

***Methadone Treatment Programmes  
in the United States***

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## EXECUTIVE SUMMARY

1. All narcotic treatment programmes in the United States are under Federal regulations which govern their admission process, provision of programme services and facilities, responsibility, dosage level, take-home medication, frequency of urinalysis, reporting and security system.
2. Each methadone maintenance or detoxification programme must design a treatment plan for each methadone treated patient. Each treatment plan has to provide a comprehensive range of medical and rehabilitative services to its patients.
3. Methadone treated patients may continue to receive counselling after they complete the treatment. If the methadone treatment programme does not have post-treatment services, the patient is referred elsewhere for continuing care. This patient's progress at the referral agency has to be periodically updated.
4. The State of Maryland has smaller ratios of drop-out cases to admission cases and re-admission cases to admission cases than that of Hong Kong in the period 1993-1995. This shows that the methadone treated patients in the State of Maryland were maintained in a more stable manner than the methadone treated patients in Hong Kong.
5. The detoxification programmes in the State of Maryland have achieved a higher detoxification rate than that of Hong Kong. In 1995, 415 out of a total of 1 586 patients in the State of Maryland had been successfully detoxified whereas in Hong Kong, only 227 patients had been successfully detoxified since 1972.
6. Extensive research studies show that in the United States, the methadone treatment programmes had successfully helped patients reduce using narcotic drugs, involvement in criminal activities and the transmission of HIV and other infectious diseases. Research also shows that the employment situation of patients improved after they received treatment. It suggests that the methadone treatment programmes, to a certain extent, are able to help patients restore to a normal and more healthy life.

## Acronyms

AIDS	Acquired Immuno-Deficiency Syndrome
CFR	Code of Federal Regulations
CSAT	Center for Substance Abuse Treatment
DEA	Drug Enforcement Administration
EMMT	Enhanced Methadone Maintenance Treatment
FDA	Food and Drug Administration
HIV	Human Infectious Virus
HK	Hong Kong
MMMT	Minimum Methadone Maintenance Treatment
MTP	Methadone Treatment Programme
NIDA	National Institute on Drug Abuse
SARDA	Society for The Aid and Rehabilitation of Drug Abusers
SHSAA	State Health and Substance Abuse Authorities
SMMT	Standard Methadone Maintenance Treatment
US	United States

# **METHADONE TREATMENT PROGRAMMES IN THE UNITED STATES**

## **PART 1 - INTRODUCTION**

### **1. Background**

1.1 A paper entitled “Methadone Treatment Programmes in Hong Kong and Selected Countries” was presented to the LegCo panels on Health Services and Security on April 15, 1996. The paper concluded that the Hong Kong (HK) Methadone Treatment Programmes (MTPs) were not effective in helping addicts abstaining from drugs. Moreover, they could not help improve employment situation and reduce crime. Nonetheless, the paper cited research findings that the MTPs in the United States (US) were more effective in reducing crime rates, HIV/AIDS exposure, economic and social burdens.

1.2 Members of the joint panels were interested in the operation of the US MTPs and they requested the Research and Library Services Division to conduct a research into the efficacy of the US MTPs.

### **2. Scope of Study**

2.1 Part 2 of this paper gives a brief introduction of the various US MTPs.

2.2 Part 3 discusses the operation of the MTPs. Emphasis is placed on the admission procedures and provision of services.

2.3 Part 4 examines the efficacy of the US MTPs. It also compares the drop-out rate, re-admission rate and number of successful detoxified cases in the US and HK.

### **3. Methodology**

3.1 The study involves a combination of literature review, data collection, data analysis and consultation.

3.2 Requests for data on the US MTPs were sent to 44 different Federal and States Offices. As of to date, 50% of them (22 Offices) have responded to our enquiries. Internet was also extensively used to search for information.

3.3 Local researchers currently conducting research in this area were consulted to discuss the performance of the local and the US MTPs.

## **PART 2 - METHADONE TREATMENT PROGRAMMES**

### **4. Introduction**

4.1 In the US, each State runs a different number of narcotic treatment programmes depending on the number of drug abusers. While methadone treatment is only one of the narcotic treatment services available to persons with opioid addiction, it is currently the most frequently used substitution therapy. Some of these treatment programmes are funded by the State while other programmes are private and run-for-profit.

4.2 The responsibility for approving, disapproving, monitoring, and setting standards for narcotic treatment programmes is shared by both State and Federal Agencies. They include: the State Health and Substance Abuse Authorities (SHSAA), the Drug Enforcement Administration (DEA), the Food and Drug Administration (FDA), the National Institute on Drug Abuse (NIDA) and the Center for Substance Abuse Treatment (CSAT).

4.3 All narcotic maintenance and detoxification treatment programmes must comply with the Federal narcotic treatment regulations. These regulations specify the details of the narcotic treatment programmes. For example, they specify the responsibility, operation procedures, programme facilities and services, reporting and security system of the narcotic treatment programmes. These Federal regulations are set forth in the Code of Federal Regulations (CFR), Title 21.

4.4 Treatment programmes registered with DEA are inspected every three years. Actions against those programmes which are not in compliance range from an investigator warning to registration revocation.

