



**NATIONAL CENTRE IN HIV
EPIDEMIOLOGY AND
CLINICAL RESEARCH**

Sydney Medically Supervised Injecting Centre Interim Evaluation Report No. 3

Evaluation of Client Referral and Health Issues

A report for the NSW Department of Health
by the National Centre in HIV Epidemiology and Clinical Research

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Abbreviations

NCHECR	National Centre in HIV Epidemiology and Clinical Research
Sydney MSIC	Medically Supervised Injecting Centre
NSP	Needle and Syringe Program
DCR	Drug Consumption Rooms
MMT	Methadone Maintenance Treatment
KRC	Kirketon Road Centre
OR	Odds Ratio
AOR	Adjusted Odds Ratio
OST	Opioid Substitution Treatment
ESB	English Speaking Background
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus

Executive Summary

Background: The Sydney MSIC was established following a recommendation of the NSW Parliamentary Drug Summit for a trial aimed at addressing public health and public order issues related to street based injecting drug use. Government's objectives were to decrease drug overdose deaths; provide a gateway to drug treatment; and reduce problems associated with public injecting and discarded needles and syringes (NSW Government, 1999). Previous interim evaluation reports have reported on operation and service delivery data (May 2001 to December 2004) and community attitudes towards the service (NCHECR, 2005b, NCHECR, 2006). The current report examines client referrals and health.

Methods: Baseline data on socio-demographic characteristics, drug use and risk behaviour and data on service and referral provision were collected via an operational database at the MSIC (May 2001 to April 2006). Referral outcome data were available for brokerage drug treatment referrals collected by the MSIC Case Referral Coordinator. Two data sources were used to assess client health and risk behaviours: the Sydney MSIC client survey (October 2005) and Kings Cross survey data from the Australian NSP Survey (2001-2005).

Client characteristics: Most clients were male (74%) with an average age of 32 years and had been injecting for an average of 13 years. Nearly 40% reported injecting at least daily, and 43% had injected in public in the month prior to registration at the MSIC. Just over half mainly injected heroin and nearly 40% of clients reported a history of drug overdose. Over forty percent had engaged in methadone maintenance treatment (MMT) at some time and 13% were currently enrolled in MMT. Six percent of clients reported having used a needle and syringe after another IDU in the month prior to registration.

Visits and services: Between May 2001 to April 2006, 8,743 individuals made 309,529 visits to inject at the Sydney MSIC. Heroin (69%) and cocaine (13%) were the drugs most commonly injected. In addition to the supervision of injecting episodes, staff provided 42,193 other occasions of service to 4,433 clients (51% of all clients) at a rate of 136 per 1,000 visits. Approximately 4,000 individuals or 45% of the total client population received vein care and safer injecting advice on more than 20,000 occasions. Drug and alcohol information was provided on 4,777 occasions and advice on drug and alcohol treatment was given on 2,837 occasions.

Referrals: Between May 2001 and April 2006, a total of 5,380 referrals for drug treatment, health care and social welfare services were provided to 1,461 clients (17% of all clients) at a rate of 17 per 1,000 visits. Forty-four percent of referrals were to drug treatment (7.6 per 1,000 visits), most frequently to pharmacotherapy treatment. Health care and social welfare referrals were provided at rates of approximately 5 per 1,000 visits. Eleven percent of all clients received a drug treatment referral (n=938). Factors associated with receiving a drug treatment referral were: living locally, injecting daily

or more frequently, injecting in public in the month prior to registration, history of drug treatment, and being a client of KRC. Drug treatment referrals were less likely to have been received by clients who had been injecting for more than six years and who mainly injected methamphetamines compared to heroin. A third of clients who received a drug treatment referral had not previously accessed any form of drug treatment.

Brokerage drug treatment referral outcomes: Of the individual clients who received a drug treatment referral from January 2006 to June 2006, 66 clients financial assistance was provided to the treatment service to facilitate treatment, via a brokerage referral program. Clients who were living in unstable accommodation (AOR=1.83) and were HCV positive serostatus (AOR=2.81) were approximately twice as likely to receive a brokerage referral to drug treatment. Outcome data for those brokerage drug treatment referrals provided in the first 6-months of 2006, indicate that 84% of these resulted in clients attending the referred service. This compares favourably to the 20% presentation rate reported in the Sydney MSIC Phase 1 Evaluation Report and is in line with international evidence that incentives for IDUs to proceed with health and treatment referrals can greatly improve rates of referral uptake.

Impact of Case Referral Coordinator (CRC): From October 2004, a CRC was employed to increase capacity for referral provision. A comparison of drug treatment referrals in the 12-months before (n=376) and after (n=725) the establishment of this position found a significant, almost two-fold, increase in referrals to drug treatment (P -value=0.01), with the rate of drug treatment referral increasing from 5.3 per 1,000 visits to 10.2 per 1,000 visits.

MSIC Client survey: A cross sectional survey of 100 MSIC clients in October 2005 found that the majority (>65%) used the service because it was clean and safer than injecting in public, assistance was available in the event of overdose, clean/sterile injecting equipment was available and could be safely disposed of and staff were helpful. Approximately half of those surveyed cited access to referrals as a motivator for attending. The services and facilities were rated highly. Seventy-seven respondents reported improvements in their injecting practices since registration. More than three-quarters (78%) of respondents indicated that they would inject in a public place if the MSIC were not available and 48% indicated that they would use an illegal 'shooting gallery'.

Australian NSP Survey: Data collected from IDUs attending NSPs in Kings Cross between 2001 and 2005 documented a significant downward trend from 2001 to 2004 in the proportion of recent MSIC attendees reporting daily injecting, although this proportion increased in 2005. A significant downward trend in public injecting was noted for recent MSIC attendees between the years 2001 to 2004, a finding also tempered by an increase in 2005.

Conclusions: Within the methodological limitations of the current evaluation, this report provides evidence that the Sydney MSIC has been successful in:

-
- reaching long-term drug users, public and high frequency injectors, homeless IDUs and those engaged in sex work;
 - providing nearly half of all registered clients with injecting and vein care advice, an important achievement as recent studies show that poor injecting technique is independently associated with syringe sharing and incident HIV and HCV infection;
 - acting as a gateway to drug treatment by providing one in ten clients (11%) with a referral to drug treatment in the first five years of operation;
 - targeting those clients at highest risk of drug-related mortality and morbidity for referrals to drug treatment;
 - targeting, via the brokerage referral scheme, particularly marginalised and at risk IDU, including those in unstable accommodation, resulting in 84% of clients attending the referred service;
 - increasing in drug treatment referral rates with the introduction of a Case Referral Coordinator position;
 - facilitating the uptake of drug treatment among treatment naïve IDUs, with almost a third of all drug treatment referrals made to clients with no previous history of drug treatment;
 - potentially averting up to 234,000 public injections in five years, through the provision of an accessible and safe injecting environment.

Finally, it is important to note that rates of injecting and vein care advice and referral to drug treatment by Sydney MSIC staff, the major indicators used in this report, exceed those reported by Vancouver's *Insite* facility, which is recognised as having had a major impact on public health outcomes associated with injecting drug use (Tyndall et al., 2006; Wood et al., 2005).

Chapter 1: Introduction

1.1 Background

In 1999, the Joint Select Committee into Safe Injecting Rooms of the Parliament of NSW identified the potential public health benefits of supervised injecting facilities as including: reduced morbidity and mortality associated with drug overdoses; reduced transmission of blood borne viral infections such as HIV; hepatitis B virus (HBV) and hepatitis C virus (HCV); increased access to health and social welfare services; and contact with a marginalised injecting drug using population (NSW Parliament, 1998). The Committee also identified a number of possible public amenity benefits, including a reduction in street-based injecting and a reduction in the number of needles and syringes discarded in public places (Dolan et al., 2000; NSW Parliament, 1998). A NSW Parliamentary Drug Summit subsequently endorsed a trial of a Medically Supervised Injecting Centre (Sydney MSIC), recognising that its operation may have both public health and public order benefits. Specifically, the Government's objectives in establishing the Sydney MSIC were to:

- (1) decrease drug overdose deaths;
- (2) provide a gateway to drug treatment; and
- (3) reduce problems associated with public injecting and discarded needles and syringes (NSW Government, 1999).

The Sydney MSIC commenced operation in May 2001 for a trial period of 18-months. The initial evaluation covered the period May 2001 to October 2002 (MSIC Evaluation Committee, 2003). Following consideration of the results of the evaluation, the trial was extended to October 2007 and the NSW Health Department commissioned the National Centre in HIV Epidemiology and Clinical Research (NCHECR) to undertake a second evaluation covering the period November 2002 to April 2007. The current evaluation is directed by a comprehensive evaluation protocol and overseen by an Advisory Committee.

To date, the second evaluation phase has included an analysis of operation and service delivery data from November 2002 to December 2004 (NCHECR, 2005b) and an assessment of community attitudes towards the Sydney MSIC based on repeated cross-sectional telephone surveys with local residents and business owners (NCHECR, 2006). This third report from the second evaluation phase relates to the second objective in establishing the Sydney MSIC, namely, that the service may facilitate access to drug treatment for some injecting drug users (IDUs). Although the NSW Minimum Data Set for Drug and Alcohol Treatment Services indicates that self-referral is the most common means of accessing treatment (43% of drug and alcohol clients treated during 2002/03 self-referred) (NSW Health, 2005), a range of social, structural, institutional and personal barriers to treatment access exist among illicit drug users (Treloar et al., 2004), and the importance of identifying new referral

mechanisms is clear. Accordingly, this report examines Sydney MSIC client referrals and health, extending the work conducted during the Phase 1 evaluation.

1.2 Phase 1 evaluation

The first evaluation phase of the Sydney MSIC included a review of client health and referral uptake for the period May 2001 to October 2002. Three methods were used to assess these outcomes:

- (1) Data from Sydney MSIC operational service database, May 2001 to October 2002.
- (2) Data from annual repeated cross-sectional surveys of IDUs attending Needle and Syringe Programs (NSP) in Kings Cross (Kirketon Road Centre, K2 and the Sydney MSIC) were used to assess changes in drug use patterns, injecting practices, injecting-related health, and uptake of blood borne viruses testing and drug treatment (MSIC Evaluation Committee, 2003; NCHECR, 2005a).
- (3) All Sydney MSIC clients who had been provided with a written referral to drug treatment between May 2001 and October 2002 were followed up using a card system to determine the outcomes of these referrals (NCHECR, 2005a).

