented methadone programmes to become more accessible to the drug abusers and the change-oriented drug treatment programmes were criticized for being able to attract only a minority of the injecting drug abusers. At this time, the city council established its own methadone programme. The municipal health service began a helping system for drug abusers with the goal of reducing the negative social effects of the drug problem in the inner city. This helping system involved providing care for those drug abusers who were not motivated to change their dependence upon opiates. The goals of these programmes were not primarily change-oriented but more care-oriented to decrease the negative social effects of drug-taking.

The lowest threshold methadone programme in Amsterdam offers "methadone by bus". Every day two buses take a particular route through the city, stopping at different places near the drug scene. In these buses, oral methadone is dispensed to heroin abusers, who have been referred to the buses by one of the municipal health doctors. The preconditions for participation in this low-threshold programme are:

- regular contact with a medical doctor (minimal once every three months);
- introduction into the central methadone registration of the city;
- an agreement to no take-home dosages.

4.6 Numbers of patients in methadone maintenance treatment

Estimates were obtained with regard to the numbers of people receiving methadone treatment per year. The largest numbers of patients were reported by Australia and the Netherlands (5-10,000). These two countries also had the highest proportion of opiate dependents in methadone treatment (see Figure 2, above). For Australia, the number of people in methadone programmes had increased over 10 years from about 1,000 to over 7,000, but the number had remained static in the Netherlands after the increase that occurred during the 1976 hepatitis B epidemic. In 1987, approximately 3,500 people dependent upon opiates received methadone from one of the municipal methadone programmes in Amsterdam. Apart from the municipal methadone programmes in Amsterdam, general practitioners also prescribe methadone to approximately 1,500 patients. These general practitioners can seek advice from doctors working in the municipal project. The general practitioners are obliged to participate in the central methadone registration. In 1987, approximately 2,000 drug opiate-dependent users were seen in local police stations, and approximately 350 patients in general hospitals for methadone prescribing. Approximately 70 to 80% of the total opiate-dependent population in Amsterdam and in Rotterdam was reported to have contact with drug agencies, such as outreach programmes for street drug abusers, or additional services in police stations and hospitals.

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2 The term "low-threshold" is often applied to treatment units where it is accepted that some clients at any time may not have the will or the ability to abstain from drugs, but that significant drug-related harm (especially health problems such as HIV infection) can nevertheless be prevented.
In the UK, the number of methadone patients had increased from an estimated 1,000-2,000 to 2,000-5,000. In France, there had been little change in the numbers with fewer than 100 patients receiving methadone. The numbers were also small in Thailand: there had been an increase during the past 10 years from fewer than 100, though numbers were currently estimated to be still fewer than 1,000.

5. Structure of the programmes

5.1 Type of methadone administered

In all six countries methadone was prescribed in the form of a linctus or syrup. This was used exclusively in Canada, France, the Netherlands and Thailand. In Australia and the UK, methadone was prescribed in the form of ampoules for injection for a small number of exceptional cases. Both Canada and the UK reported that the prescription of tablets had previously been tried. This has been discouraged and discontinued in the UK because of the dangers associated with grinding up the tablets and taking them by injection.

In the UK, injectable heroin has been prescribed to a small number of dependent opiate users since the 1960s, although this practice has now become rare (approximately 200 cases per year - and most of these constituting a static population, who are continuously in receipt of these heroin prescriptions). There has been some move towards a re-emergence of injectable opiate maintenance, such as was prescribed by the National Health Service drug clinics during the late 1960s and first half of the 1970s, but which was subsequently largely abandoned by them. During the late 1970s and through the 1980s, a number of private doctors (mainly in the London area), and also one or two National Health Service treatment centres outside London, have been prepared to prescribe long-term maintenance with injectable or part-injectable prescriptions for people dependent upon opiates, who have requested this service. A few doctors in the UK also prescribe ampoules of heroin for injection. This is a controversial option, but one in which there is considerable interest. Some National Health Service drug treatment centres are now willing to prescribe at least a proportion of the initial maintenance prescription in injectable form (usually ampoules of methadone), so as to ensure "capture" of the patient into the treatment programme, followed by a gradual move of the injectable component across to oral methadone, so that as an intermediate goal, the patient would be weaned off injectables on to oral-only methadone, within a relatively short time scale (e.g. perhaps only a few weeks or months, even though the time-scale for the prescribing of oral methadone may be much longer).

Australia also described experiences with the provision of injectable methadone. This was available to a limited extent in Queensland in the early 1970s, but was superseded by oral methadone. About five clients of the Queensland Department of Health methadone programme have successfully resisted attempts to transfer them to oral methadone and are still (in 1989) provided with supervised injectable methadone. The prescribing of "drugs of addiction" for "addicts" generally requires prior authorization from the Department of Health. In practice, methadone is almost the only drug approved for the management of heroin dependence, but on occasions, following a special application by a medical practitioner on behalf of an individual patient, authorization may be provided for substances other than methadone including codeine, dextromoramide, buprenorphine or oxycodone.

In 1983 a morphine-dispensing programme was set up by the Amsterdam Municipal Health Authority for "extremely problematic drug addicts", who had failed to respond to methadone treatment. The evaluation of this project was completed in 1989, and the results suggested that the outcome was broadly positive and that good results were obtained with respect to housing, income management, social relations and buying illicit drugs.
In the UK, while methadone is the most commonly-prescribed drug, other drugs are also used sometimes. In a few centres heroin may be prescribed. Other drugs may include Diconal (dipipanone/cyclizine), Palfium (dextramoramid), Temgesic (buprenorphine), and various codeine preparations such as DF118 (dihydrocodeine). In France, where there is a marked reluctance to prescribe methadone even for patients with HIV infection or AIDS, other types of synthetic opioid drugs (often including buprenorphine) may be prescribed instead of methadone. Such drugs can be (and often are) abused by drug takers. This problem was noted by France and the UK, and it is one of the factors that should be taken into account when evaluating the possible merits of prescribing methadone.

One option, which was mentioned by the Netherlands as being used occasionally is maintenance with Levo-Alpha-Acetyl-Methadol (LAAM), a long-acting opioid. In the Netherlands, two studies with LAAM have been conducted - one placebo-controlled double-blind study and one "field study". Both suggested that LAAM is a safe and acceptable alternative to methadone maintenance, and a trend was found for subjects on LAAM to stay longer in treatment. LAAM is not available in Australia, where it is not approved by the drug regulatory body, largely because of the USA's conclusions about the drug. However, there is much interest in it.

5.2 Dispensing practices

There are interesting variations in the manner in which methadone is dispensed to drug abusers. All countries except the UK provide methadone to be consumed under supervision at the treatment centre. In the UK this is never done: instead, patients are given a prescription to be taken to a pharmacy, and the methadone is given to them at the pharmacy to be taken away. The widest range of dispensing options is used in Canada, where methadone is sometimes administered at the centre (either under supervision or without supervision), sometimes collected at the centre to be taken away, or less often ("seldom"), and as in the UK, the drug is obtained by a prescription taken to a pharmacy. Recently a Working Group has been convened by the Canadian Federal Government to prepare a set of guidelines on the use of methadone in the treatment of opiate abusers. These guidelines are likely to be especially concerned with the issue of controls upon prescribing practices and with the numbers of opiate abusers to be seen by individual physicians.