### **5. Objectives of the Methadone Treatment Programmes**

5.1 The Committee on Federal Regulation of Methadone Treatment of the Institute of Medicine identifies three objectives of the MTPs<sup>1</sup>. The first objective is to reduce the severity of the addiction and self-injection of heroin. This will allow the addict to restore and maintain an acceptable level of medical and social functioning.

5.2 The second objective is to reduce crime and enhance public safety. This is served by reducing the addict's need to engage in crime in order to support his drug purchases.

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<sup>1</sup> Institute of Medicine, *Federal Regulation of Methadone Treatment*. National Academy Press: 1995. pages 20-21.

5.3 The third objective is to safeguard public health, including the health of persons who do not abuse drugs. This intends to reduce the transmission of the HIV virus and other infectious diseases such as hepatitis and tuberculosis by addicts through injection of heroin, needle sharing or sex-for-drugs transactions.

## **6. Types of Methadone Treatment Programmes**

6.1 According to the CFR, there are two types of MTPs: detoxification therapy and maintenance therapy. Detoxification treatment means the dispensing of methadone in decreasing doses to an individual and bringing the individual to a narcotic drug-free state. Maintenance treatment means the dispensing of methadone at relatively stable dosage levels with an aim of treating individuals who are dependent on heroin or other morphine-like drugs.

### Detoxification Treatment

6.2 There are two types of detoxification treatment<sup>2</sup>, namely, short-term detoxification and long-term detoxification.

6.3 Short-term detoxification treatment is for a period not in excess of 30 days. Long-term detoxification treatment is for a period of more than 30 days but not in excess of 180 days.

### Maintenance Treatment

6.4 There are also two types of maintenance treatment<sup>3</sup>, namely, comprehensive maintenance treatment and interim maintenance treatment.

6.5 Comprehensive maintenance treatment is provided in conjunction with a comprehensive range of appropriate medical and rehabilitative services<sup>4</sup>. Interim maintenance treatment is provided in conjunction with appropriate medical services while the patient is awaiting transfer to comprehensive maintenance treatment.

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<sup>2</sup> Code of Federal Regulations, Title 21, part 291.505.

<sup>3</sup> Ibid.

<sup>4</sup> Services include medical evaluations, counselling, rehabilitative and other social programmes (e.g., vocational and educational guidance, employment placement), which help patients become a productive member of society.

## **PART 3 - OPERATIONS OF METHADONE TREATMENT PROGRAMMES**

### **7. Admission Criteria**

7.1 The CFR specifies the admission criteria of MTPs. For example, it states that persons who are currently physiologically dependent upon a narcotic drug and become so for at least one year can be admitted to the programme.

7.2 Persons aged under 18 who had two documented attempts at short-term detoxification or drug-free treatment are eligible for maintenance treatment. No person under 18 years of age can be admitted to a maintenance programme unless he has parental consent. Persons under the age of 16 must also have the approval of the Federal and State authorities before they can be admitted to the programme.

### **8. Patient Withdrawal and Termination**

8.1 Each State has her own discretion to determine patient termination. For example, in the State of Alaska, any patient who fails to appear at the clinic for three consecutive days without informing the staff will be assumed to have voluntarily withdrawn from the treatment.

8.2 In the State of Pennsylvania, if the patient has been absent for seven days consecutively without cause or has failed to follow his treatment plan or has had consistently positive urine test results, the methadone programme may involuntarily terminate the patient from the treatment.

### **9. Re-admission**

9.1 The re-admission of the previous treated patient is decided by the programme physician. If the physician finds re-admission of the patient to the MTPs is medically justified, the patient will be re-admitted.

### **10. Admission / Re-admission Process**

10.1 Each prospective patient must complete one initial drug screening test and is required to have a medical evaluation by a programme physician on admission to a programme. Then the patient will be interviewed by a well-trained programme counsellor to assess his / her psychological and sociological background in order to determine the appropriate treatment plan for the patient.

## **11. Treatment Plan**

11.1 Different programmes have different standards of treatment plans. Take the Comprehensive Maintenance Treatment Programme as an example. A primary counsellor is assigned to develop, implement and evaluate the patient's treatment plan. He is also required to monitor the patient's progress and give assessment of the patient within four weeks after admission.

11.2 The programme physician or the primary counsellor reviews and re-evaluates the patient's treatment plan at least once each 90 days during the first year of the treatment, and then at least twice a year after the first year of continuous treatment.

11.3 The Treatment Plan provides a comprehensive range of medical and rehabilitative services to its patients especially during the first three years of treatment.

11.4 These standards of treatment plans apply to other MTPs like Interim Maintenance Treatment Programme and Detoxification Programme with some exceptions specified in the CFR.

## **12. Drug Screening Urinalysis**

12.1 Urinalysis is an effective clinical tool checking for the presence of other drugs in the patient's urine. Positive results of the test indicate that the patient has relapsed to opiates. The results can also be used to monitor the patient's drug-using patterns before and during treatment.

12.2 Currently, regulations promulgated by FDA require an admission urinalysis and eight random urine tests during the first year of treatment for the presence of methadone and drugs of abuse. In subsequent years, at least quarterly urinalyses are required, except for those patients who receive a 6-day supply of take-home medication; those patients must have their urine taken and screened at least monthly.