The key findings, as cited in the Phase 1 Final Evaluation Report (p.84) were:

Injecting-related health

- Injecting drug users in the Kings Cross area had a high level of injecting-related health problems, with those attending the MSIC more likely to report abscess/skin infections or thrombosis of the vein than those who did not attend.
- Over time there was a small decrease in the frequency of injecting-related problems among MSIC clients
- Nearly half the MSIC clients reported that their injecting practices had become less risky since using the MSIC.
- The MSIC client group generally reported higher rates of injection in public places than other injectors.
- The frequency of public injection among MSIC clients decreased during the trial period.

Use of health services

- Injecting drug users in the Kings Cross area reported high levels of testing for blood borne viruses and previous treatment for drug dependence
- The MSIC client group were more likely than other injectors to report that they had started treatment for drug dependence.

Uptake of referral

- Around half the 1385 referrals were made in writing and of these, 20% were confirmed to have resulted in the client making contact with the specified agency.
- The MSIC provided referrals to treatment for drug dependence for 11% of clients. The more frequent attenders at the MSIC were more likely to be referred for treatment and take up the referral (NCHECR, 2005a) .

In further analyses of the same data, Kimber et al found that frequent attendance at the Sydney MSIC (defined as the top 25% of visit counts) increased the likelihood of a client referral being effected. These authors concluded that the Sydney MSIC provided a gateway to drug treatment and health and psycho-social services with a rate of referral and referral uptake in the range reported in similar settings (i.e. NSPs and drug consumption rooms) internationally (Kimber, Mattick, Kaldor, & van Beek, in press).

Several methodological limitations were noted in the Phase 1 Final Evaluation Report, including the limitations of self-report data and participation rates of only 30% to 50% in the Australian NSP Survey data collection sites. The methodology used to assess the success of referral to drug treatment may have resulted in an underestimate as some referral cards, the mechanism used for follow up data collection, may not have been returned by the referral agency. Additionally, the referral review did not account for the contribution of Sydney MSIC verbal referrals, which constituted more than half of the total Sydney MSIC referrals at that time.

1.3 Aims

The present report aims to extend the results of the Phase 1 Final Evaluation Report by assessing the capacity of the Sydney MSIC to facilitate improved health and well-being of clients, and particularly to facilitate access to drug treatment. These issues are examined through analyses of three main indicators:

- (1) The number and rate of services provided by Sydney MSIC staff to clients additional to the supervision of injecting on-site;
- (2) The number and rate of referrals for drug treatment provided by Sydney MSIC staff to clients and whether those referrals were effected (i.e. that is, whether they resulted in clients making contact with the nominated services); and
- (3) Trends over time in the prevalence of injecting-related health indicators among Sydney MSIC clients.

Chapter 2: Methods

2.1 Data collection

Individuals who wish to inject at the Sydney MSIC are registered at their first visit in a client assessment room by a health professional who records a range of demographic characteristics, drug use and drug treatment history, injecting-related health, overdose history and blood borne virus risk behaviour. In accordance with management protocols, no personal contact details are collected or recorded during the registration process. The eligibility criteria for the service requires that all clients be aged 18 years or above, have injected drugs previously, not be known to be, or obviously, pregnant, not be accompanied by children, and, not be intoxicated. At the time of registration, eligible clients are assigned a unique registration number, along with a client chosen password to allow for accurate linkage to visit records. At each visit, information is collected on the drug most recently used by the client, other drug and/or alcohol use that day, and the drug to be injected on that occasion. Data are held in an operational database (Microsoft Access 2003) and data included in this report were derived from this database.

2.2 Service provision

The Sydney MSIC is staffed by registered nurses, counsellors and, since October 2004, a Case Referral Coordinator (CRC). In addition to the supervision of injecting episodes, the provision of emergency responses and the monitoring of drug overdoses, Sydney MSIC staff provides three types of services:

- (1) *core services*, including vein care and safer injecting advice, reproductive and sexual health advice, advice on drug treatment, and other health education;
- (2) *general medical services*, including wound dressing for tissue trauma, skin disorder, asthma/chest infection, sexual health information; and
- (3) *psycho-social services*, including crisis, general, legal and financial counselling, and accommodation support.

2.3 Referral procedures

Consistent with clinical protocols developed and overseen by the Medical Director, MSIC staff provide clients with written and/or verbal referrals to relevant health and social welfare services, including drug treatment and rehabilitation programs when appropriate (van Beek, 2003). Referrals provided by staff are divided into three types:

- (1) *drug dependence treatment referrals*, which include referrals to detoxification services, opioid pharmacotherapy treatment (methadone maintenance treatment, buprenorphine treatment and naltrexone treatment), residential rehabilitation services, drug and alcohol counselling, and narcotics anonymous/self help;

-
- (2) *health care referrals*, which include referrals to medical consultations, health education services and BBV/STI testing; and
 - (3) *social welfare referrals*, which include referrals to social welfare assistance, counselling, accommodation support and other services.

Referrals are provided via a standard referral process as well as through the Sydney MSIC brokerage referrals scheme, which is managed by the CRC and provides specific funding, i.e. payment for the treatment, to facilitate referrals to drug treatment for clients who based in the Eastern, Inner City, Inner West or Inner South-Western suburbs. Client eligibility for brokerage referrals is defined by inability to pay for treatment and having made previous attempts to access treatment. There are approximately 60 services to which clients can be referred under this scheme, which provide residential detoxification, outpatient detoxification, residential rehabilitation, methadone maintenance and/or buprenorphine maintenance.

2.3.1 Brokerage referrals to drug treatment

Outcome data on brokerage referrals are collected routinely by the CRC and are used for this report. For the purposes of this report, an effective brokerage drug treatment referral was defined as a client having made contact with the drug treatment service, confirmed by the CRC.

2.4 Client injecting health and risk behaviours

For the purposes of this report, client injecting health and risk behaviours are defined as changes in drug use patterns and injecting risk practices, injecting-health and treatment for drug dependence. Two sources of quantitative data were used to assess the impact of the Sydney MSIC on these client injecting health indicators:

- (1) **Sydney MSIC Client Survey** - conducted over one week in October 2005. One hundred clients who attended the Sydney MSIC were approached to complete a self-administered survey. Participants completed questions on demographic characteristics, number of visits made to the Sydney MSIC, ratings of services provided (poor, average, good or excellent), ratings of management of overdose on-site, self-reported changes in injecting practices, and reasons for use of the Sydney MSIC. General responses and comments to Sydney MSIC services were collected via open ended questions. These data are held in at the MSIC (Microsoft Excel 2003).
- (2) **Cross-sectional surveys of IDUs in Kings Cross via the Australian NSP Survey** - conducted each year between 2001 and 2005. All clients attending selected NSP sites throughout Australia during a specified week in 2001 (38 sites), 2002 (46 sites), 2003 (48 sites), 2004 (43 sites) and 2005 (52 sites) were asked to complete a brief self-

administered questionnaire covering behavioural risk indicators and asked to provide a capillary blood sample for HIV and hepatitis C virus (HCV) testing (NCHECR, 2005a). The Australian NSP Survey is managed by the National Centre in HIV Epidemiology and Clinical Research and data were made available for the purposes of this report. The data presented here represent a subset of the total survey samples recruited between 1995 and 2005, and include: (i) Kings Cross-based respondents who reported using the Sydney MSIC in the previous month, and (ii) Kings Cross-based respondents who did not report using the Sydney MSIC in the previous month. Kings Cross-based respondents are defined as those who completed a NSP Survey at the Kirkeaton Road Centre, K2 (1995 to 2005). These data are held in at the NCHECR (Microsoft Excel 2003).

2.5 Data analysis

All data were summarised and analysed using STATA Statistical Software 8.2 (Stata Corporation, College Station, Texas, USA). Figures were produced using Microsoft® Excel 2003. Client characteristics potentially associated with receiving a drug treatment referral were examined using odds ratios (OR) and 95% confidence intervals and *P*-values are reported. In addition, forward stepwise multivariate logistic regression analysis was used to examine factors independently associated with receiving a drug treatment referral. Apriori variables of interest and those with a *P*-value <0.10 were included. Adjusted odds ratios (AOR), along with 95% confidence intervals and two-sided *P*-values, are presented.

Client characteristics potentially associated with receiving a brokerage drug treatment referral versus a standard drug treatment referral, were also examined using odds ratios (OR) and 95% confidence intervals and *P*-values are reported. Apriori variables of interest and those with a *P*-value <0.10 were included in a forward stepwise model. Adjusted odds ratios (AOR), along with 95% confidence intervals and two-sided *P*-values, are presented. T-tests were used to assess the difference in the mean number of referrals provided pre and post the introduction of the CRC, with a *P*-value of <0.05 considered statistically significant. Logistic regression was used to test for trends over time for each of the NSP Survey data indicators presented (2001 to 2005), with a two-sided *P*-value of <0.05 considered statistically significant.

Chapter 3: Results

3.1 Client characteristics

Unless otherwise indicated, data presented in this report (some of which have been previously presented in Quarterly Process Evaluation Reports to the Government Monitoring Committee) are drawn from the first five years of operation of the Sydney MSIC, from May 2001 until April 2006. During this period 8,912 individuals were registered as clients, equating to an average of 148 new registrations per month. Complete registration data were available from 8,858 (99%) of these clients. Most were male (74%), with an average age of 32 years (Table 1). The majority spoke English at home (92%), and approximately one in ten (9%) reported Aboriginal and/or Torres Strait Islander background. Almost half had completed high school (46%). The majority reported that social security was their main source of income (61%), and eight percent had engaged in sex work in the month prior to registration. One in three clients was homeless (31%) and approximately one in five had recently been imprisoned (23%). Twenty-three percent of registered clients reported living locally, defined as postcodes 2010 (Darlinghurst, East Sydney, Surry Hills), 2011 (Elizabeth Bay, Kings Cross, Potts Points, Rushcutters Bay, Woollahooloo).