In Australia, methadone is generally dispensed from dedicated units with a client load of 100-200 and staff of five to 10. Some public sector units arrange for dispensing at retail pharmacies, which is cheaper, but considered to result in more diversion to the black market. Private sector dispensing is often carried out from retail pharmacies, but increasingly private sector units have combined to provide a dispensing facility. The methadone patients are then required to see the psychiatrist, general practitioners, or occasionally physician prescriber on a regular basis. Dedicated methadone dispensaries generally have high levels of security and facilities for supervision of randomized urine collection. Patients are checked off against an identity card containing a recent photograph. The dispensing of methadone through retail pharmacies is also occasionally used in the Netherlands, though this is less common than providing the drug to be consumed under supervision at the clinic/centre.

5.3 Time-limits

In Australia and Canada there was a tendency to prefer long-term methadone prescribing, usually without specified time-limits (or, in Australia, sometimes with a limit set at more than two years). However, in Canada, a few clinics apply limits of between six to 12 months. In France, prescribing is always time-limited: this may be for six months or one year, though allowances are made for social and other factors outside the treatment context, and the original time-limit may, therefore, be extended. As a result, the average duration of maintenance is about two years. Methadone programmes in the Netherlands used
several options with regard to the period of time for which methadone is prescribed; most commonly these options involve no upper limit, prescribing over three to six months or six to 12 months. The widest variation in length of prescribing is found within the UK, where the full range of options is used. The choice of a particular option could be expected to reflect factors related both to the philosophy of the programme and the characteristics and circumstances of the individual case. Australia and the UK both indicated that there had been a change within the past 10 years with an increased willingness to consider longer-term prescribing options. For Thailand, national regulations on detoxification limit the prescribing of methadone to a maximum of 45 days and this time-limit also applies to the prescribing of methadone for maintenance purposes.

5.4 Dose limits

Australia reported that clinics operated without an upper dose-limit. However, in practice the mean dose actually prescribed is 55-60 mg per day. This was said to be gradually increasing. Fewer than 10% of patients received a dose greater than 100 mg, and for those people receiving daily doses greater than 80 mg, take-away privileges (for weekends or holidays) were difficult to obtain. Some clinics in the UK also operate without upper limits on the dose of methadone that may be given, though other clinics use upper limits in the ranges 30-60 mg or 60-100 mg. The highest fixed limit was reported for Thailand (100-150 mg). Both Canada and the Netherlands reported that most clinics use an upper limit of 60-100 mg, with some clinics using higher (100-150 mg) or lower (30-60 mg) limits. France described a policy of trying to keep the person on the lowest comfortable dose (i.e. without any attempt to use "blockade" doses) with an upper limit of 30-60 mg. The only changes reported with regard to dose-limits were in Australia, where doses appear to have been rising since about 1988, as part of the response to the problems of HIV infection.

5.5 Staffing

Overall, nurses are the type of workers most likely to be found in the methadone clinics, and they are also likely to be the most numerous. There are differences between countries in their use of physicians or psychiatrists. The clinics in Canada, the Netherlands and Thailand are the most likely to use physicians. In Canada, physicians are the type of workers most often found in clinics with nurses, psychologists, social workers and psychiatrists sometimes working in the clinics. Similarly, in Thailand, clinics are always staffed by nurses and physicians and only sometimes by such other workers as psychologists or social workers. In the Netherlands, a wide range of staff are likely to be found in the methadone clinics with physicians and nurses always present; social workers are also an integral part of the clinics, and psychologists and psychiatrists were reported as being "often" part of the staff response. These arrangements were said to reflect an increased medical input during the past 10 years.

Australia provides a broad range of disciplines in its methadone treatment centres. In addition to nurses, some social workers and a psychologist are usually represented on the staff of a typical methadone programme. Physicians and psychiatrists were both said to work "often" on the programmes. In France, nurses, psychologists and psychiatrists were reported to be always part of the methadone treatment centres, sometimes with social worker support. It is interesting that France regarded the heavy staff requirements and costs of staffing as a significant disadvantage of methadone maintenance programmes and also as an important obstacle to the expansion of methadone treatment programmes. In the UK, nurses are the type of staff most frequently found in methadone clinics sometimes with psychiatrists and social workers. Physicians seldom worked within the methadone programmes though some general practitioners provide sessional input to some programmes.
<table>
<thead>
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<th>Drug Type</th>
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<th>CAN</th>
<th>FRA</th>
<th>NED</th>
<th>THAI</th>
<th>UK</th>
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<tbody>
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<td></td>
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<td>oral</td>
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<td>oral rarely amps</td>
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<tr>
<td>Dispensed</td>
<td>sup/clin scrip/phar</td>
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<td>scrip/phar</td>
</tr>
<tr>
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<td>low thresh priority</td>
<td>strict</td>
<td>priority</td>
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<td>strict</td>
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<tr>
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<td>no upper limit</td>
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<td>3-12 mo. less than 45 days</td>
<td>100-150 mg range options</td>
<td></td>
</tr>
<tr>
<td>Dose Limits</td>
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<td>60-100 mg</td>
<td>30-60 mg</td>
<td>60-100 mg</td>
<td>100-150 mg</td>
<td>30-60 mg no upper</td>
</tr>
<tr>
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<td>daily 1 per wk</td>
<td>daily daily daily</td>
<td>daily</td>
<td>daily 1 per wk 1 per 2 wks</td>
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</tr>
</tbody>
</table>

Table 2 offers a summary of some of the characteristics of the national methadone maintenance treatment programmes. Some of the boxes contain more than one entry. Where this occurs it indicates that more than one option is commonly used in that country. For example, in Austria methadone is dispensed both at the clinic under supervision and by prescription taken to a pharmacy; in Canada, a wide range of dispensing options is used and no single system predominates.
5.6 Entry criteria

In many of the countries there is considerable variation between programmes in terms of the type of entry criteria that are applied. In Australia and the Netherlands there are many programmes which operate with relatively liberal entry criteria. In the UK there are a few such programmes. The least variation in the type of national programmes was reported for France and Thailand where entry criteria are strict. In those countries where minimal entry criteria are used (low-threshold programmes) there appears to have been a marked change in terms of the relaxation of entry criteria within the past 10 years. In Australia and the Netherlands this was explicitly related to concern about the HIV epidemic. In Sydney, which is now the centre of the Australian HIV epidemic, consideration is now being given to the development of "low-threshold" methadone services for HIV-positive drug users or others, who desire to remain uninfected but have yet to develop ambitions of becoming drug-free. It is proposed to develop two inner city units linked to an abstinence-oriented centre at a third site.

In Canada, one factor relating to entry criteria is the system within which the clinic itself operates. The stricter programmes tend to be the Government-run clinics. The Naloxone Test is used in some Canadian centres to test for physical dependence upon opiates though this sort of testing is not universal. The working party convened by Canadian Federal Government will examine this issue and may make recommendations about the use of such test procedures. Although there is some variation in the type of entry requirements to different programmes, there is no strong pressure for low-threshold prescribing as a practical treatment option in Canada. However, some experts are interested in the possibility of exploring this on an experimental or trial basis.

Regardless of the type of entry criteria, some clinics in all countries operate a priority admission scheme, and this increased use of priority admissions appears to be a development that has gained increasing prominence within the past 10 years. In Australia, there is interest in the public health and individual assistance provided by methadone in the management of pregnant women and drug users infected with hepatitis B or HIV. Young drug takers, aborigines and prisoners are also mentioned as special groups likely to receive special attention in Australia. About 5% of patients in New South Wales, who receive methadone, are given the drug in prison for varying periods of time. On release from prison, they are transferred to community programmes. Interestingly, and in contrast to this general trend, a report in the UK by the National Advisory Council on the Misuse of Drugs (1988) recommended that there should be no priority status assigned to the HIV-positive drug user with regard to access to treatment (or with regard to access to particular types of treatment). The grounds for this were that if priority status were assigned to this group it would lead to reduced availability of services to those drug users who were not HIV-positive or who were of unknown HIV serostatus.