12.3 When the patient is found to be using illicit opiates after treatment has begun (i.e., the urine test is positive for the presence of illicit drugs), the programme counsellor will try to rely upon clinical counselling techniques to relieve the stresses and resolve conflicts that the patient is likely experiencing. If the counselling techniques are persistently unsuccessful, the patient will then be considered for administrative withdrawal.

### 13. Dosage

13.1 The CFR specifies that the initial dose of methadone shall not exceed 30 milligrams and that the total dose for the first day shall not exceed 40 milligrams unless the Medical Director of MTP dictates otherwise.

13.2 In the State of Pennsylvania, no patient can be administered methadone at doses above 80 milligrams per day without prior written approval of the Executive Director of the Governor's Council of the State of Pennsylvania. Dosage levels shall be reviewed at least twice a year.

13.3 For most States in the US, it is the programme physician who decides on the proper dosage level of the patients.

### 14. Take-home Medication

14.1 There are times that methadone treated patients may need a more flexible schedule than daily clinic attendance. Take-home medication refers to those doses of methadone consumed by the patient without direct observation by a medical provider.

14.2 There are strict regulations governing who is eligible to take methadone home. For example, the Methadone Regulation of State of Ohio states that methadone treated patients who have been enrolled in the methadone maintenance programme for at least 90 days and have demonstrated a certain degree of responsibility *are eligible for consideration* by the Medical Director for a specific amount of take-home doses. Patient who has physical disability which interferes with his ability to come to the clinic daily may also be given home delivery of methadone.

14.3 However, the Medical Director can write a stop order for take-home doses of methadone if the patient is absent from or misses a schedule counselling session after receiving a take-home dose of methadone.

### 15. Staffing Level

15.1 Strength of staff varies according to the number of patients. The CFR requires that all programmes must have a Medical Doctor who oversees the medical operation of the programmes and conducts physical examinations. The State Methadone Maintenance Treatment Guidelines recommended that programmes which are not treating a large number of patients in the maintenance treatment should maintain a staffing level ratio of at least 1 counsellor to 50 patients.

15.2 In the State of Florida, there is at least 1 counsellor for every 45 patients. Patients who need specialized services such as psychiatric, vocational services, etc., are referred elsewhere unless the programme is a comprehensive maintenance treatment programme. All programmes have at least 1 nurse per 50 patients. These nurses are responsible for dispensing the medication.

15.3 In the State of Pennsylvania, there is at least 1 full-time physician for every 300 patients. All programmes shall maintain a ratio of at least 1 full-time counsellor or therapist to 40 patients.

15.4 In general, physicians account for 13% of the staffing in programmes, with 27% being nurses and the remaining devoted to clinical personnel, including masters level and bachelors level clinicians. Therefore, the greatest costs associated with methadone treatment are salaries and related health care and insurance benefits.

## **16. Provision of Services**

16.1 The CFR requires that each narcotic treatment programme should provide medical and rehabilitative services and programmes<sup>5</sup>. These services are normally made available at the primary outpatient facility, but the programme sponsor may enter into a formal agreement with private or public agencies for these services if they are available elsewhere. The CFR also requires that such facilities should be easily accessible to the patient and the patient's progress at the referral agency should be periodically updated.

### Counselling Services

16.2 In the State of Florida, newly admitted patients receive more intense counselling services. For example, patients on phases<sup>6</sup> 1 and 2 must have at least one face-to-face counselling session per week. Patients on phases 3 and 4 must have at least one session every two weeks. Patients on phases 5 and 6 must have at least one session per month.

### Post-treatment Services

16.3 Patients may continue to receive counselling after they complete the maintenance treatment. Most programmes in the State of Florida have an aftercare counselling service. If the programmes do not have such a service, the patient is referred elsewhere for continuing care.

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<sup>5</sup> Code of Federal Regulations, Part 291.505.

<sup>6</sup> A phase level may be based on time-in-treatment or it may indicate the number of take-out bottles a patient is entitled to receive.

16.4 In the State of Alaska, all methadone maintenance and drug free patients have to enter into relapse prevention aftercare programmes. The aftercare programmes will monitor at least 50% of those patients through a structured self-report questionnaire at 60, 120 and 180 days intervals. Collateral reports will be used to supplement self-report. Follow-up calls will be made to each patient on a bi-monthly basis to update his / her status.

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## PART 4 - THE EFFICACY OF METHADONE TREATMENT PROGRAMMES

### 17. Profile of the Methadone Treated Patients in the US

17.1 According to the Office of National Drug Control Policy, there are nearly 600,000 narcotic addicts in the US. There are currently 42 States providing methadone treatment services to approximately 115,000 opioid addicts on any given day<sup>7</sup>.

17.2 Although we had sent letters requesting information on the profile of methadone treated patients to every State with MTPs, only the State of Alaska and the State of Maryland had responded with the data sheet. Nonetheless, the two States did not complete the whole data sheet and the following data are drawn from the data available to us.

#### Number of Registered Methadone Treated Patients

17.3 In the State of Maryland, the number of patients registered in the maintenance and detoxification programme has been increasing since 1993. In the period 1993 - 1995, there were average increases of 8% and 21% per year in the methadone maintenance and detoxification programmes respectively. In the same period, the average increase of the number of reported abusers per year was 9%. It indicates that an increasing number of drug addicts had been registered in the methadone detoxification programmes in the period 1993-1995.