Table 1: Socio-demographic characteristics of Sydney MSIC clients at registration, May 2001 to April 2006

Characteristic	n=8,858
Age in years (mean years, SD, range)	32.4 (8,18-70)
Gender	%
Male	74
Female	26
Transgender	<1
English speaking background	92
Aboriginal and/or Torres Strait Islander background	9
Education status - completed high school	46
Income via	
Social security benefit	61
Full-time employment	21
Part-time employment	8
Sex work	3
Criminal activity	1
Sex work in last month	8
Accommodation status - unstable	31
Imprisoned in last 12-months	23
Live locally¹	23
HCV positive serostatus (self-report)	49

¹ Defined as: postcodes 2010, 2011

Sydney MSIC clients initiated drug injection at a mean age of 18 years (Table 2), and had been injecting for an average of 13 years at registration. Just over half mainly injected heroin (51%) and 39% of clients reported a history of drug overdose. Over forty percent had been enrolled in methadone maintenance treatment (MMT) at some time and 13% were currently enrolled in MMT. Nearly 40% reported injecting at least daily (24% > once & 15% once per day), and 43% had injected in public in the preceding month. One in ten clients (10%) reported a

history of injecting-related injury or disease (such as abscesses or thromboses) and 20% had a history of at least one injecting-related problem (including prominent scarring or bruising, or difficulties finding a vein). Eighty-six percent of clients who had injected in the preceding month and six percent reported having used a needle and syringe after another, in the month prior to registration.

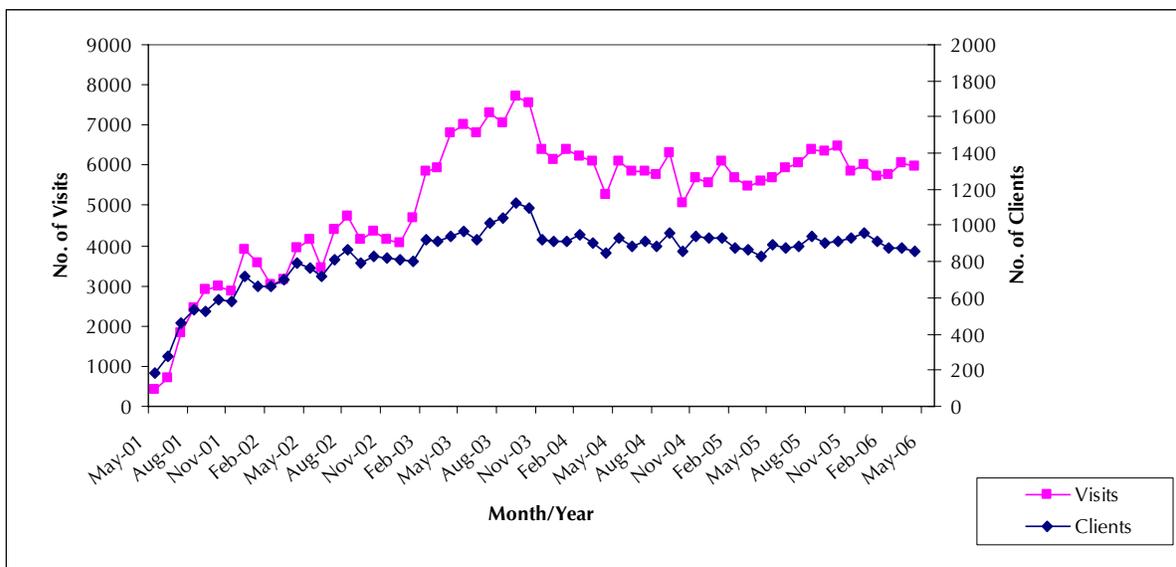
Table 2: Injecting drug use and risk behaviour profile at registration, May 2001 to April 2006

<i>Characteristic</i>	<i>n=8,858</i>
Age at first injecting drug use (mean years)	18
Duration of injecting (mean years, range)	13 (<1-51)
	%
Main drug injected	
Heroin	51
Meth/amphetamine	20
Cocaine	12
Ever overdosed	39
Number of overdoses (n=3,434)	
<5	76
≥5	24
Ever in drug treatment	61
Currently in drug treatment	15
Ever MMT	41
Currently MMT	13
Frequency of injecting	
> once per day	24
Once per day	15
More than weekly, not daily	22
Less than weekly	25
Did not inject last month	10
Missing	4
Injected in a public place, last month	43
Individuals reporting (n=2597)	
Injecting injury and disease, ever	10
Injecting-related problems, ever	20
Injecting-related problems, ever (n=3328)	
Multiple attempts to locate vein	18
Prominent scarring or bruising	14
Swelling of hand or feet	6
Proportion of clients who reported injecting, last month	86
Number of times N&S used after another, last month	
None	47
Once or more	6
N/A	47

3.2 Visits

All visits to the Sydney MSIC are made according to the client code of conduct (see Attachment 2) which aims to ensure the health, safety and security of staff and clients. Between May 2001 and April 2006, a total of 309,529 visits for injection were made at the Sydney MSIC by 8,743 individual clients. Clients visited a median of 3 times during this period (range 1-2956). The average number of visits to inject was 172 per day and 5,158 per month. The number of visits per month increased rapidly in 2001 and continued to increase steadily throughout 2002. A further increase in the number of visits per month coincided with the extension of the hours of operation in late January 2003, and this increase was sustained throughout 2003 (Figure 1).

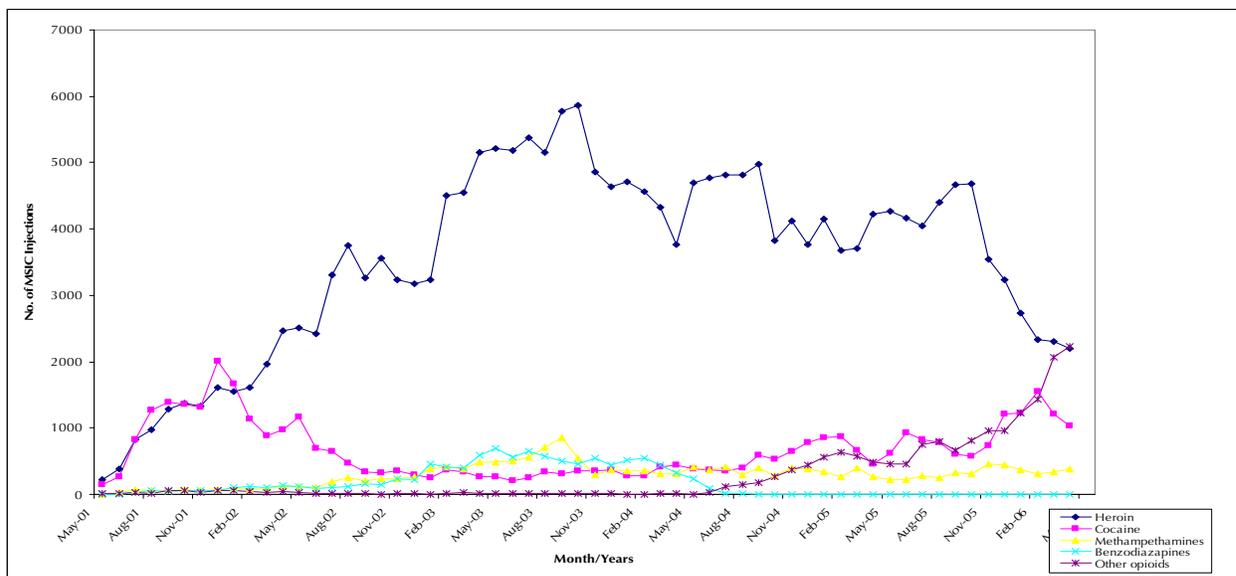
Figure 1: Number of visits and clients attending Sydney MSIC per month, May 2001 to April 2006



Individuals who sought to use the Sydney MSIC were refused entry on 941 occasions (<1% of total visits), most frequently due to intoxication or currently under sanction. A client sanction is a temporary restriction on accessing the service mostly due to breaches in the Client Code of Conduct (see Attachment 1, Client Code of Conduct). On 228 occasions (<1% of total visits), individuals were unwilling to wait or did not wish to formally register, as is required.

Heroin (69%) and cocaine (13%) were the drugs most commonly injected at the Sydney MSIC (Figure 2). From November 2005 to April 2006, there was a marked decline in visits to inject heroin and a corresponding increase in visits to inject 'other opioids' (e.g. pharmaceutical morphine).

Figure 2: Number of visits to the Sydney MSIC by drug injected, May 2001 to April 2006



3.3 Services

In addition to the supervision of injecting episodes, the provision of emergency responses and the monitoring of drug overdoses, staff provided a total of 42,193 other occasions of service to 4,433 individual clients, or 51% of the total client population. This equates to 136 services per 1,000 visits. Core services (76%) were most frequently provided, followed by psycho-social services (17%) and general medical services (7%) (Table 3). Core services include vein care and safer injecting advice, sexual and reproductive health advice, advice on drug treatment, sexual health advice, and other health education). General medical services include wound dressings or tissue trauma, skin disorders, asthma/chest infections, sexual health information, and psycho-social services, including crisis, general, legal and financial counselling, and accommodation support.

Approximately 4,000 individuals or 45% of the total client population received vein care and safer injecting advice on more than 20,000 occasions, representing 66% of the core services provided. Drug and alcohol information was provided on 4,777 occasions and advice on drug and alcohol treatment was given on 2,837 occasions. More than 2,000 general medical services and wound dressings/tissue trauma interventions were provided, constituting over 75% of the total general medical services provided. Most psycho-social services (approximately 70%) provided by Sydney MSIC staff were for general counselling and accommodation.