5.7 Frequency of programme attendance

The six countries divided into those in which attendance is generally required on a daily basis (Australia, France, the Netherlands and Thailand), and those which usually require attendance once every week or every two weeks (Canada and the UK). Whereas attendance is required every day for all patients in Thailand, there is considerable variation in several countries. In Australia and France, some centres allow attendance for selected clients on a less than daily basis. In the Netherlands, there is considerable variation. Although daily attendance is the most common requirement, some clinics operate with a number of patients attending once a week, once every two weeks, or even less than every two weeks. In the UK no clinics require daily attendance and in this respect there is a marked difference between the Netherlands and the UK. However, the two countries are similar in that both used all other options for clinic attendance (i.e. from twice a week or more to less than once every two weeks).
5.8 Integrated service

All six countries described the methadone treatment services as being integrated with a range of other treatment and counselling services. In Australia, France, Thailand and the UK, this integration was said always to occur. In Canada integration with other services was said to occur "often". However, there appeared to be differences in the meaning attached to the term "other services" by the national respondents.

The drug treatment services in Australia were described as becoming more likely to be integrated with alcohol services, and there is also an increasing trend to integrate methadone programmes with HIV/AIDS services. It is recognized that there is a need for closer links between methadone clinics and general hospitals to enable better responses to a future sick and disabled HIV-infected population. However, it was also noted that the counselling component of drug treatment services was tending towards a case management rather than a systematic psychotherapeutic type of intervention. This trend away from individual psychotherapy-type approaches towards case management is also a recent development in some UK services. This appears to contrast with the situation in France, where patients receiving treatment for drug problems are assigned to a psychiatrist, whom they see at least once a week for sessions of individual psychotherapy. The Netherlands described integration with other services as occurring "sometimes" with less counselling happening in the low-threshold programmes. However, the Netherlands also reported that the drug treatment services have been confronted with a greater number of people with psychiatric problems in recent years. In a study of 200 people in methadone programmes in Rotterdam and the Hague, a substantial number were experiencing a range of significant psychiatric problems. Mood and anxiety disorders were common in this sample.

5.9 Health counselling

The type of health counselling that methadone patients were likely to receive most commonly included HIV counselling and advice about harm reduction techniques. This occurred in all countries except France where it was not done routinely. Counselling about safe sex and health issues not directly related to drug taking were also included in some of the counselling offered (e.g. safe sexual practices, hepatitis B infection, dental health care). The introduction of HIV/AIDS counselling is an obvious development within the last 10 years, but this appears to have also increased the likelihood of other types of health counselling being offered to methadone patients.

Physical complications associated with drug abuse are commonly found among Dutch drug abusers in analyses of attendances at general hospitals. Apart from the increasing number of drug abusers with HIV seropositivity, the most common health problems are hepatitis, venereal diseases, endocarditis, tuberculosis, and diseases of the kidney. In Amsterdam, the Municipal Health Service and the Jellinek Centre run a consultation project for substance abusers in general hospitals.

5.10 Needle availability

The extent to which needles and syringes are made available to methadone patients varies considerably. In Canada needles and/or syringes are made available in all methadone programmes, whereas in France and Thailand injecting equipment is not made available. In Australia and the UK the availability varies from programme to programme, but there are signs that it is increasing as a result of the growing concern about HIV infection among drug takers. This increase can be dated to 1986 in Australia and to 1987 in the UK, when 12 experimental needle and syringe exchange schemes were set up. Prior to 1987, the provision of needles and syringes in the UK was limited to a very small number of patients receiving injectable ampoules of methadone or heroin from the clinics. However, there was
always a small number of pharmacists who were willing to sell needles and syringes to drug users, and this number is now very large. In addition, it is now estimated that about 100 formal needle exchange schemes are operating in England.

The situation in the Netherlands is broadly similar to that in Australia and the UK but has a different history. In Amsterdam the needle and syringe exchange began in the summer of 1984 during a hepatitis B epidemic among injecting drug users. In 1986 the Municipal Health Service extended this scheme to make the exchange of syringes and needles available on the methadone buses. It was at about this time that the spread of HIV infection became an identified problem. In 1987 approximately 700,000 needles and syringes were exchanged at different locations. The needle and syringe exchange schemes are widely believed to have been successful in attracting intravenous drug users who have not previously been in contact with treatment services. As in the Netherlands, the willingness of treatment services to offer needles and syringes has increased in Australia, Canada and the UK, as a result of the HIV problem.

6. Problems of Control

6.1 Diversion

Interestingly, although some diversion of methadone was described in a number of different settings, none of the six countries noted any serious problem with or concern about the diversion of methadone from clinical uses to the black market. Canada, the Netherlands and the UK each reported that there was "some" problem of diversion. The problem was said to occur but to be "insignificant" in Australia and France. Thailand also reported no serious problem of diversion.

6.2 Urine testing

The practice of screening urine specimens for the presence of drugs was noted in all six countries. In France it was used by all methadone clinics and urine testing is done several times a week, primarily to look for morphine metabolites (e.g. abuse of heroin), but more specific searches may also be made for cocaine, cannabis, synthetic opioids or other drugs. Urine screening is performed by most clinics in Australia, the Netherlands and the UK, and it is commonly used in some centres in Canada and Thailand.

6.3 Sanctions for positive urine results

There were some differences between the countries in the type of responses to the detection of drugs as a result of urine screening. In Thailand, for instance, no sanctions were applied. All other countries took some action in response to finding other drugs in the urine. Australia, France, and the UK indicated that discharge from treatment might occur if there was also evidence that the person was failing to cooperate with the requirements of the programme or failing to make progress. The Netherlands reported that sanctions would be applied in the change-oriented programmes if there was evidence that the person was failing to cooperate with the programme requirements and other drugs were found in the urine sample. In Canada, sanctions might include withdrawal of privileges or, less often, discharge. Several countries reported that programmes had become more tolerant within the past 10 years. Both the Netherlands and the UK suggested that the requirement to be abstinent from heroin (and other illegal drugs) was less strictly enforced. Australia noted that sanctions were applied more flexibly and with greater account being taken of other factors related to the treatment response of the individual; discharge was likely to follow only if there were signs of minimal or no improvement. Indeed, all countries reported that sanctions were unlikely to be applied on the basis of the results of urine testing alone.
These developments may be related to a recognition of the importance of partial changes in drug-taking behaviour which may fall short of traditional goals of abstinence but which nevertheless represent beneficial changes and reductions in the HIV risk of the continued drug-taking behaviour. These partial benefits or intermediate goals might be changes such as the move from sharing injecting equipment to using one's own injecting equipment, or the move from injecting to oral-only drug use.

6.4 Other behaviour infringements

One form of behaviour that was regarded as unacceptable by all countries was variously described as "physical violence" and "verbal abuse" (Australia), "abusive behaviour towards staff and other patients" (Canada), "aggression with other patients or staff" (France), "violent behaviour" (Netherlands), "disruptive behaviour in clinic" (Thailand), and "violence or persistent threats" (UK). In the Netherlands this was the only form of behaviour that was noted as leading to removal from a methadone programme. Another problem likely to lead to discharge was non-attendance (noted by Australia, Thailand and UK). In addition, other forms of unacceptable behaviour included cheating on urine specimens (Australia and Canada), obtaining drugs from more than one doctor or clinic (Canada), and dealing in drugs (France and Australia).