#### Sex Distribution

17.4 The greater percentage of these methadone treated patients are male. However, the male to female ratio in the State of Alaska had decreased from 2.2 : 1 in 1993 to 1.78 : 1 in the second quarter of 1996. In the State of Maryland, the ratio had decreased from 1.38 : 1 in 1993 to 1.19 : 1 in the first nine months of the fiscal year<sup>8</sup> 95/96.

#### Age Distribution

17.5 The greater percentage of methadone treated patients are in their late 30's and 40's. In Alaska, the majority are within the age range of 26-40 years. Its proportion of patients under 17 years has been increasing since 1993 (from 11.5% to 14.5% in the second quarter of 1996). The State of Maryland also has similar trend such that more young people are treated with methadone.

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<sup>7</sup> Center for Substance Abuse Treatment. *State Methadone Treatment Guidelines*, DHHS, 1993.

<sup>8</sup> Fiscal year of the State of Maryland starts from 1 July to 30 June.

### Employment Status

17.6 Although the employment status of the majority of the patients (over 65%) in the State of Alaska is unknown to us, in the first half year of 1996, 13% of patients were unemployed, 19% were engaged in various kinds of job (e.g. full-time, part-time, in season employ, etc.). Among the 19% of patients who had jobs, 10% were engaged in a full-time job.

### Current Legal Status

17.7 In the State of Alaska, in the first half year of 1996, about 39% of the patients had no criminal convictions, 10% of them was on parole, 21% belonged to other types of legal status<sup>9</sup> and the remaining 30% of patients whose legal status was unknown to us.

### Number of Convictions

17.8 Among the patients in the State of Alaska who had previous convictions, the number of patients with single conviction (7 681) was slightly higher than that of multiple convictions (6 074) in the first half year of 1996.

## **18. Effectiveness of the Methadone Treatment Programme**

### A Comparison of the Admission, Re-admission and Drop-out Cases of HK and the US

#### *US*

18.1 Table 1 shows the total number of admission, re-admission and drop-out cases of methadone maintenance and detoxification programmes in the State of Maryland.

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<sup>9</sup> Other types of legal status refer to patients who had no legal involvement, deferred prosecution, sentence deferred, rehabilitative leave or were incarcerated.

**Table 1 - Admission, Re-admission and Drop-out Cases in the State of Maryland**

	1993	1994	1995	1996*
Total number of Admission Cases				
Maintenance programmes	3 032	3 608	3 401	2 479
Detoxification programmes	947	1 283	1 435	1 000
Total number of Re-admission Cases				
Maintenance programmes	819	852	830	596
Detoxification programmes	254	413	358	269
Total number of Drop-out Cases				
Maintenance programmes	853	1 094	926	295
Detoxification programmes	439	645	790	501

## Remarks:

1. All years refer to the fiscal years, starting from 1 July to 30 June.
2. \* 1996 data only covers the first nine months of the fiscal year.

Source: Department of Health and Mental Hygiene, Alcohol and Drug Abuse Administration, the State of Maryland

18.2 It is noted that in 1993 - 1995, there were an average increase of 6% per year in the number of admission cases in the maintenance programme and average increase of 23% per year in the number of admission cases in the detoxification programme.

18.3 For re-admission, there were an average increase of 0.7% per year in the maintenance programme in 1993 - 1995 and 19% average increase per year for the detoxification program.

18.4 In 1993 - 1995, the drop out cases of maintenance and detoxification programmes had an average increase of 4% and 34% per year respectively.

*HK*

18.5 Table 2 shows the number of drop-out and re-admissions cases in 1993-1995 in HK MTPs. This table shows that the average increase per year of drop out cases was 4% whereas the average increase per year of re-admission cases was 2%.

**Table 2 - Number of Drop-out Cases and Re-admission 1993-1995 (HK)**

	1993	1994	1995
Drop-out cases	8 805	8 454	9 583
Re-admission	8 235	9 509	8 611

Source: Department of Health, Hong Kong

18.6 Table 3 shows a comparison of the ratio of drop-out cases to admission cases and the ratio of re-admission cases to admission cases in HK and the State of Maryland. It is noted from this table that the methadone treated patients in the State of Maryland were maintained in a more stable manner than the methadone treated patients in HK.

**Table 3 - A Comparison of the Ratio of Drop-out / Admission and Re-admission / Admission in HK and the State of Maryland in 1995**

	Drop-out : Admission	Re-admission : Admission
Hong Kong	0.93 : 1	0.84 : 1
Maryland	0.36 : 1	0.25 : 1

Source : Department of Health, Hong Kong  
Department of Health and Mental Hygiene, Alcohol and Drug Abuse Administration, the State of Maryland

#### Successful Cases of Detoxification Programme

##### *US*

18.7 The number of patients in the State of Maryland who successfully detoxified has been increasing since 1993. Table 4 summarizes the findings.