Table 3: Number and type of occasions of service provided to Sydney MSIC clients, May 2001 to April 2006

<i>Service type</i>	<i>n</i>	<i>%</i>	<i>Rate /1,000 visits</i>
Sydney MSIC core services			
Vein care & safer injecting advice	21,184	66	104/1,000 visits
Drug and alcohol information	4,777	15	
Advice on drug treatment	2,837	9	
Other health education	2,592	8	
Well woman advice ¹	623	2	
Sexual health advice	180	1	
<i>Subtotal for core services</i>	<i>32,193</i>	<i>76</i>	
General medical services			
Other medical	1,142	40	9/1,000 visits
Wound dressing or tissue trauma	1,019	36	
Skin disorder ²	461	16	
Women's health advice	103	4	
Sexual health information	80	3	
Asthma/chest infection	52	2	
<i>Subtotal for medical services</i>	<i>2,857</i>	<i>7</i>	
Psycho-social services			
General counselling ³	3,409	48	23/1,000 visits
Accommodation	1,362	19	
Other	1,105	15	
Legal	607	8	
Crisis counselling	522	7	
Finances	138	2	
<i>Subtotal psycho-social services</i>	<i>7,143</i>	<i>17</i>	
Total services provided	42,193		136/1,000 visits

¹ Includes contraception and reproductive health advice

² Includes abscesses, rashes and other topical infections

³ Includes all counselling activity other than crisis counselling. Common themes are drug use, living skills, relationship and custody issues, and sex work issues

3.4 Referrals

Between May 2001 and April 2006, a total of 5,380 referrals for drug treatment, health care and social welfare services were provided to 1,461 individual clients (17% of the total client population), equating to 17 referrals per 1,000 visits (Table 4). Forty-four percent of referrals (7.6 per 1,000 visits) were to drug treatment, most frequently to pharmacotherapy programs (defined as methadone maintenance treatment, buprenorphine treatment and naltrexone treatment). The rate of referrals to health care (29%, 4.9 per 1,000 visits) and social welfare services (27%, 4.8 per 1,000 visits) were similar.

Table 4: Number and type of referrals from the Sydney MSIC, May 2001 to April 2006

<i>Referral type</i>	<i>n</i>	<i>%</i>	<i>Rate /1,000 visits</i>
Drug dependence treatment			
Pharmacotherapy treatment ¹	897	38	7.6/1,000 visits
Detoxification program	764	32	
Drug and alcohol counselling	421	18	
Residential rehabilitation	220	9	
Narcotics Anonymous/self-help	49	2	
Naltrexone maintenance	9	<1	
<i>Subtotal for drug treatment</i>	<i>2,360</i>	<i>44</i>	
Health care			
Medical consultation ²	962	62	4.9/1,000 visits
Health education	481	31	
BBV/STD testing	99	6	
<i>Subtotal for health care</i>	<i>1,542</i>	<i>29</i>	
Social welfare			
Social welfare assistance	821	56	4.8/1,000 visits
Other counselling	248	17	
Other	409	28	
<i>Subtotal for social welfare</i>	<i>1,478</i>	<i>27</i>	
Total referrals provided	5,380		17/1,000 visits

¹ Defined as MMT, buprenorphine and naltrexone

² Includes dental health and psychiatric referrals

3.4.1 Referrals to drug treatment

Of the 8,772 clients for whom all relevant data were available (a subset of those clients for whom demographic data was available), 17% (n=1,416) received a referral of any kind and 11% (n=938) received a drug treatment referral. Odds ratios were calculated to establish the client characteristics, as reported at registration, which were associated with receiving a drug treatment referral compared to clients who did not receive a drug treatment referral (n=7,834) (Table 5).

Table 5: Factors associated with receiving a drug treatment referral, Sydney MSIC clients

<i>Characteristic¹</i>	Drug Treatment Referrals Received n =938			<i>AOR (95%CI)</i>	<i>P-value</i>
	<i>%</i>	<i>OR (95%CI)</i>	<i>P-value</i>		
Gender					
Male	10	1.00		1.00	
Female	13	1.38 (1.19-1.60)		1.15 (0.98-1.36)	
Transgender	12	1.22 (0.43-3.48)	0.00	1.29 (0.44-3.81)	0.21
Age at registration					
< 25	12	1.00		1.00	
25 to 29	11	0.90 (0.74-1.11)		1.01 (0.80-1.28)	
30 to 34	11	0.91 (0.74-1.11)		1.06 (0.82-1.37)	
35 or above	9	0.71 (0.59-0.86)	0.00	0.83 (0.64-1.08)	0.14
English speaking background					
Non ESB	11	1.00		1.00	
ESB	13	1.30 (1.01-1.67)	0.04	1.21 (0.92-1.59)	0.17
Education status					
Did not complete high school	10	1.00			
Completed high school	11	1.11 (0.96-1.27)	0.16		
Aboriginal and/or Torres Strait Islander background					
Non-ATSI	11	1.00			
ATSI	9	0.85 (0.67-1.08)	0.19		
Income via social security					
No	11	1.00			
Yes	10	0.88 (0.77-1.01)	0.07		
Imprisoned in last 12-months					
No	10	1.00		1.00	
Yes	12	1.18 (1.01-1.38)	0.00	1.18 (0.99-1.40)	0.07
Accommodation status					
Stable	11	1.00			
Unstable	12	1.11 (0.69-1.28)	0.15		
Sex work in last month					
No	10	1.00		1.00	
Yes	17	1.72 (1.39-2.14)	0.00	1.24 (0.97-1.57)	0.08
Live locally⁴					
No	10	1.00		1.00	
Yes	14	1.56 (1.35-1.82)	0.00	1.47 (1.24-1.73)	
HCV positive serostatus (self-report)					
No	10	1.00		1.00	
Yes	12	1.25 (1.09-1.43)	0.00	1.08 (0.92-1.26)	0.33

Duration of injecting					
<=2 years	12	1.00		1.00	
3 to 5 years	13	1.09 (0.79-1.50)		0.96 (0.68-1.36)	
6 to 10 years	10	0.83 (0.62-1.13)		0.70 (0.51-0.98)	
>10 years	10	0.81 (0.61-1.08)	0.01	0.70 (0.51-0.95)	0.001
Daily injector					
No	9	1.00		1.00	
Yes	14	1.69 (1.47-1.94)	0.00	1.28 (1.10-1.50)	0.002
Injected in a public place, last month³					
No	9	1.00		1.00	
Yes	13	1.54 (1.34-1.76)	0.00	1.22 (1.05-1.43)	0.01
Main drug injected					
Heroin	14	1.00		1.00	
Methamphetamines	5	0.33 (0.26-0.41)		0.37 (0.29-0.47)	
Cocaine	12	0.85 (0.69-1.04)		0.79 (0.64-0.98)	
Other	8	0.58 (0.26-1.26)		0.59 (0.27-1.30)	
Other opioids	9	0.61 (0.40-0.93)	0.00	0.65 (0.42-1.01)	0.06
Ever overdosed					
No	10	1.00		1.00	
Yes	13	1.38 (1.20-1.58)	0.00	1.11 (0.95-1.30)	0.18
Age at first injecting drug use					
Less than 15 years	12	1.00			
15 to 25 years	10	0.88 (0.74-1.05)			
>25 years	11	0.91 (0.71-1.16)	0.36		
Ever in drug treatment					
No	8	1.00		1.00	
Yes	13	1.66 (1.43-1.93)	0.00	1.43 (1.21-1.69)	0.00
Client of KRC at registration					
No	8	1.00		1.00	
Yes	17	2.22 (1.93-2.55)	0.00	1.80 (1.54-2.10)	0.00

¹ Data collected at registration, for clients registered 6 May 2001 to 30 April 2006 who injected at Sydney MSIC at least once

² Includes living on the street, shelters and abandoned buildings and other

³ Includes street, park, beach, car and public toilet

⁴ Defined as: postcodes 2010, 2011

NB: Missing values considered in analysis but not presented

At the univariate level drug treatment referrals were more likely to have been received by female (OR=1.38) and transgender (OR=1.22) clients, clients from an English speaking background (OR=1.30), those who had been imprisoned in the last 12-months (OR=1.18), clients reporting sex work in the last month (OR=1.72), those living locally (OR=1.56), those who were HCV positive by self-report (OR=1.25), daily injectors (OR=1.69), clients who had injected in a public place in the month prior to registration (OR=1.54), those who had ever experienced an overdose (OR=1.38), clients with a history of drug treatment (OR=1.66), and those who reported being a client of the Kirketon Road Centre (OR=2.22).

Drug treatment referrals were less likely to have been received by clients aged 24 years or older (OR=0.71-0.90), those who had been injecting for more than six years (OR=0.81-0.83) and clients who mainly injected methamphetamines (OR=0.33) or other opioids (OR=0.61).

In the multivariate model, after controlling for all known and potential confounders, factors independently associated with receiving a drug treatment referral, were living locally (AOR=1.47), injecting daily or more frequently (AOR=1.28), injecting in public in the last month (AOR=1.22), history of drug treatment (AOR=1.43) and being a client of KRC (AOR=1.80). Drug treatment referrals were less likely to have been received by clients who had been injecting for more than six years (AOR=0.70) and those who mainly injected methamphetamines (AOR=0.37).

Table 6 presents the number of individual clients who received drug treatment referrals between May 2001 and April 2006, by history of drug treatment at registration. Almost a third (n=265,28%) of the 938 drug treatment referrals made were to these treatment naïve clients, that is, had not engaged with drug treatment services prior to registration with the MSIC.

Within the drug treatment naïve group of clients (n=3,332), 550 lived in the local Kings Cross area but reported having not engaged with local primary health care services when they registered with the MSIC. One in ten of these IDUs who were yet to engage with local services went on to receive one of the drug treatment referrals provided.

Table 6: Drug treatment referrals by previous treatment status, Sydney MSIC

	<i>Drug Treatment Referral Received</i>		
	<i>No</i>	<i>Yes</i>	
History of drug treatment (at registration)	n	n	
No	3,067	265	3,332
Yes	4,612	662	5,274
Missing	155	11	166
Total	7,834	938	8,772

3.4.2 Brokerage drug treatment referral outcomes

In the 6-month period from January 2006 to June 2006, Sydney MSIC staff made 174 referrals to drug treatment. Of these, 81 were brokerage referrals made to 66 individuals, with the remainder being standard drug treatment referrals (n=93). Outcome data on client presentation to the drug treatment service to which they were referred were available for all of the brokerage referrals.

In accordance with privacy laws and health department policy all health services in NSW are required to maintain the confidentiality of client information. Brokerage clients, who are essentially “case-managed”, provide explicit consent to be followed-up as part of this scheme and outcome data are routinely collated by the MSIC CRC.

Table 7: Outcome of audited drug treatment referrals, Sydney MSIC (January 2006 to June 2006)

	Brokerage n=81*
	Attended %
Detoxification Program	80
Pharmacotherapy	82
Drug and Alcohol Counseling	100
Residential Rehabilitation	100
Total	84%

*Total number of referrals

Four out of five brokerage clients (80%) referred to detoxification services and pharmacotherapy programs (methadone maintenance treatment, buprenorphine treatment and naltrexone treatment) (82%) and all brokerage clients (100%) referred to residential rehabilitation services presented for assessment.