7. Developments and trends

There are differences between the six countries in the extent to which methadone is used in the detoxification of patients who are dependent upon opiates. These are described in the Detoxification section of this report (see above). There are also different trends regarding the use of methadone for detoxification. Whereas the use of methadone for the management of the opiate withdrawal syndrome has not changed very much during the past decade in Canada, the Netherlands, Thailand and the UK, its use in Australia has declined, and in France the practice of using methadone as a detoxification agent has been abandoned. It is not clear to what extent these trends away from methadone reflect clinical preferences, the development of alternative treatment options, empirical research findings, or political choices. In France, the abandonment of methadone for detoxification purposes may be linked to the more general negative national view of this drug. In Australia, where methadone maintenance is regarded with enthusiasm, some other processes could be expected to be involved.

The current position of each of the six countries is different with regard to the prescribing of methadone as a drug of maintenance, and the trends within the six countries are also different. The two countries which showed the greatest caution about methadone maintenance were France and Thailand. In the French report it was emphasised that the treatment of drug problems required a broad range of responses. The two Paris hospitals, which offer methadone, also provide other treatment responses and services on both an inpatient and outpatient basis, and these other forms of treatment are of much greater significance in terms of the number of patients being treated nationally. In one of these hospitals, the annual number of patients receiving methadone was only 20 compared to 950 who received other treatments. Despite the reluctance to use methadone, treatment options in France are described as being very diverse and considerable effort is made to tailor the treatment offered to the requirements of the individual on a case-by-case basis.

In France, the unexpected arrival of HIV/AIDS in the drug-abusing population has reopened the debate on methadone. It is suggested that this debate may be assisted by making a clear and explicit distinction between the different ways in which methadone might be used. These would include its uses in the context of preventing HIV-risk behaviours, its uses as a substitute drug in cases of seropositivity, and its uses where AIDS- or ARC-related illness was present. In
direct contrast to those national views, which accept methadone maintenance as of proven effectiveness as an HIV preventive measure, the prevailing view in France is that this claim is dubious and unproven. The French report indicates that there remains considerable scepticism about methadone maintenance, and states that "as far as the prevention of HIV is concerned, all professionals rather doubt the effectiveness of the technique."

In Thailand, where methadone maintenance was not used at the time the previous WHO report was prepared (Ariif and Westermeyer, 1988), this option is now being tried. A number of clinical trials were instigated towards the end of 1988, and in August 1989, the Ministry of Health for Thailand took the first steps in establishing a national clinical trial. At the time of preparing this report, the results of this trial are not available.

In Canada, methadone maintenance is seen as only one of a number of treatment options, and the extent to which it is used has declined during the past decade. The immediate cause of this decline can be traced to the closure of government-sponsored clinics in British Columbia (the province in which the majority of opiate abusers have been identified). Although the provision of methadone has been taken over to some extent by private practitioners, the lack of doctors who are willing to offer and provide this form of treatment presents a major obstacle to the availability of maintenance. The current view in Canada is that drug abuse is not strongly related to the more general national HIV problem. This is related to the relatively low HIV positivity rates among drug abusers (as low as 1% for some groups). This lack of association may however, be due to a failure to detect the virus among drug injectors because of the very few investigations that have been conducted. Whatever the reason, there is no strong pressure for the introduction of HIV prevention measures among drug abusers. Some experts feel that the situation is currently very fluid and that a number of changes may be about to happen, and changes in the provision of methadone to opiate dependent people may be one such possibility. However, at the time of this study, the political and professional will to provide resources for methadone treatment is still not present.

The current position of methadone maintenance in the UK should be seen in the context of its history since 1968 when the drug clinics were first established. During the late 1960s and early 1970s, maintenance prescribing (mainly methadone but also some heroin) was a major treatment option within the clinics. During the middle and late 1970s, however, the clinics became increasingly reluctant to provide injectable forms of drugs, and oral methadone became the most commonly prescribed drug. This trend away from prescribing then developed further into a reluctance to offer methadone on a long-term or maintenance basis. To some extent, this move away from maintenance prescribing was checked about 1980 at the time of the sudden increase in the number of heroin abusers in the country. The increase in numbers at that time was linked to the increased availability of south-west Asian heroin in Britain. The subsequent identification of problems associated with HIV infection among injecting drug abusers presented a further reason to reconsider the possible merits of maintenance. As a result, the swing away from maintenance was halted, and there has been an increased willingness to prescribe or to consider prescribing methadone to opiate abusers during the latter years of the 1980s. This reversal of the trend away from methadone has even extended to a greater willingness to consider the prescribing of injectable methadone (or rarely heroin) ampoules to opiate-dependent patients.

Methadone is widely used in the UK, although there are marked geographical variations in its availability and in the extent of prescribing. Short- to medium-term oral methadone is offered in most areas of England to assist with the process of withdrawal from opiates; in Wales there is considerable variability in the use of methadone, and there is virtually no availability of oral methadone in Scotland. The variation in the availability of maintenance methadone is much greater and is probably mainly restricted to National Health Service treatment
centres and private practitioners, with only a small number of general practitioners being involved in such long-term maintenance prescribing. The variability in availability of injectable maintenance is even greater with its availability being almost exclusively limited to a few National Health Service drug clinics and a small number (perhaps a dozen) private doctors.

In general, methadone is regarded as one management tool and it is not seen as a major part of the treatment of opiate-dependent users in the UK. While methadone is the opioid most commonly used in the treatment of drug dependence, other drugs may also be used on either a maintenance or detoxification basis. Overall, the UK position with regard to methadone maintenance remains somewhat cautious. This is reflected in a statement offered by the Royal College of Psychiatrists' report Drug Scenes (1987):

"The important questions are empirical not doctrinal .... whether [methadone maintenance] is likely to be the best option for a particular patient in particular circumstances. In Britain today long-term maintenance ... is not greatly favoured but it is possible that worry about AIDS may lead to wider use of long-term methadone if it is shown that such an approach is effective in keeping patients away from injected drugs. There is at present no research to bear on this question and it would certainly be wrong to take AIDS as an excuse for promiscuous prescribing." (pp.188-9).

Australia and the Netherlands stand out as the two countries in this study with the greatest enthusiasm for methadone maintenance. In the Netherlands, methadone maintenance began to establish itself in its present form as a major treatment option in response to the identification of the increased heroin abuse in 1976, and this trend was reinforced by responses to the hepatitis B epidemic in 1984. Both of these events had created a favourable climate for methadone maintenance prior to the appearance of HIV infection which further reinforced the trend. In the Netherlands today, methadone maintenance is firmly established as a major preventive and treatment option, and there is a strongly favourable attitude towards it.

In Australia, there has been a remarkable growth of interest in methadone maintenance during the past decade and this has been accompanied by an expansion of maintenance treatment programmes. The growth in the number of patients in methadone programmes during the past 10 years was greatest for Australia (from about 1,500 to over 7,000), and methadone treatment services are continuing to expand at a rate of about 10-15% per year in most states. The main factor limiting expansion is funding and attempts are currently being made to reduce unit costs in order to increase the rates at which methadone maintenance services can be expanded.