**Table 4 - Number of Successful Detoxified Patients**

	1993	1994	1995	1996*
Number of Successful Detoxified Patients	325	383	415	214

Remarks:

1. all years are fiscal years starting from 1 July to 30 June
2. \* only covers the first nine months of the fiscal year of 95/96

Source: Department of Health and Mental Hygiene, Alcohol and Drug Abuse Administration, the State of Maryland

18.8 Table 4 reveals that from 1993 to 1995, there was an average increase of 13% per year in the successful cases.

##### *HK*

18.9 The detoxification programmes in the US have achieved a higher successful detoxification rate than that in HK. In the State of Maryland, 415 out of a total of 1,586 patients registered in the detoxification programme in 1995 had been successfully detoxified. In HK, only 227 patients had been successfully detoxified since 1972. There is no data on the total number of patients who had undergone the MTPs in HK since 1972.

Behaviour Before and After Methadone Maintenance Treatment in the US

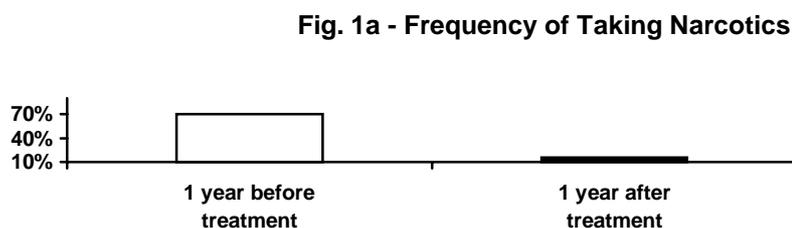
18.10 We had sent letters to different Federal and State authorities requesting data about the behaviour patterns of methadone treated patients before and after they received treatment. The reply from these authorities, e.g. the American Methadone Treatment Association and NIDA supplied us with a number of research findings. However, the reply did not contain details of the methodology of these research studies. We are following up on the methodology and the following figures are adapted from these replies and are presented for Members' reference.

18.11 According to a research carried out by McGlothlin and Anglin, there were significant improvements in the patient behaviour after entering the methadone maintenance treatment. Figs. 1a - 1d show the highlights of the improvements.

18.12 The research in Figs. 1a-d examined several behaviour patterns of the methadone treated patients before and after they received treatment. The behaviour patterns include the frequency of abusing narcotics, the length of unemployment period, the number of days that the patients were involved in crime and drug dealing. The results were presented in terms of percentage.

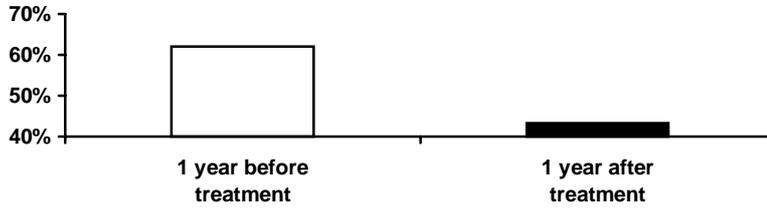
18.13 It is clearly shown from figs. 1a - 1d that fewer patients used narcotic drugs, were involved in crimes and drug dealing, and were being incarcerated after treatment. More patients were engaged in jobs.

**Fig. 1a - 1d : The Behaviour Before and After Entry into Methadone Maintenance Treatment in the US**  
(Composite Average of 3 Programmes for 2 Years)



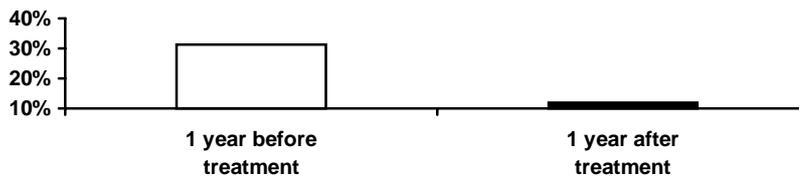
18.14 Fig. 1a shows that after treatment, patients abused narcotics less frequently.