Client characteristics that were associated with receiving a brokerage drug treatment referral in this timeframe are presented in Table 8. At the univariate level, analysis indicated that clients those who had been imprisoned in the previous twelve months (OR=1.97), those who were living in unstable accommodation (OR=1.89), those who had injected in public in the previous month (and those who self-reported HCV positive serostatus (OR=2.63) were more likely to receive a brokerage referral to drug treatment. Clients aged less than 25 years were more likely than those aged 25 and over to receive a brokerage referral (*P*-value=0.06).

In the multivariate model, clients who were in unstable accommodation (AOR=1.83) and who self-reported HCV positive serostatus at the time of registration (AOR=2.81) were approximately twice as likely to receive a brokerage referral to drug treatment. Clients aged 25 years of age and over were less likely to receive a brokerage referral than those aged less than 25 years (AOR=0.37-0.67; *P*-value=0.02).

Similarities between those receiving brokerage and standard drug treatment referrals were found in relation to: gender, English speaking and ATSI backgrounds, education level, income via social security, recent sex work, years of injecting drug use and age at first injecting drug

use, main drug injected, frequency of injecting, history of drug overdose, history of drug treatment, and residing locally.

Table 8: Characteristics associated with receipt of brokerage drug treatment referral, Sydney MSIC clients

<i>Characteristic¹</i>	<i>Brokerage Referrals Received (n=66)</i>				
	<i>Row %</i>	<i>OR (95%CI)</i>	<i>P-value</i>	<i>AOR (95%CI)</i>	<i>P-value</i>
Gender					
Male	18	1.00			
Female	14	0.72 (0.39-1.33)	0.29		
Transgender					
Age at registration					
< 25	22	1.00		1.00	
25 to 29	19	0.82 (0.36-1.87)		0.67 (0.28-1.59)	
30 to 34	17	0.75 (0.34-1.66)		0.62 (0.27-1.42)	
35 or above	12	0.48 (0.22-1.05)	0.06	0.37 (0.17-0.84)	0.02
English speaking background					
Non-ESB	17	1.00			
ESB	15	0.64 (0.18-2.21)	0.48		
Education status					
Did not complete high school	19	1.00			
Completed high school	16	0.82 (0.46-1.45)	0.50		
Missing	13	-			
Aboriginal and/or Torres Strait Islander background					
Non-ATSI	17	1.00			
ATSI	15	0.90 (0.36-2.27)	0.83		
Income via social security					
No	16	1.00			
Yes	17	1.08 (0.61-1.92)	0.79		
Imprisoned in last 12-months					
No	14	1.00		1.00	
Yes	24	1.97 (1.07-3.61)	0.03	1.51 (0.79-2.89)	0.21
Accommodation status					
Stable	13	1.00		1.00	
Unstable	22	1.89 (1.08-3.33)	0.03	1.83 (1.02-3.27)	0.04
Sex work in last month					
No	17	1.00			
Yes	16	0.97 (0.39-2.44)	0.95		
Live locally⁴					
No	17	1.00			
Yes	16	0.96 (0.52-1.75)	0.89		
HCV positive serostatus (self-report)					
No	10	1.00		1.00	
Yes	22	2.63 (1.42-4.86)	0.002	2.81 (1.48-5.32)	0.002
Duration of injecting					
<=2 years	24	1.00			
3 to 5 years	22	0.90 (0.26-3.13)			
6 to 10 years	9	0.33 (0.09-1.19)			
>10 years	18	0.68 (0.24-1.97)	0.61		
Daily injector					
No	14	1.00			
Yes	20	1.46 (0.83-2.55)	0.19		
Injected in a public place, last month³					

No	12	1.00			
Yes	22	2.21 (1.25-3.92)	0.01	1.63 (0.89-2.98)	0.11
Main drug injected					
Opiates	17	1.00			
Psychostimulants	17	0.97 (0.47-2.01)			
Other	11	0.60 (0.07-4.89)	0.86		
Missing	12				
Ever overdosed					
No	15	1.00			
Yes	19	1.32 (0.76-2.31)	0.32		
Age at first injection					
Less than 15 years	19	1.00			
15 to 25 years	16	0.84 (0.43-1.62)			
>25 years	13	0.66 (0.34-1.83)	0.41		
Ever in drug treatment					
No	16	1.00			
Yes	17	1.12 (0.60-2.08)	0.73		

¹ Data collected at registration, for clients registered 6 May 2001 to 30 April 2006 who injected at Sydney MSIC at least once

² Includes living on the street, shelters and abandoned buildings and other

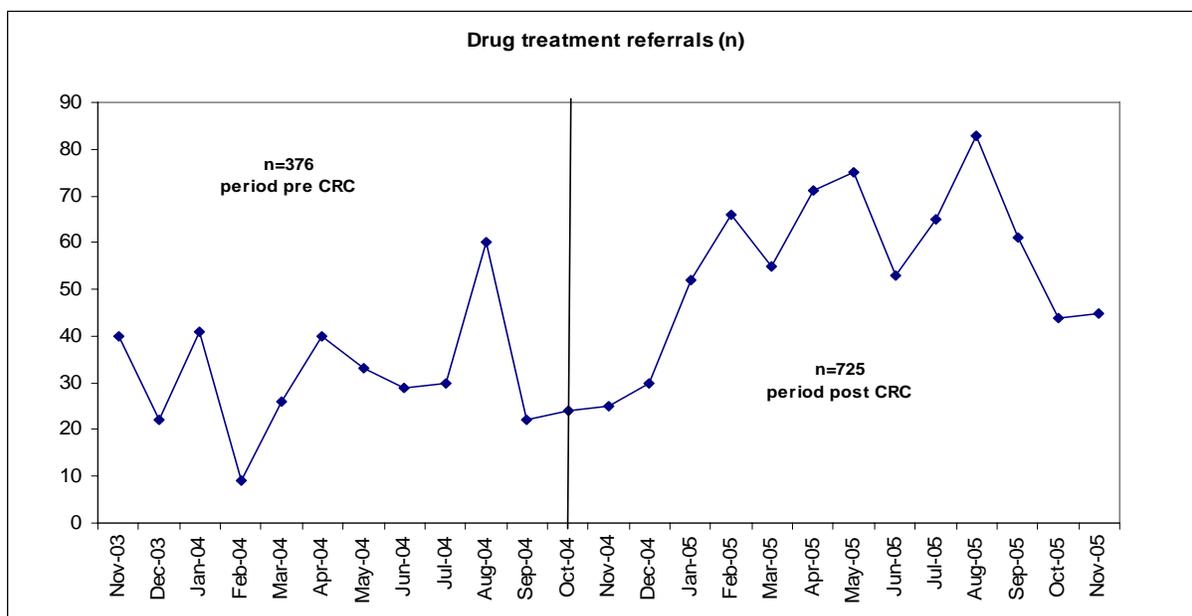
³ Includes street, park, beach, car and public toilet

⁴ Defined as: postcodes 2010, 2011 NB: Missing values considered in analysis but not presented

3.4.3 Impact of Case Referral Coordinator

As outlined in Section 2.3, a Case Referral Coordinator (CRC) has been employed at the Sydney MSIC since October 2004 to increase capacity for referral provision. Figure 3 presents the number of drug treatment referrals provided to clients in the 12-month period prior to, and following, the employment of the CRC (see Section 2.3).

Figure 3: Impact of CRC on drug treatment referral rate, Sydney MSIC (November 2003 to November 2005)



A total of 376 drug treatment referrals were provided in the 12-months prior to the establishment of the CRC position. This increased significantly to 725 in the 12-months

following the appointment of the CRC (p=0.01). The rates of drug treatment referrals in the 12-months pre and post the establishment of the CRC position were 5.3 per 1,000 visits and 10.2 per 1,000 visits respectively.

3.5 Client health and risk behaviours

3.5.1 Sydney MSIC client survey

3.5.1.1 Sample characteristics

The demographic characteristics of the 100 Sydney MSIC clients who participated in the Sydney MSIC Client Survey during October 2005 were consistent with the overall profile of clients (see Table 1). The majority (60%) had been attending the Sydney MSIC for one or more years, and more than 70% self-reported having made over 50 visits.

3.5.1.2 Reasons for using the Sydney MSIC

The majority of clients surveyed reported the following as reasons for using the Sydney MSIC: safer than injecting in public, clean environment to inject, availability of assistance should an overdose occur, access to clean/sterile injecting equipment, helpful staff, and provisions for safe disposal of injecting equipment (Table 9). Half (51%) of the respondents received referrals to drug treatment, health care and social welfare services as a benefit of the Sydney MSIC.

Table 9: Reasons for using the MSIC, Sydney MSIC clients

<i>Reason</i>	<i>%</i>
Safer than public injecting	88
Clean environment	75
Overdose assistance	73
Access to clean/sterile injecting equipment	73
Helpful staff	67
Safe disposal of injecting equipment	67
Relaxed surrounding	62
Avoidance of interruptions	62
Privacy	58
Health promotion and advice	56
Access referrals	51
Injecting advice	44

3.5.1.3 Service ratings

The services and facilities provided by the Sydney MSIC were rated by the majority of respondents as good or excellent (Table 10). The vein care and safer injecting advice provided by Sydney MSIC staff was considered to be of good or excellent quality by 85% of respondents, and the injecting equipment provided was appropriate, with 91% rating it as good or excellent. The initial registration process was acceptable to 87% of the clients.

Table 10: Rating of MSIC services, Sydney MSIC clients

	Good/Excellent	Poor/Average	Missing/Not Applicable
	%	%	%
Cleanliness	92	5	3
Injecting equipment	91	4	5
Initial registration process	87	10	3
Vein care and injecting advice	85	6	9
Security staff	85	11	4
Nursing services	83	2	15
Location of the service	80	16	4
Counselling services	80	6	14

3.5.1.4 Changes in injecting practices

Seventy-seven respondents reported improvements in their injecting practices since registering at the Sydney MSIC (Table 11). The majority indicated improvement in their injecting practices in line with related health promotion messages provided at the MSIC. Specifically, clients reported improvements in injecting technique (56%), understanding of overdose risk (54%) and a decrease in the likelihood of sharing injecting equipment (54%).