The National Campaign Against Drug Abuse (NCADA) has had a major influence upon recent developments in Australia. This is regarded as having had a dramatic and positive effect on alcohol and drugs at every level - policy, research, prevention, treatment and supply reduction, and it marks a watershed for methadone and drug treatment services. NCADA provided an additional $A100 million over a three-year period (1986-1989) supplemented by state-funding on a cost-share basis. Following a generally satisfactory evaluation in 1988, the Campaign has been extended for a second triennium with an additional $A100 million expenditure. National guidelines for methadone were revised in 1985, 1987, and most recently in May 1989, with a commitment for further revision in 1991. The increased funding has allowed the capacity of methadone (and other) drug treatment services to expand several-fold. Policy and procedures documents have been prepared by most states. Monitoring of the programme has improved immensely. Training of staff has also been improved.
For many years methadone maintenance was a contentious subject in Australia, but the polarization of the early 1980s has been replaced by an increasing consensus regarding the benefits and disadvantages of methadone for individuals and society. A few individuals see methadone substitution as the replacement of one evil drug with another. A few others see methadone as a panacea for illicit drug use. The majority (and increasingly predominant) view is that methadone treatment is a major treatment modality in the management of illicit heroin injectors, and that it is beneficial for both individuals and the community. Methadone is regarded as producing some benefit across a range of domains in some individuals over a period of years, if combined with some form of ancillary assistance though the quantification of these benefits or specification of optimal ancillary assistance is exceedingly difficult. Methadone is generally considered to have few direct negative effects based on its pharmacological properties, but there is broad agreement about the problems which result from attempts to develop and implement a coherent set of policies or the difficulties of developing and providing a methadone service. Methadone is increasingly perceived as an effective intervention to reduce the spread of HIV infection in drug users, and the Australian national report notes that there has been a "spectacular increase .... i.e. a three- to four-fold increase" in methadone maintenance services in the past few years. It is believed that the national trend towards increased use of methadone will continue in the future.

In the Netherlands and Australia, methadone maintenance appears to have been accepted as an effective means of addressing these concerns. This is reflected in the increased willingness to use low-threshold programmes, priority admission, and intermediate (non-abstinence orientated) goals, and in the pressure in Australia to expand methadone treatment services. The other countries are to a greater or lesser extent, more sceptical about the effectiveness and/or relevance of methadone maintenance per se as a preventive or treatment option. But regardless of the differences in national positions about methadone maintenance, there has been an increased awareness in all six countries of the need to consider harm-reduction approaches for drug abusers, and this has been linked to and reinforced by the threat of HIV infection.

The provision of injecting equipment for patients attending methadone treatment programmes (and at special needle exchange schemes) is one clear development that has occurred within the past decade and this can be attributed very largely to national concerns about the spread of HIV infection among drug takers. In Canada the situation has changed from one in which needles and syringes were never given to patients in treatment, to the current position in which injecting equipment is available at all methadone programmes. The same sort of development has occurred in Australia, the Netherlands and the UK, though in the last two countries it has had different historical roots (see earlier comments about the hepatitis B epidemic in the Netherlands, and the provision of syringes to patients on injectable prescriptions in the UK).

The provision of methadone maintenance by private practitioners working outside an established treatment centre is a development that has occurred in several countries including Australia, Canada and the UK. Often this has occurred partly as a result of frustrations about the problems of access to maintenance treatment options within the existing clinic system. The provision of methadone maintenance by private medical practitioners raises several issues. The Canadian report notes that since "methadone, in that province [B.C.] .... is now provided mainly by private practitioners, who provide the treatment in private clinic settings and in their office practices .... there has been a tendency for increased variations in the nature of the treatment, and the process of its administration".

Another issue which has not received adequate consideration is the manner in which the provision of a methadone maintenance option may interact with the provision of and response to other types of drug treatment services. The offer
of opiates or opioid drugs is generally seen as an attractive one by dependent drug abusers. It is unclear to what extent such an offer may influence the choices made by drug abusers seeking treatment about the type of treatment goals which are acceptable. In France (where methadone is used very infrequently), it was noted that the prescription of methadone provokes strong responses from other patients to whom a similar offer has not been made. In Australia, it was reported that: "The overwhelming majority of intravenous drug users in Australia who claim to desire treatment, seek methadone and disclaim other options. Methadone treatment services generally run close to, or sometimes over capacity, while drug-free treatment modalities are often partly empty." This contrasts with the Dutch experience in which "the wide availability of methadone in Amsterdam [coexists with] the still increasing demand for drug-free treatment".

One factor which was suggested as being related to the willingness of drug takers to approach and attend treatment services was the "strictness" of programme requirements. This was noted by Australia and the Netherlands, the two countries which had the most positive views about methadone maintenance and which made the widest use of it. The question of how the offer of maintenance drugs may affect the response of drug abusers to other treatment options is a matter of great importance in terms of the planning and delivery of national treatment services. The present study touches upon this question but does not provide any clear answer. The issue is of sufficient significance to deserve further investigation.

One point that is emphasized by the French, the Dutch and the UK reports, and one which has been made elsewhere (Gossop and Grant, 1990), is that the drug-abusing population is a heterogeneous group with widely differing characteristics, problems and needs. In order to respond effectively to the needs of these differing individuals it is necessary to have a range of responses which are both accessible and also flexible. Whereas there is considerable enthusiasm for methadone maintenance in some countries, others continue to remain somewhat sceptical about its role in the prevention and treatment of drug problems. Even within methadone programmes, however, there is broad agreement upon the need for the provision of psychosocial, health care and other services, in addition to the simple matter of dispensing the drug itself. This requirement was identified within the present study and has also been discussed by Uchtenhagen (1990) and Burgess et al., (1990).

8. Issues for research and programme development

It seems likely that methadone maintenance (and possibly other forms of maintenance) will be an important issue for some years to come. This treatment option is seen as having particular relevance to concerns about the prevention and management of health problems and, in particular, HIV infection among drug abusers. However, many important questions about maintenance remain unanswered. One of the most central questions, of course, is that of treatment effectiveness. Many research studies have already attempted to evaluate the effectiveness of maintenance and others are currently being conducted. These are providing a clearer view of what sort of outcome effects may be expected for drug abusers in maintenance programmes. However, so long as maintenance remains a "black box" with its contents unknown, it will be difficult to discover the processes that contribute to any observed effects of treatment.

The present study provides information about the content and structure of methadone programmes within six countries. These countries were selected to provide a range of national views and practices regarding methadone, and it is hoped that these data will help to illuminate some of the factors related to the uses of methadone treatments. However, since the present six-country sample cannot be expected to be representative of other countries, it is unclear to what extent the results may be generalized. A more specific and detailed account of global practices would require a broader study.
There are other issues raised by this study which require further investigation. The distinction between detoxification and maintenance is convenient but in practice it may be simplistic. There are treatment options which are intermediate between these two forms of prescribing. These were noted, particularly in the UK, where methadone may be prescribed for periods of many months, but with an understanding that abstinence remains the goal and often on a gradually reducing basis. A previous WHO meeting provided the following definitions and outlined a number of the options associated with methadone treatment (WHO, 1990):

- **Short-term detoxification** - decreasing doses over one month or less;
- **Long-term detoxification** - decreasing doses over more than one month;
- **Short-term maintenance** - stable doses over six months or less;
- **Long-term maintenance** - stable doses over more than six months.

These responses may be used in the following ways:

- Short-term detoxification;
- Long-term detoxification;
- Short-term maintenance followed by short-term detoxification;
- Long-term maintenance followed by long-term detoxification;
- Short-term maintenance followed by long-term detoxification;
- Long-term maintenance followed by short-term detoxification.