**Fig. 1b - Length of Unemployment Period**

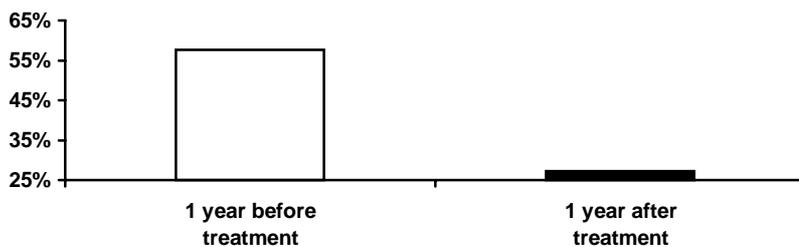


18.15 Fig. 1b demonstrates that the employment situation of the patients improved after methadone treatment.

**Fig. 1c - Days Involved in Crime**



**Fig. 1d - Days Dealing Drugs**



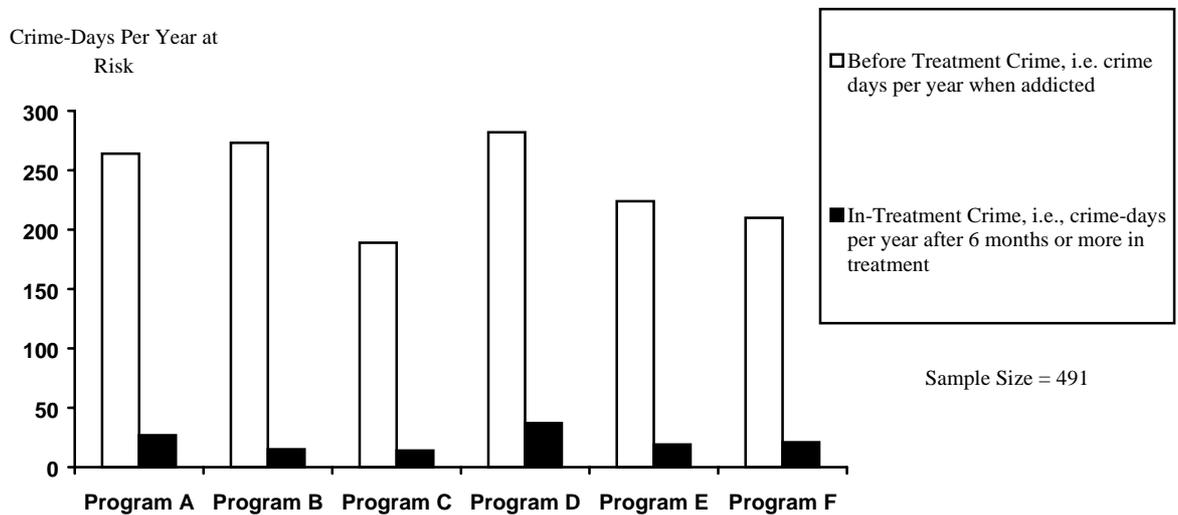
18.16 Fig. 1c and 1d show that crime was reduced and public safety improved after drug abusers received methadone treatment.

Source of figs. 1 a-d: American Methadone Treatment Association, Inc.

Drug Use and Crime

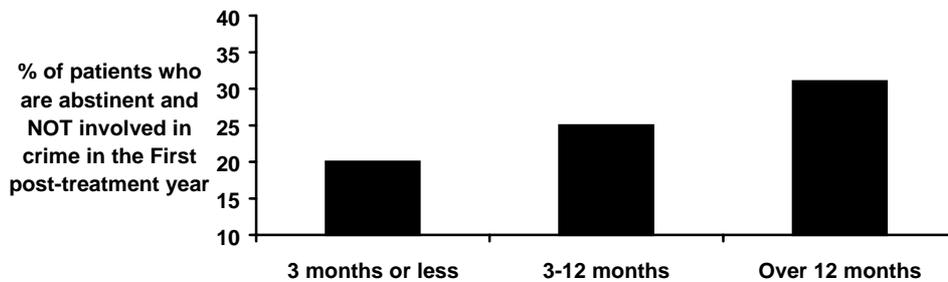
18.17 Studies<sup>10</sup> show that there was a dramatic decrease in criminal behaviour for 65% - 85% of patients who were in the methadone maintenance programme and had stayed in treatment for a year and more. Moreover, with longer time in treatment, fewer patients had been relapsed to illicit drug use. Fig. 2 shows one of these studies. This study examined six different methadone programmes and looked into the criminal behaviour of patients before and after they received methadone treatment. It is noted from Fig. 2 that the number of crime days reduced after the patients received methadone treatment.

**Fig. 2 - Criminal Behaviour Before and During Methadone Maintenance Treatment at 6 Programmes in the US**



Source: Ball and Ross, *The Effectiveness of Methadone Maintenance Treatment: Patients, Programmes, Services, and Outcomes*. New York: Springer-Verlag, 1991

**Fig. 3 - Effect of Methadone Maintenance Treatment Duration on Drug Use and Crime in the US**



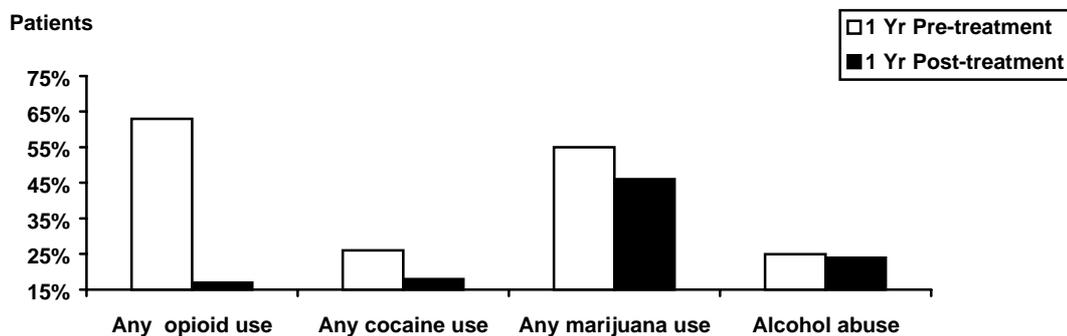
Source: American Methadone Treatment Association, Inc.

<sup>10</sup> *Drug Abuse and Drug Abuse Research: The Second Triennial Report to Congress*, DHHS, 1987.

18.18 Fig. 3 shows that if the patients stayed in the treatment programme longer, a higher percentage of them would be able to abstain from drugs and not get involved in crime.

18.19 Studies from Hubbard et al.<sup>11</sup> (Fig. 4) also show that methadone was most effective in preventing relapse to opioid use but least effective in preventing alcohol abuse.