Table 11: Changes in injecting practices, Sydney MSIC clients

	Total (n=77)
Improved injecting technique	56%
Reduced likelihood of sharing injecting equipment	54%
Increased understanding of overdose risk	54%

3.5.1.5 Public injecting

When asked where they would inject if the Sydney MSIC were to close, 78% of respondents indicated that they would inject in a public place (defined as street, park, public toilet or a car). Forty-three percent reported that they would use an illegal shooting gallery if the Sydney MSIC was not available.

3.5.2 Australian NSP Survey

Among Australian NSP Survey participants in the Kings Cross area (those surveyed at Kirketon Road Centre and K2) who had injected drugs in the previous month and who indicated where these injections had occurred (n=551), 36% reported having injected drugs at the Sydney MSIC in the month prior. Table 12 presents the distribution over each of the survey years.

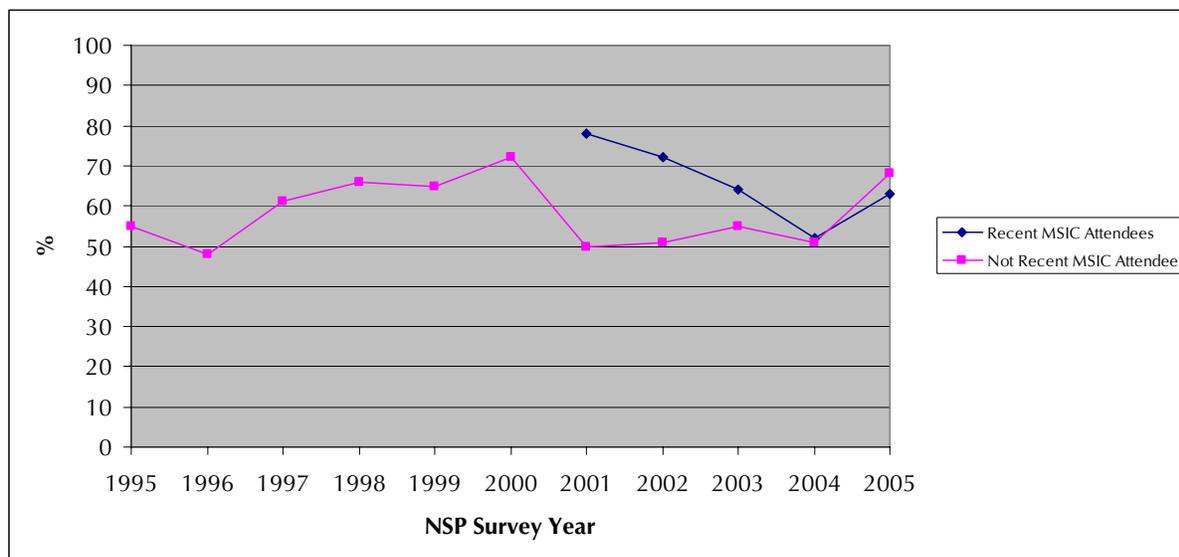
Table 12: Reported use of Sydney MSIC in the previous month, Kings Cross NSP Survey respondents (2001-2005)

	2001	2002	2003	2004	2005	Total
	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>
Non-MSIC Attendees	120	94	58	37	44	353
MSIC Attendees	59	64	22	29	24	198
	179	158	80	66	68	551

3.5.2.1 Injecting practices reported among Kings Cross NSP respondents, 1995 to 2005

Frequency of injecting has been reported in the Australian NSP Survey since 1995 and Figure 4 presents the proportion of Kings Cross NSP respondents who injected at least daily. From 2001, these data are available for both recent MSIC attendees and IDUs who had not injected that the MSIC in the month prior to completing the survey.

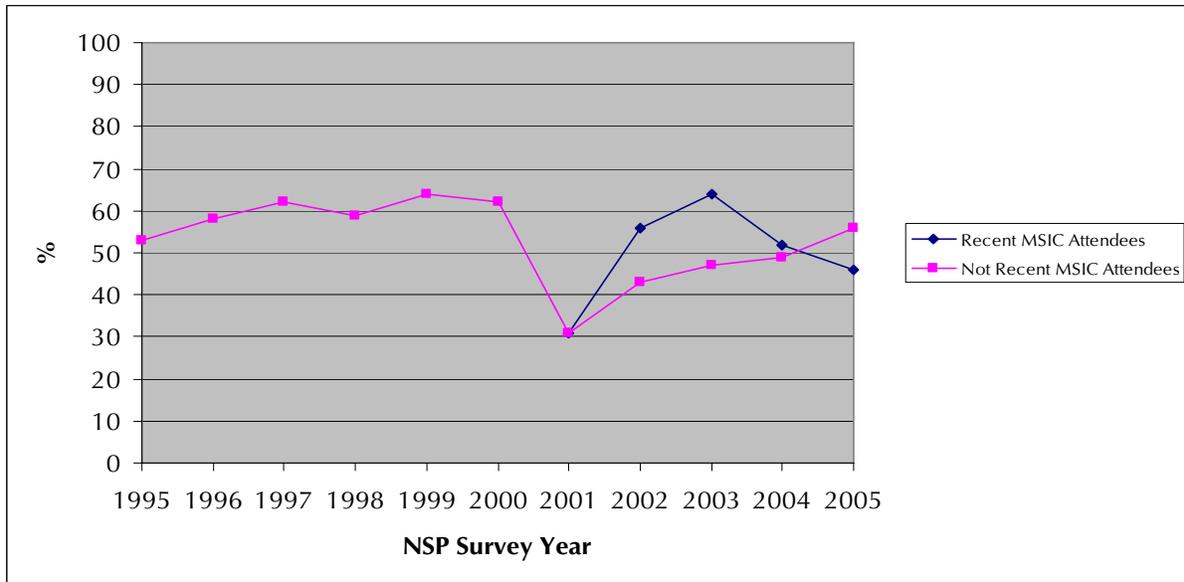
Figure 4: Daily injecting, Kings Cross NSP Survey Respondents



The proportion of daily injectors was higher in recent MSIC attendees in all years until 2005, when 68% of non-MSIC attendees reported daily injection compared to 63% of MSIC attendees. These data indicate a statistically significant decreasing trend in daily injecting among recent MSIC users (P -trend=0.02). The increasing trend in the proportions of daily injecting in the non-MSIC attendees was not statistically significant (P -trend =0.08). The proportion of IDUs who reported heroin as their last drug injected was higher in recent MSIC

attendees until 2005, when 46% of recent MSIC attendees reported heroin as last drug injected compared to 56% of non-MSIC attendees (Figure 5). The decrease in the rate of heroin injection among recent MSIC attendees from 2003 to 2005 was not statistically significant (P -trend =0.20), however the increasing rate from 2001 to 2005 among those who had not used the service was statistically significant (P -trend =0.04).

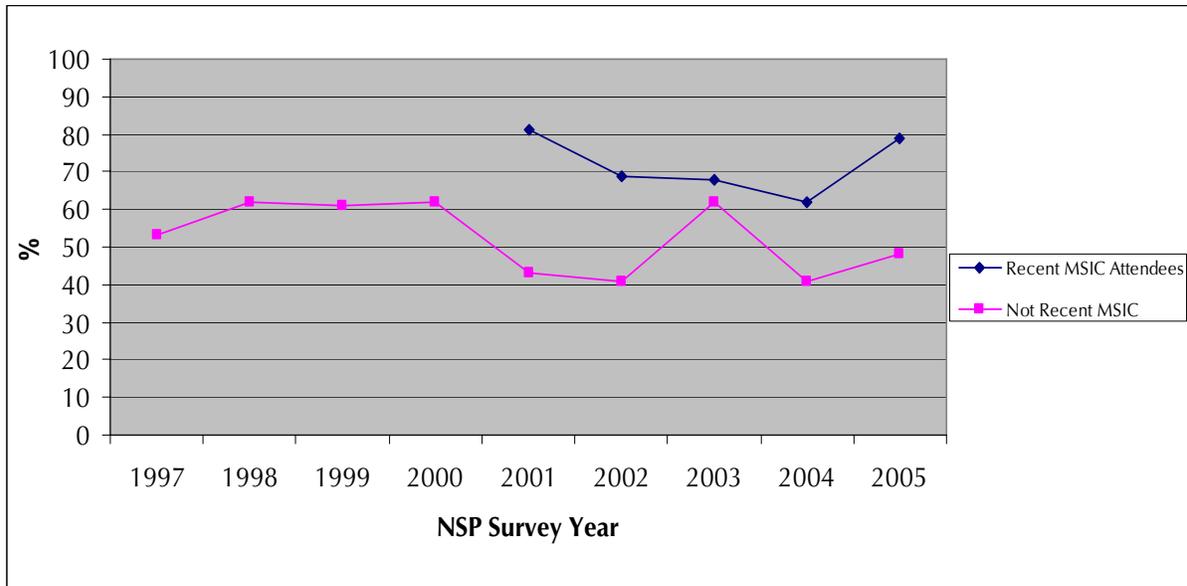
Figure 5: Heroin as last drug injected, Kings Cross NSP Survey Respondents



The proportion of respondents who had injected in a public place in the month prior to the NSP Survey is presented in Figure 6. In all survey years, recent MSIC attendees were more likely to have engaged in this practice than non-MSIC attendees. An increase of 30% in the MSIC attendees and of 20% in non-MSIC attendees in 2005 was found.