One aspect of methadone maintenance that has been neglected in research studies is the manner in which the progress of treatment is managed on a case-by-case basis. How are treatment goals established for patients in the maintenance programmes? Are goals set according to programme or policy requirements, or are they in some way tailored to the needs of the individual? Are goals set by the programme or with the mutual consent of patient and programme staff? How is treatment monitored? How is treatment terminated? It is sometimes implicitly assumed (both by proponents and opponents of maintenance prescribing) that maintenance is of indefinite duration. It should be clear from the options described above that this need not be the case, and in the present study it was found that most countries did in fact use time-limited maintenance options for at least some patients. In addition, some patients will drop out of treatment or be discharged from treatment for the infringement of programme rules. Other patients may decide or be persuaded to give up drugs. In some programmes, there are time limits to prescribing. Very little is known about the details of when, how and why treatment is terminated. This is a matter of considerable importance since it may itself be a factor related to outcome.

The evaluation of treatment effectiveness is an important research question, but in order to facilitate evaluative research, and to improve upon the delivery and impact of current treatments, a clear explication and understanding of the processes involved in maintenance treatments is required.

Whilst many of the issues highlighted in this section of the report can usefully be pursued through research in a single country, or even within a single clinical setting, there are some issues which particularly lend themselves to a cross-national or international approach. It is clear, for example, that the effectiveness of methadone treatment programmes could be significantly influenced by cultural variables, and that what works well in one setting could be much less effective in a different cultural setting. Only carefully designed cross-national studies can elucidate what these variables might be and how powerful they are.
Equally, cross-national research can sometimes take advantage of naturally occurring experiments, such as the situation where two neighbouring countries, which share many cultural similarities, have chosen very different approaches to the methadone question. In such circumstances, it may be possible to design studies which will clarify in a specially helpful way a number of the research questions raised earlier in this section.

It is part of the role of WHO to promote relevant research and to offer technical support in its realization. The kinds of studies described in the preceding paragraph are only examples of what could be achieved. There is a broader research issue which relates to the use of drugs (including, but not confined to, substitution drugs) in the treatment of drug dependence. The present study illuminates only one small corner of this important issue, but may assist in establishing an approach which could be used in addressing the issue as a whole.

The present study does, for example, demonstrate how policies and programmes related to drug dependence treatment can change over time. It is, however, clear that this process of change is not invariably logical or driven by the best available scientific data. Just as often change occurs in response to popular or political concerns, or in pursuit of a particular ideological perspective. WHO has a special role to play in identifying the criteria that could contribute to a more rational basis for revising policies and developing programmes in this area. Whilst this could be an important contribution to planning in any country with a drug abuse problem, it is likely to be of especial relevance to developing countries. The present study included only one developing country; this reflects the fact that, as yet, few developing countries have chosen to make methadone available, either for detoxification or for larger-term maintenance. There is, however, considerable emerging interest. In considering the question of criteria for national planning on drug dependence treatment, particular attention needs to be given to the special needs of developing countries.

It is, of course, premature to be talking about an international consensus on methadone. There still remain important differences between national perspectives. But what the present study does, by opening the "black box" of the treatment process, is to take us all an important step closer to achieving that elusive consensus. As such, it represents a contribution towards WHO's continuing efforts to promote better treatment for those suffering the health problems of drug dependence.

Acknowledgements

The authors wish to thank those people who acted as key informants for each of the countries in this study: Dr A. Wodak (Australia), Dr J. Peacey (Canada), Dr M.-J. Taboada (France), Dr P. Geerlings (Netherlands), Dr Vichai Poshyachinda (Thailand), and Dr J. Strang (UK).
References


ANNEX

WORLD HEALTH ORGANIZATION

METHADONE UPDATE FORM

COUNTRY

RESPONDENT

DATE

ABOUT THIS FORM:

The Methadone Update Form contains 21 questions asking about the situation in your country with regard to the use of methadone. The form attempts to elicit information about the current situation with regard to methadone as a maintenance or substitution drug, and in particular, about recent trends and developments. Most of the 21 questions take the form of asking:

i) What is the situation now?

ii) Have there been any changes in the situation within the past 10 years (and if so, when)?

iii) What was the situation before any such changes?

Sometimes you will be asked to respond in terms of fixed categories, and sometimes to provide a very brief (one or two sentences) description.

It is possible that this form may pose problems for you in trying to describe “national” trends where there may be marked local variation in clinical services. Often it will be necessary for you to use your own judgement as to what should count as a “typical” or “representative” answer. There will also be questions asking for numbers where it may be difficult to provide exact figures. Please remember that we wish to use these figures primarily to gauge trends, and do not intend to cite them as quantitative measures in their own right. Please be patient with us for asking you to answer such difficult and complex questions in so simple a manner. Only when it is absolutely impossible or would be seriously misleading should you leave questions unanswered. When this is unavoidable, please try to incorporate any missing information into the space provided for “Comments” or provide the information in a written form in your National Report.
NATIONAL REPORT

The National Report should present the information that you feel is especially relevant to the use of, and to changes in the use of methadone as a maintenance drug. In some cases, this information will be material that was not asked for or which was too complex to present in the Methadone Update Form. The National Report should also present explanations and broader discussions of events and trends than could be incorporated in the Methadone Update Form. Give statistics and quantitative data where these are available, but you should also present information that you feel gives an accurate impression of the situation in your country, even if it is not backed up by statistical data.

You will notice that no definition of "maintenance" is offered for this project. This is partly because several questions on the Methadone Update Form enquire about the manner in which methadone is prescribed for maintenance purposes. However, it would be very useful if you could indicate your own understanding of what constitutes "maintenance" in your country.

Some issues upon which your National Report may wish to comment:-

- the size of the problem
- the impact of maintenance programmes
- is methadone ever prescribed in injectable form
- positive and negative effects of maintenance
- issues associated with the delivery of methadone maintenance services
- whether drugs other than methadone are prescribed to people dependent upon opioids
- in what type of settings is methadone maintenance prescribed (e.g. in separate/independent clinics, by family doctors, by doctors in private practice for a fee)
- what sort of national pressures have increased or decreased the availability of methadone maintenance as a treatment option
- the extent to which the availability of methadone is increased/decreased by cost, national or federal laws, professional regulations or other restrictions upon the use of the drug.

There are undoubtedly many other issues which you will wish to include in the National Report.
1. 1) **Current Situation**: What is your best estimate of the number of opiate dependent persons in your country?

2) Can you describe the trends or changes in the number of opiate dependent persons that have occurred during the past 10 years?

3) Prior to that time (see 2.1), how many opiate-dependent persons were receiving maintenance treatment (per year)?

<table>
<thead>
<tr>
<th>Category</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Less than 100</td>
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<td>100-1,000</td>
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<td>1,000-2,000</td>
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<td>2,000-5,000</td>
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<td>5,000-10,000</td>
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<tr>
<td>More than 10,000</td>
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</tbody>
</table>

2. 1) **Current Situation**: How many opiate-dependent persons are receiving maintenance treatment (approx. per year)?

2) Have there been any changes in the numbers of opiate-dependent persons receiving maintenance treatment within the last 10 years?

   - YES [   ]
   - NO [   ]

(Describe briefly)

3. **Current Situation**: If demographic statistics are available regarding the characteristics of persons receiving methadone maintenance treatment (e.g., age, sex, pattern of use, duration of habit), please provide information.

4) What (in your opinion) led to these changes?

Include, if possible, year when these changes occurred:  

[v] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No

[ ] Yes [ ] No
6. Have there been any changes in characteristics of persons receiving methadone maintenance treatment within the last 10 years? Describe briefly:

5. 1) **Current Practice:** Is methadone used for the *decarification* of opiate dependent persons?

<table>
<thead>
<tr>
<th>Not used</th>
<th>Rarely used</th>
<th>Occasionally used in some centres</th>
<th>Commonly used in some centres</th>
<th>Used in most centres</th>
<th>Used by all (or virtually all) centres</th>
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</table>

i) Have there been any changes in practice regarding the use of methadone for *decarification* within the last 10 years?