**Fig. 4 - Effects of Methadone Maintenance on Alcohol and Other Drug Use in the US**



Source: American Methadone Treatment Association, Inc.

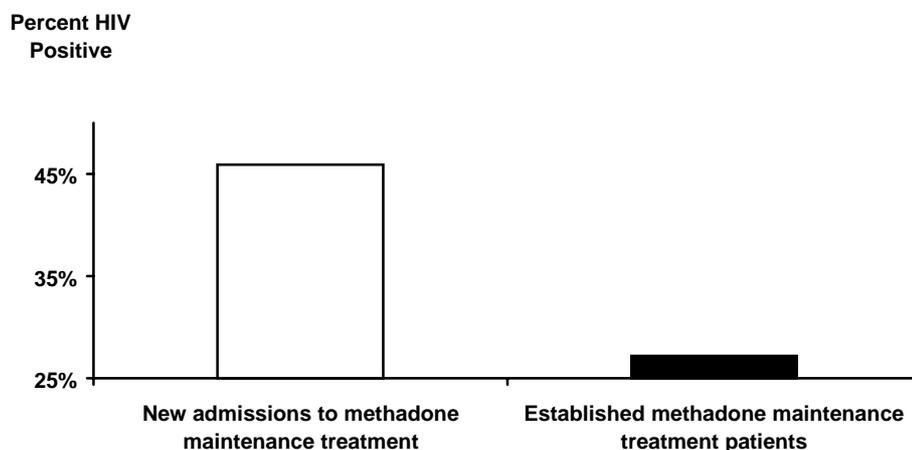
### HIV Infection

18.20 Research<sup>12</sup> suggests that methadone treatment had a significant impact on the rate of HIV infection of patients in continuous treatment. Fig. 5 shows the findings.

<sup>11</sup> Hubbard et al. , *Drug Abuse Treatment: A National Study of Effectiveness*. Chapel Hill, N.C.: The University of North Carolina Press, 1989.

<sup>12</sup> Ball, John, *The Effectiveness of Methadone Maintenance Treatment*, Springer-Verlag, 1991.

**Fig. 5 - HIV Seropositivity Among New and Established Methadone Maintenance Treatment Patients in the US**



Source: American Methadone Treatment Association, Inc.

### Cost and Benefit Analysis

18.21 The average cost of methadone treatment is US\$5,000 per patient per annum<sup>13</sup>. A comprehensive examination<sup>14</sup> of economic benefits and costs of methadone treatment revealed a cost to benefit ratio of 1:4, meaning every \$1 spent on methadone treatment can bring \$4 economic benefit. This examination studied the average cost of a treatment day, detailed measurements of rates of criminal activities, and the costs to a society of various crimes. Fig. 6 illustrates the results of this examination.

<sup>13</sup> American Methadone Treatment Association, Inc.

<sup>14</sup> Harwood et al., "The Costs of Crime and the Benefits of Drug Abuse Treatment: a Cost-Benefit Analysis using TOPS data". in Leukefeld et al. eds., *Compulsory Treatment of Drug Abuse: Research and Clinical Practice*. NIDA Monograph Series 86, DHHS, 1988.

**Fig. 6 - Average Costs For One Heroin Addict of Different Status Per Year in the US**

Source: New York State Division of Substance Abuse Services, 1991, by Dole and DesJarlais

### Impact of Counselling Services

18.22 According to the preliminary findings of a research study supported by NIDA<sup>15</sup>, methadone maintained patients who receive counselling and professional services have better outcomes than those who receive methadone alone. The research found that minimum methadone maintenance treatment (MMMT)<sup>16</sup> was clinically far less effective than standard (SMMT)<sup>17</sup> or enhanced treatment (EMMT)<sup>18</sup>, with the patients of MMT showing substantially greater amounts of cocaine and opiates use. Within 12 weeks, 22 of the 26 MMT patients had to be “protectively terminated” from the study because of their continuous positive urine test results. These patients were transferred to SMMT and following this switch of treatment, the great majority of these patients showed significant and sustained improvement in urine results, employment and crime. For the patients of EMMT, they showed significant improvements in the areas of drug use, criminal involvement, alcohol use, family relations, psychiatric status and employment.

<sup>15</sup> A.T. McLellan, Ph.D., I.O. Arndt, M.D., Ph.D., D.S. Metzger, Ph.D., G. E. Woody, M.D. and G.P. O’Brien, M.D., Ph.D., “What are the minimum conditions necessary for effective methadone maintenance: a parametric evaluation of psychosocial services.” The Penn-VA Center of Studies of Addiction, Departments of Psychiatry, Philadelphia VA Medical Center and University of Pennsylvania Medical School, 1992.

<sup>16</sup> Minimum methadone maintenance treatment provides blocking doses of methadone and emergency counselling / referral services only.

<sup>17</sup> Standard treatment refers to standard methadone maintenance treatment which provides regular and supervised counselling and referral services using weekly urine screens as the basis for contingency management.

<sup>18</sup> Enhanced treatment refers to enhance methadone maintenance treatment which provides standard methadone maintenance services and regular additional services including medical and psychiatric care, social work assistance, family therapy, and employment counselling.