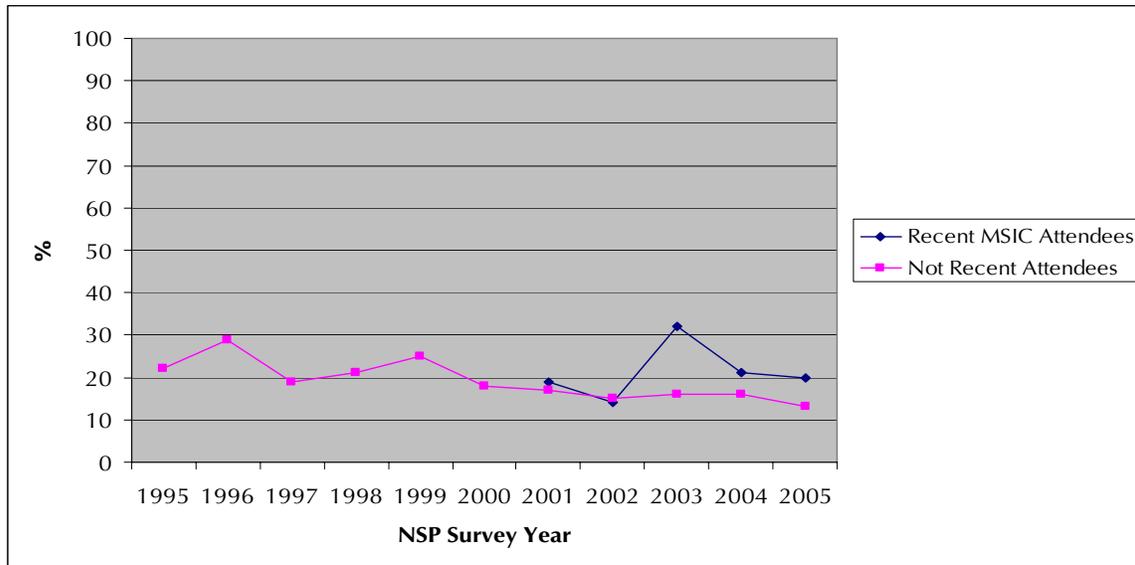
The decreasing proportions of public injecting reported among MSIC attendees from 2001 to 2004 was statistically significant (P -trend=0.05), although the 79% public injecting reported among this group in 2005, when considered, leads to a non-significant finding overall.

Figure 6: Public Injecting in previous month, Kings Cross NSP Survey Respondents



Apart from a spike in 2003, NSP clients who recently used the MSIC and those who did not reported similar levels of needle and syringe sharing in 2001 and 2002, with approximately 14-19% reporting the re-use of a needle and syringe that had been previously used by another IDU. In 2004 and 2005 recent MSIC attendees were more likely to report sharing of needles and syringes than non-MSIC attendees. There were no statistically significant changes in the rates of needle and syringe sharing reported by recent MSIC attendees (P -trend=0.79) and non-MSIC attendees (P -trend=0.59) between 2001 and 2005.

Figure 7: Sharing of N&S in previous month, Kings Cross NSP Survey Respondents



Data from the Australian NSP Survey indicate that among 551 IDUs surveyed in Kings Cross between 2001 and 2005, a total of 353 (64%) had not recently used the MSIC and 198 (36%) had recently used the MSIC. A comparison of reported daily injecting from 2001 to 2004 among the MSIC attendees showed a significant trend downwards, over time, indicating a potential decrease in frequency of injecting among those surveyed. This finding is tempered by an increase in the proportion of daily injecting reported in 2005 among MSIC attendees.

Public injecting among MSIC attendees also showed a statistically significant downward trend between 2001 and 2004, again indicating some potential decrease in this risky behaviour among MSIC attendees surveyed via the NSP Survey. It should be noted, however, that an increase in recent public injecting of 30% in MSIC attendees and 20% in non-MSIC attendees was reported from 2004 to 2005. A review of data from NSP Surveys conducted in 2006 and onward will confirm whether this is a durable trend.

MSIC attendees reported higher levels of needle and syringe sharing than non-MSIC attendees in 2003, 2004 and 2005 but there was no statistically significant trend observed. The NSP Survey data regarding last drug injected revealed a decrease in the reporting of heroin as last drug injected in the MSIC attendees from 2003 to 2005.

Chapter 4: Discussion

4.1 Summary

The socio-demographic characteristics of Sydney MSIC clients at registration indicate that they are similar to clients of drug consumption facilities in Europe, where the typical client is male (70-90%), aged over 30 years, has a history of intravenous heroin and/or cocaine use of more than ten years, a frequent injector, and reports public injecting (20-39%), unstable accommodation (5-33%), a history of imprisonment (38-75%) and previous drug treatment (43%-66%) (Hedrich, 2004). The profile of Sydney MSIC clients indicates that the service has been successful in reaching long-term drug users, public injectors, homeless IDUs and those engaged in sex work. The number and profile of clients who utilise this service indicates that the MSIC has broad acceptance among the IDU community. The continued level of new registrations and ongoing use of the Sydney MSIC for injection suggests considerable demand for this service and that the eligibility criteria, client code of conduct and data collection processes do not constitute major barriers to service access. As in European drug consumption rooms (Hedrich, 2004) and Vancouver's *Insite* facility (Tyndall et al., 2006), heroin is the drug most frequently injected at the Sydney MSIC (69% of all visits to inject).

In addition to the supervision of injections, three types of services are provided on-site at the Sydney MSIC – core services, general medical services and psycho-social services – at a rate of 136 per 1,000 visits. Injecting and vein care advice has been provided to clients on over 20,000 occasions. Forty-five percent of all registered clients have received safer injecting and vein care advice which exceeds the 33% reported among the cohort of Vancouver IDUs who had attended the Vancouver's *Insite* facility (Wood et al., 2005). This is an important indicator as a number of studies have shown that requiring help with injecting is independently associated with syringe sharing and incident HIV and HCV infection (Kral, Bluthenthal, Erringer, Lorvick, & Edlin, 1999; Miller et al., 2002; O'Connell et al., 2005; Wood et al., 2003).

During the first five years of operation 5,380 referrals were provided to 1,416 individual clients (17% of the total client population), equating to 17 referrals per 1,000 visits. Three types of referrals were provided – drug dependence treatment, health care and social welfare referrals. The majority of health care referrals were to medical consultations and more than 800 referrals were made to social welfare services. The overall referral rate of 17 per 1,000 visits is almost double the rate of 9 referrals per 1,000 visits observed in IDUs attending Vancouver's *Insite* facility during its first year of operation (Tyndall et al., 2006). Referrals to drug treatment

accounted for 44% of all referrals at the Sydney MSIC, compared to 37% of referrals reported by Vancouver's *Insite* facility (Tyndall et al., 2006).

More than one in ten clients (11%) received a referral to drug treatment in the Sydney MSIC's first five years of operation, a rate identical to that reported in the initial evaluation report (MSIC Evaluation Committee, 2003). Factors associated with receiving a drug treatment referral were living locally, injecting daily or more frequently, injecting in public in the month prior to registration, previously receiving drug treatment, and being a client of the local primary health care service. Drug treatment referrals were less likely among those who had injected for six or more years, compared to those who had injected for fewer years, and those who mainly injected methamphetamines or cocaine compared to heroin.

It is perhaps not surprising that living in the local area was significantly associated with receiving a drug treatment referral as these clients may be more likely to attend the MSIC regularly and therefore have more opportunities for referral. There are also a number of geographically accessible public drug treatment services in the Kings Cross area to which clients can be referred. Heroin users were more likely than other drug users to receive a referral to drug treatment, possibly reflecting the greater availability of evidence-based treatment for heroin dependence. The finding that heroin users, daily injectors and public injectors were significantly more likely to receive a referral to drug treatment suggests that the MSIC is effectively targeting those clients at highest risk of drug-related mortality and morbidity.

We also examined the factors associated with receiving a brokerage referral to drug treatment and factors independently associated were unstable accommodation at registration and self-reported HCV positive serostatus. Clients aged 25 years of age and over were less likely to receive a brokerage referral than those aged less than 25 years. Similarities between those receiving brokerage and standard drug treatment referrals were found in relation to: gender, English speaking and ATSI backgrounds, education level, income via social security, recent sex work, years of injecting drug use and age at first injecting drug use, main drug injected, frequency of injecting, history of drug overdose, history of drug treatment, and residing locally.

Among the 938 MSIC clients who received a drug treatment referral, 265 were drug treatment naïve and may have received their first referral to drug treatment at the MSIC.

Outcome data for brokerage drug treatment referrals indicated that 84% of brokerage referrals resulted in clients attending the service to which they were referred. This considerably exceeds the 20% drug treatment referral presentation rate able to be confirmed in the Sydney MSIC Phase 1 Evaluation Report (MSIC Evaluation Committee, 2003). This high rate of attendance for assessment among those MSIC clients provided with brokerage is in line with international evidence which indicates that the providing an incentive of some kind (e.g. free treatment) for IDUs to proceed with health and treatment referrals can greatly improve rates of referral uptake (Lorvick et al., 1999; National Institute for Health and Clinical Excellence, 2007).

The introduction of a CRC role at the Sydney MSIC resulted in an almost twofold increase in the number of drug treatment referrals provided to clients in the 12-months following its establishment. The rate of drug treatment referrals in the 12-months pre and post the establishment of the CRC position were 5.3 per 1,000 visits and 10.2 per 1,000 visits respectively. This significant increase confirms the benefits of a dedicated position in attempting to “scale up” drug treatment referral efforts. The majority of all drug treatment referrals provided at the Sydney MSIC were made to pharmacotherapy treatment, suggesting that the CRC and other staff are appropriately directing clients to evidence-based treatment for opioid dependence.

The client survey conducted in 2005 found that the main reasons for use of the Sydney MSIC were that it is safer than injecting in a public place, provides a clean environment and clean injecting equipment and assistance in the event of overdose. The service rated highly (80% of responses = good or excellent) on cleanliness, injecting equipment, registration processes, vein care and injecting advice, staff and location. Approximately half (51%) of client surveyed noted that referrals to other health and welfare services were a benefit of the Sydney MSIC. While the remaining survey respondents did not see referral opportunities as a key motivating factor for using the service, their attendance exposes them to health professionals, treatment information and advice, and opportunities for referral.

Clients also reported high levels of satisfaction with vein care and injecting advice provided by the Sydney MSIC. The majority of those surveyed also indicated improvement in their injecting practices, in line with this advice and other harm reduction interventions provided at the MSIC. These positive changes may also encourage safer injecting episodes outside the MSIC. Improvements in injecting technique also suggest the potential for reductions in injecting-related injuries including skin and soft tissue infections.

Public injecting, a high risk practice with both health and public amenity impacts, was reported as the main alternative to injecting at the Sydney MSIC (78% of clients). Using this percentage to retrospectively calculate the number of injections that may have otherwise occurred in public over the last five years (based on visits to the Sydney MSIC) indicates that approximately 234,000 public injections have been potentially averted. This is consistent with results from a recent survey which found a significant decrease in the proportion of residents who had witnessed public injecting in the last month (Salmon et al., 2007).