YES [___] NO [___]

(Describe briefly) .................................................................

Include, if possible, year when these changes occurred: [___]

5. 1i) **Current Situation:** What percentage of injecting drug takers in your country are currently HIV seropositive?

[____%]

1ii) When (year) was HIV infection among injecting drug takers first identified as a national problem?

1iii) Prior to that time, was methadone used for the *decarification* of opiate addicts?

<table>
<thead>
<tr>
<th>Not used</th>
<th>Rarely used</th>
<th>Occasionally used in some centres</th>
<th>Commonly used in some centres</th>
<th>Used in most centres</th>
<th>Used by all (or virtually all) centres</th>
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**COMMENTS, ADDITIONAL INFORMATION, ETC.**
7. **Current Practice:** How widely is methadone prescribed for opiate dependent persons on a long-term or maintenance basis?

<table>
<thead>
<tr>
<th>Not used</th>
<th>Rarely used</th>
<th>Occasionally used in some centres</th>
<th>Commonly used in some centres</th>
<th>Used in most centres</th>
<th>Used by all (or virtually all) centres</th>
</tr>
</thead>
</table>

8. **Current Practice:** What is the most common maintenance form in which methadone is prescribed? (Please tick relevant boxes)

- Injectable capsules
- Tablets
- Linctus/syrup
- Other (specify)

11. Have there been any changes in clinical practice regarding methadone maintenance prescribing within the last 10 years?

- YES [___]
- NO [___]

(Describe briefly) .................................................................................................................................
.................................................................................................................................
.................................................................................................................................
Include, if possible, year when these changes occurred: [___]

111. Prior to that time, was methadone prescribed for opiate addicts on a long-term or maintenance basis?

<table>
<thead>
<tr>
<th>Not used</th>
<th>Rarely used</th>
<th>Occasionally used in some centres</th>
<th>Commonly used in some centres</th>
<th>Used in most centres</th>
<th>Used by all (or virtually all) centres</th>
</tr>
</thead>
</table>

111. Prior to that time, what was the most common form in which methadone was prescribed?

- Injectable capsules
- Tablets
- Linctus/syrup
- Other (specify)
9. 1) **Current Practice**: How is methadone dispensed?

<table>
<thead>
<tr>
<th>Method</th>
<th>NEVER</th>
<th>SELLIN</th>
<th>SOMETIMES</th>
<th>OFTEN</th>
<th>ALWAYS</th>
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<tbody>
<tr>
<td>Consumed under supervision at the clinic/centre</td>
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<tr>
<td>Consumed without supervision at the clinic/centre</td>
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<tr>
<td>Collected at the clinic/centre to take away</td>
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<tr>
<td>Prescription given, methadone to be dispensed by pharmacy</td>
<td></td>
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<tr>
<td>Other</td>
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11) Have there been any changes in practice regarding the dispensing of methadone within the last 10 years?

- **YES** [__]  
- **NO** [__]

(Describe briefly) .................................................................
...........................................................................................................

Include, if possible, year when these changes occurred: [__]

iii) Prior to that time, how was the methadone dispensed?

<table>
<thead>
<tr>
<th>Method</th>
<th>NEVER</th>
<th>SELLIN</th>
<th>SOMETIMES</th>
<th>OFTEN</th>
<th>ALWAYS</th>
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<tr>
<td>Consumed under supervision at the clinic/centre</td>
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<td>Consumed without supervision at the clinic/centre</td>
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<td>Collected at the clinic/centre to take away</td>
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<tr>
<td>Prescription given, methadone to be dispensed by pharmacy</td>
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<tr>
<td>Other</td>
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</table>

10. 1) To what extent is there a problem of diversion of methadone from maintenance programmes onto the black market?

<table>
<thead>
<tr>
<th>Extent</th>
<th>No problem</th>
<th>Insignificant</th>
<th>Some problem</th>
<th>Major problem</th>
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(Describe briefly) .................................................................
...........................................................................................................

11) Have there been any changes in the problem of diversion of methadone from maintenance programmes onto the black market within the last 10 years?

- **YES** [__]  
- **NO** [__]
(Describe briefly) .................................................................

.................................

Include, if possible, year when these changes occurred: [_____

iii) Prior to that time, to what extent was there a problem of diversion of methadone from maintenance programmes onto the black market?

<table>
<thead>
<tr>
<th>No problem</th>
<th>Insufficient</th>
<th>Same problem</th>
<th>Major problem</th>
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11. Current Practice: What sort of clinical professions are most likely to staff maintenance programmes?

<table>
<thead>
<tr>
<th>profession</th>
<th>NEVER WORK ON PROGRAMMES</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Often</th>
<th>ALWAYS WORK ON PROGRAMMES</th>
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<tr>
<td>Nurses</td>
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<tr>
<td>Psychologists</td>
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<tr>
<td>Social Workers</td>
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<tr>
<td>Physicians</td>
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<tr>
<td>Psychiatrists</td>
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<tr>
<td>Others (specify)</td>
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</table>

ii) Have there been any changes in the staffing of maintenance programmes in the last 10 years?

YES [_____]  NO [_____]  

(Describe briefly) .................................................................

.................................

Include, if possible, year when these changes occurred: [_____

iii) Prior to that, what sort of professions were most likely to staff maintenance programmes?

<table>
<thead>
<tr>
<th>profession</th>
<th>NEVER WORK ON PROGRAMMES</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Often</th>
<th>ALWAYS WORK ON PROGRAMMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychologists</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Workers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physicians</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychiatrists</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
12. (i) **Current Practice:** To what extent are different criteria used for acceptance onto maintenance programmes?

<table>
<thead>
<tr>
<th></th>
<th>No centres</th>
<th>Few centres</th>
<th>Some centres</th>
<th>Many centres</th>
<th>All centres (or virtually all)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No criteria for acceptance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>No centres</th>
<th>Few centres</th>
<th>Some centres</th>
<th>Many centres</th>
<th>All centres (or virtually all)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimal criteria</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>No centres</th>
<th>Few centres</th>
<th>Some centres</th>
<th>Many centres</th>
<th>All centres (or virtually all)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strict/relatively strict criteria</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>No centres</th>
<th>Few centres</th>
<th>Some centres</th>
<th>Many centres</th>
<th>All centres (or virtually all)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority acceptance for specified groups (e.g. pregnancy, HIV seropositive)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(ii) Have there been any changes in practice regarding acceptance criteria within the last 10 years?

**YES** [___]  **NO** [___]

(iii) Prior to that time, were different criteria used for acceptance onto maintenance programmes?

<table>
<thead>
<tr>
<th></th>
<th>No centres</th>
<th>Few centres</th>
<th>Some centres</th>
<th>Many centres</th>
<th>All centres (or virtually all)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No criteria for acceptance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>No centres</th>
<th>Few centres</th>
<th>Some centres</th>
<th>Many centres</th>
<th>All centres (or virtually all)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimal criteria</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>No centres</th>
<th>Few centres</th>
<th>Some centres</th>
<th>Many centres</th>
<th>All centres (or virtually all)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strict/relatively strict criteria</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>No centres</th>
<th>Few centres</th>
<th>Some centres</th>
<th>Many centres</th>
<th>All centres (or virtually all)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority acceptance for specified groups (e.g. pregnancy, HIV seropositive)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Describe briefly**  

Include, if possible, year when these changes occurred: [___]
13. i) **Current Practice:** To what extent do different clinics/centres set upper time limits for duration of maintenance prescribing?