## 19. Attainment of Objectives of the Methadone Treatment Programmes

19.1 In sum, the objectives identified by the Committee on Federal Regulation of Methadone Treatment of the Institute 03/08/2004 of Medicine could be said to have largely been achieved (please refer to Part 2, section 5).

### Reduction of Illicit Opioid Use

19.2 In the Drug Abuse Reporting programme study, 44% of the 895 patients who entered methadone maintenance treatment reported no daily use of illicit narcotics in the first post-treatment year. This represented a 56% decrease from 100% daily use in the 2 months before admission<sup>19</sup>.

### Reduction of Criminal Activity

19.3 In the Treatment Outcome Prospective Study (TOPS) studies, 32% of the methadone maintenance patients acknowledged committing one or more predatory crimes in the year before treatment, but only 10% continued these activities during treatment. By three to five years after leaving treatment, only 16% of the patients reported predatory criminal activity<sup>20</sup>.

### Reduction of HIV Risk Behaviour and Other Infectious Diseases

19.4 Studies show that patients who entered methadone maintenance treatment and remained in treatment for several years had significantly lower rates of AIDS and HIV infection than patients who were not in treatment<sup>21</sup>. One research<sup>22</sup> shows that at the beginning of the study, 18% of the 88 out-of-treatment subjects and 11% of 138 methadone-maintained clients tested positive for antibodies to HIV. After 18 months, 33% of the out-of-treatment subjects were HIV-positive while only 15% of the methadone clients tested positive. The incidence of new infection was strongly associated with the level of participation in methadone treatment.

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<sup>19</sup> National Institute on Drug Abuse, *Methadone Maintenance Treatment: Translating Research into Policy*, National Institute of Health, US Public Health Service.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid.

**Appendix 1 - A Comparison of MTP in the US and HK**

	United States	Hong Kong
<b>Methadone Programme</b>		
Detoxification programme	✓	✓
Maintenance programme	✓	✓
Operating agencies	State and private agencies	Government
% of patients registered in detoxification programme in 1995	16% <sup>1</sup>	2%
% of patients registered in maintenance programme in 1995	84%	98%
No. of admission in 1995	4,837 <sup>1</sup>	10,280
No. of re-admission in 1995	1,188 <sup>1</sup>	8,611
Ratio of re-admission to admission cases	0.25 : 1 <sup>1</sup>	0.84 : 1
No. of drop-out cases in 1995	1,716 <sup>1</sup>	9,583
Ratio of drop-out to admission cases	0.36 : 1 <sup>1</sup>	0.93 : 1
No. of successful detoxified patients in 1995	415 <sup>1</sup>	N.A.
<b>Admission Criteria</b>		
Age limit	No	No
Patients aged under 18	Parental consent mandatory	Parental consent preferable but not mandatory
Patients aged under 16	Parental consent plus approval from Federal / State authorities	Parental consent preferable but not mandatory
<b>Admission Process</b>		
Drug screening test	✓	✓
Interview	By programme physician and counsellor	By medical officer and social worker
Individual Treatment Plan <sup>2</sup>	✓	✗

	United States	Hong Kong
<b>Patient Drop-out</b>		
Definition	Different for different states. In Alaska, patients fail to appear at the clinic for 3 consecutive days will be considered as drop-out.	Patients fail to attend the clinic for 28 consecutive days
<b>Urinalysis</b>		
Admission test	✓	✓
Frequency	8 random tests for the first year, quarterly tests for subsequent years (except for those who have take-home medication)	Once every 2 weeks in the first 3 months, then once every 3 months
Consequence for consistent positive urine tests	Refer patients to counselling, if still persistently unsuccessful, patients will be considered for administrative withdrawal	Assess the need for increasing dose and arrange further counseling
<b>Dosage</b>		
Initial dose	not to exceed 30 mg	30-40 mg
Subsequent dose	Generally determined by physicians, in Pennsylvania, not to exceed 80 mg	Increase to 70 mg over 2 to 5 weeks
Frequency of review of dosage level	In Pennsylvania, at least twice a year	Dose remain unchanged except at the request of the patient
Take home medication	✓	✗
<b>Staffing</b>		
Staff (counselling services)	1 counsellor to 50 patients	19 full-time staff from SARDA who work 2 sessions per week

	United States	Hong Kong
<b>Services</b>		
Counselling services	In Florida, patients at phase 1 and 2 receive at least one counselling session per week;  Phase 3 and 4 patients, at least once every two weeks;  Phase 5 and 6 patient, at least once every month	All new and readmitted patient under 25 receive one counselling session every two weeks in the first year of admission. Then, less frequent counselling schedule depending on needs and progress;  New patients aged 25 or above: counselled once every month in the first year of admission. Readmitted patients aged 25-39: once every 3 months;  Patients aged 40 or above, once every 6 months
Post-treatment services	In Alaska and Maryland, all patients are required to enter the relapse prevention after care programmes.	SARDA has extended their counselling services for another 18 months to patients who have completed their first year of treatment
<b>Costs</b>		
Average costs of methadone treatment per patient per year	US\$5,000	HK\$4,000

Remarks: <sup>1</sup> based on the data from the State of Maryland, US  
<sup>2</sup> treatment plan provides a comprehensive range of medical and rehabilitative services to patients  
SARDA = Society for the Aid and Rehabilitation of Drug Abusers  
N.A. = Not Available

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