<table>
<thead>
<tr>
<th>Time Limit</th>
<th>A few clinics/centres</th>
<th>Some clinics/centres</th>
<th>Most clinics/centres</th>
<th>All clinics/centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 3 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-6 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-12 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 2 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No upper limit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ii) Have there been any changes in practice regarding upper time limits within the last 10 years?

YES [___] NO [___]

(Describe briefly) ________________________________________________________

Include, if possible, year when these changes occurred: [___]

iii) Prior to that year, were time limits set for duration of maintenance prescribing?

<table>
<thead>
<tr>
<th>Time Limit</th>
<th>A few clinics/centres</th>
<th>Some clinics/centres</th>
<th>Most clinics/centres</th>
<th>All clinics/centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 3 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-6 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-12 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 2 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No upper limit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14. i) **Current Practice:** Are upper dose limits set for prescribing methadone?

<table>
<thead>
<tr>
<th>Dose Limit</th>
<th>A few clinics/centres</th>
<th>Some clinics/centres</th>
<th>Most clinics/centres</th>
<th>All clinics/centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 30 mg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-60 mg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-100 mg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100-150 mg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 150 mg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No upper limits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

COMMENTS, ADDITIONAL INFORMATION, ETC.
ii) Have there been any changes in practice regarding upper dose limits within the last 10 years?

YES [___]  NO [___]

(Describe briefly)

Include, if possible, year when these changes occurred: [___]

iii) Prior to that time, were upper dose limits set for prescribing methadone?

<table>
<thead>
<tr>
<th></th>
<th>A few clinics/centres</th>
<th>Some clinics/centres</th>
<th>Most clinics/centres</th>
<th>All clinics/centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 30 mg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-60 mg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-100 mg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100-150 mg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 150 mg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No upper limits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15. i) Current Practice: Is urine screening used to detect the use of drugs other than methadone?

<table>
<thead>
<tr>
<th>Not used</th>
<th>Rarely used</th>
<th>Occasionally used in some centres</th>
<th>Commonly used in some centres</th>
<th>Used in most centres</th>
<th>Used by all (or virtually all) centres</th>
</tr>
</thead>
</table>

ii) Have there been any changes in practice regarding urine screening within the last 10 years?

YES [___]  NO [___]

(Describe briefly)

Include, if possible, year when these changes occurred: [___]

iii) Prior to that time, was urine screening used to detect the use of drugs other than methadone?

<table>
<thead>
<tr>
<th>Not used</th>
<th>Rarely used</th>
<th>Occasionally used in some centres</th>
<th>Commonly used in some centres</th>
<th>Used in most centres</th>
<th>Used by all (or virtually all) centres</th>
</tr>
</thead>
</table>
16. i) Current Practice: Are sanctions applied where drug use other than methadone is detected?

YES [___]    NO [___]

(Please specify) ..................................................................................................................

...........................................................................................................................................

...........................................................................................................................................

ii) Have there been any changes in practice regarding sanctions within the last 10 years?

YES [___]    NO [___]

(Describe briefly) ..................................................................................................................

...........................................................................................................................................

Include, if possible, year when these changes occurred: [___]

(iii) Prior to that time, were sanctions applied where drug use other than methadone was detected?

YES [___]    NO [___]

(Please specify which drug(s)) ............................................................................................

...........................................................................................................................................

...........................................................................................................................................

17. i) What sort of behaviour (or programme rule infringements) would lead to someone being removed from a maintenance programme? Please specify.

...........................................................................................................................................

...........................................................................................................................................

...........................................................................................................................................

ii) Have there been any changes in practice regarding the sort of behaviour (or programme rule infringements) which would lead to someone being removed from a maintenance programme within the last 10 years?

YES [___]    NO [___]

(Describe briefly) ..................................................................................................................

...........................................................................................................................................

Include, if possible, year when these changes occurred: [___]

(iii) Prior to that time, what sort of behaviour (or programme rule infringements) would have led to someone being removed from a maintenance programme? Please specify.

...........................................................................................................................................

...........................................................................................................................................

...........................................................................................................................................
18. **Current Practice:** How often do persons receiving maintenance have to attend the clinic/centre?

<table>
<thead>
<tr>
<th></th>
<th>A few clinics/centres</th>
<th>Some clinics/centres</th>
<th>Most clinics/centres</th>
<th>All clinics/centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Twice a week or more</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once a week</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once every 2 weeks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than once every 2 weeks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19. **Current Practice:** Are maintenance prescribing services integrated with a range of other drug treatment/counselling services?

<table>
<thead>
<tr>
<th>Monthly Yes</th>
<th>Semi-monthly Yes</th>
<th>Once a month Yes</th>
<th>Two times a month Yes</th>
<th>Three times a month Yes</th>
<th>Four times a month Yes</th>
<th>Never Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes (___)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No (___)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Describe briefly) ..............................................................................................................

Include, if possible, year when changes occurred: __________

19. **Prior to that time, how often did persons receiving maintenance have to attend the clinic/centre?**

<table>
<thead>
<tr>
<th></th>
<th>A few clinics/centres</th>
<th>Some clinics/centres</th>
<th>Most clinics/centres</th>
<th>All clinics/centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Twice a week or more</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once a week</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once every 2 weeks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than once every 2 weeks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19. 14) **Has there been any change in the extend to which maintenance services have been integrated with drug treatment/counselling services within the last 10 years?**

<table>
<thead>
<tr>
<th>Monthly Yes</th>
<th>Semi-monthly Yes</th>
<th>Once a month Yes</th>
<th>Two times a month Yes</th>
<th>Three times a month Yes</th>
<th>Four times a month Yes</th>
<th>Never Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes (___)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No (___)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments, Additional Information, etc.
(Describe briefly) .................................................................

.................................................................

Include, if possible, year when these changes occurred: [____]  

iii) Prior to that time, were maintenance prescribing services integrated with a range of other drug treatment/counselling services?

<table>
<thead>
<tr>
<th>NEVER</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

20.  i) To what extent do people on maintenance programmes receive health counselling (e.g. in relation to HIV seropositivity, hepatitis B, other infections, safe sex)?

Not done routinely on programmes [____]

On a few programmes [____]

On some programmes [____]

On most programmes [____]

On all programmes [____]

For which condition is this counselling provided?

.................................................................

.................................................................

iii) Prior to that time, to what extent did people on maintenance programmes receive health counselling?

Not done routinely on programmes [____]

On a few programmes [____]

On some programmes [____]

On most programmes [____]

On all programmes [____]

21.  i) Are needles and/or syringes made available to persons on maintenance programmes?

<table>
<thead>
<tr>
<th>NEVER</th>
<th>A FEW PROGRAMMES</th>
<th>MANY PROGRAMMES</th>
<th>ALL PROGRAMMES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

COMMENTS, ADDITIONAL INFORMATION, ETC.
(i) Has there been any change in the availability of syringes to persons on maintenance programmes within the last 10 years?

   YES [___]    NO [___]

(Describe briefly) ................................................................................................
................................................................................................
................................................................................................

Include, if possible, year when these changes occurred: [___]

(ii) Prior to that time, were needles and/or syringes made available to persons on maintenance programmes?

<table>
<thead>
<tr>
<th>NEVER</th>
<th>A FEW PROGRAMS</th>
<th>VARIABLE FROM PROGRAMME TO PROGRAMME</th>
<th>MANY PROGRAMMES</th>
<th>ALL PROGRAMMES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

COMMENTS / ADDITIONAL INFORMATION, ETC.