Data from the Australian NSP Survey were analysed to compare the injecting practices of IDUs based in Kings Cross over time. The downwards trend over time in daily injecting among recent MSIC attendees was significant overall, indicating some potential decrease in frequency of injecting among those surveyed. Between 2001 and 2004 there was a statistically significant decrease in reporting of public injecting among recent MSIC attendees, again indicating some potential decrease in this risky behaviour among MSIC attendees surveyed. It should be noted, however, that an increase in recent public injecting of 30% in MSIC attendees and 20% in non-MSIC attendees was reported from 2004 to 2005. A review of data from the Australian NSP Survey conducted in 2006 and onwards will determine whether these findings represent durable trends.

Recent MSIC attendees also reported higher levels of needle and syringe sharing in 2003, 2004 and 2005 than non-attendees, indicating that MSIC clients may be a riskier group than other IDUs in the area, however this trend was not significant. NSP Survey data on last drug injected revealed a decrease in the proportion of recent MSIC attendees reporting heroin as the last drug injected from 2003 to 2005.

4.2 Comparison of findings with Phase 1 evaluation

Many of the findings presented here, following five years of operation of the Sydney MSIC, can be compared to those reported for the first 18-months of operation in the Phase 1 evaluation. However, it is important to note that the choice of reporting periods for both evaluations was determined by the legislative framework governing the operation of the MSIC and is to some extent arbitrary. Comparisons are presented below in relation to client characteristics, type of drugs used, rates of health services and rates of referrals provided, and client attitudes and opinion indicators.

MSIC client characteristics (n=3,810) in the first 18-months of operation were very similar to the profile presented for the full five year period (n=8,858), that is, 73% were male vs. 74%; average age of 31 years vs. 32 years; age at first injecting drug use was 19 years vs. 18 years; 12 years of injecting drug use vs. 13 years; experience of non-fatal heroin overdose was 44% vs. 39%; and, history of drug treatment was 66% vs. 61%. These slight differences in client characteristics can be attributed to the approximately 5,000 additional clients whose data have been included in the current report.

In the first evaluation period heroin was the most frequently injected drug at the MSIC (61%) and this percentage rose to 69% for the full five years. The proportion of injections involving the administration of cocaine decreased from 30% to 13% between the first and second evaluation periods. These changes could be attributed to well documented changes in the availability of heroin since the opening of the MSIC (Day et al., 2003; Maher et al., 2007; Rouen et al., 2001; Topp, Day & Degenhardt, 2003).

On-site health services were provided at a rate of 24 per 1,000 in the first 18-months of operation (calculated from data presented on page 19 of the Report) compared to 17 per 1,000 visits for the total five year period. As more than half the services provided at the MSIC in both time periods were for safer injecting and vein care advice, this change may be related to a “saturation effect”, whereby increased exposure over time results in repeat clients having received the information they require or are willing to receive. Similarly, the rate of referral in the first 18-months of operation was 24 referrals per 1,000 visits (calculated from data presented on page 98, of the Report) compared to 17 per 1,000 visits for the total period. This decrease over time may be due in part to the reason outlined above, however, fluctuating patterns of drug use among MSIC clients, including changes over time in the relative proportions of injections involving the administration of other opioids, methamphetamine and cocaine, may also impact both on referral rates and utilisation of on-site services.

While different methods for assessing clients’ attitudes and opinions were used by the first and second evaluation reports, some comparisons can be made. Client ratings of the location of the service, presented in the Phase 1 Evaluation Report, were available for 2001 and 2002 where 46% and 47% respectively reported ‘strong agreement’ with the statement that the MSIC location was suitable for them. This can be compared to the 80% of clients who reported the location of the service as ‘good/excellent’ in 2005. In 2001 and 2002, most clients reported the care they received at the MSIC as ‘good’ (80% in 2001 and 75% in 2002) which can be compared to the rating in 2005 of nursing services as ‘good/excellent’ by 83% of clients;

counselling services as 'good/excellent' by 80% of clients and security staff as 'good/excellent' by 85% of clients.

In summary, the comparison of results between the two evaluation periods presented here suggests few changes in the demographic profile of clients or the main drug injected at the MSIC. Additionally, data on consumer satisfaction indicates that the majority of clients in both evaluation periods ranked the service highly.

4.3 Limitations

The Levels of Evidence rating system (Briss et al., 2000; National Institute for Health and Clinical Excellence, 2007, US Preventive Services Task Force 1996; Woolf et al., 1990) categorizes studies by design and quality, ranging from systematic reviews documenting homogeneity in the results of a large number of high-quality randomised controlled trials (RCT), systematic reviews with heterogeneity and individual RCTs (Level 1) to controlled trials without randomisation, cohort and case control studies (Level 2), time-series with or without the intervention (Level 3), and expert opinion and descriptive studies (Level 4). A well designed and conducted randomised controlled trial is the best study design for determining a causal relationship between a public health intervention and its putative outcomes.

Ideally, the impact of the Sydney MSIC on client health and referral outcomes would be evaluated using a randomised controlled trial design. The next best study design, utilised in the evaluation of the Vancouver Supervised Injecting Site (Wood et al., 2006; Wood et al., 2005a; Kerr et al., 2005; Kerr et al., 2006.) is a cohort study. While we recently established a prospective cohort study of MSIC clients, follow-up data are not yet available. In the absence of such data, this report has maximized the use of available data sources, including time series data for Kings Cross from the Australian NSP Survey, cross-sectional survey data and operational and service delivery data generated by the Sydney MSIC.

There are several methodological limitations in relation to these data. Firstly, IDUs attending the Sydney MSIC do not constitute a random sample and findings should not be generalized to the larger IDU population and there were low response rates to the survey in the Kings Cross NSPs in a number of years. The instrument used to collect data at registration was developed in consultation with the Sydney MSIC and necessarily reflects a compromise between research, evaluation and clinical needs. Data on socio-demographic characteristics, injecting drug use and risk behaviour collected during the registration process are self-reported and may be subject to both recall and measurement bias. We attempted to specify these measures with precision by asking clearly defined and well accepted questions and to reduce recall bias by only asking about current risk behaviours in the last 1 to 6-months, depending on the variable (Hunter, Stimson, Judd, Jones, & Hickman, 2000). While the literature suggests that drug users generally provide reliable and valid responses (De Irala, Bigelow, McCusker, Hindin, & Zheng, 1996; Safaeian et al., 2002), it should be noted that registration data were collected by MSIC staff. As such these data may be subject to social desirability bias and we cannot dismiss the

possibility of under-reporting of some risk behaviours. These limitations also apply to the Sydney MSIC Client Survey data presented in these report.

The recording of client referrals is done by MSIC staff during opening hours, which may lead to some under reporting during busy periods. Data from the Australian NSP Survey, which is utilised to compare trends in recent injecting behaviour among IDUs in Kings Cross according to MSIC usage, is provided by participants who self-select to attend the survey sites and to complete the survey. During 2001-2005 response rates for the survey ranged from 42-50% (NCHECR, 2005a). Again, these results are not necessarily representative of all IDUs in the Kings Cross area and self-reported data on demographic characteristics, drug use and risk behaviours may be subject to recall bias.

While these data are subject to the limitations outlined above, additional problems may arise in evaluation research where outcome indicators are poorly linked to program goals. In this instance it is possible that research may fail to find an effect where one actually exists (evaluation failure). An objective of the MSIC is to provide a gateway to treatment and improve client health. While data have been presented on the number, proportion and type of referrals made to MSIC clients (drug treatment, health care and social welfare), the rate of referral to drug treatment before and after the appointment of a CRC, and uptake of drug treatment referrals by MSIC brokerage clients, outcome data on non-brokerage drug treatment referral clients were not available. Collection of this indicator conflicts with the aim of the MSIC to provide a confidential, low threshold service to this client group. Referrals are often made using the client's MSIC registration name-code and access to outcome data were only available for brokerage clients (who provide explicit consent to be followed-up). The collection of identifying information and verification of presentation may be perceived by clients as inconsistent with the low threshold nature of service provision at the MSIC and may potentially compromise willingness to receive future referrals and the acceptability of the service more generally to this population. We anticipate that data from the prospective cohort study, currently underway, will provide more robust indicators of patterns of service utilisation, including uptake of drug treatment referrals, and health outcomes among MSIC clients.

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Appendices

APPENDIX 1: SERVICE DEFINITIONS

Core Services

Safer using/injecting - provision of any information /advice about any aspect of safer using or safer injecting techniques. Examples include the correct use and benefits of tourniquets, vein care, non-injecting routes of administration, and risks for drug overdose, such as reduced tolerance, and concurrent use of other drugs.

Drug treatment advice - provision of any information/advice about pharmacotherapies for drug addiction – methadone, buprenorphine or naltrexone detox, medicated or non medicated, inpatient or outpatient rehabilitation – inpatient or outpatient. Information may include the benefits of the above, client’s suitability, the availability of services, how they work, etc.

Drug and alcohol information - information/advice about any of the drugs used by clients of the MSIC. Drugs may be licit or illicit. Examples include information about the effects and side effects of benzodiazepines, heroin, or cocaine, what addiction means etc. There may be some overlap with the ‘safer using/safer injecting category, especially as it relates to information about drug overdose risks.

Other health – Repeated

General Medical

Chest infection/asthma - Client has been seen by a nurse for symptoms such as shortness of breath, wheezing and cough. Medication may or may not have been provided.

Wound dressing/tissue trauma - Client has either been seen by nurse for a dressing to a wound, or received general information/advice related to skin or tissue trauma. An example would be giving advice about keeping wounds clean to prevent infection.

Sexual health - provision of information about any aspect of sexual health to a client. It includes information about normal sexual health, as well as sexually transmitted infections, safer sex practices, and information/advice about sexual assault.

Women’s health advice - provision of information about any aspect of women’s health. Examples include a woman’s menstrual cycle and what is normal/abnormal, contraception, vaginal health, hormonal therapy and menopause.

Skin disorders - This often relates to skin infections, such as scabies, lice, or fungal infections for which a nurse may or may not provide certain medications. The category also includes skin disorders that are not specifically infections, such as sunburn or dermatitis/allergic rashes. If advice given about skin disorder specifically related to injecting, then this would be ‘safer using/safer injecting’.

Other medical –provision of information/advice regarding any other aspect of the client’s health. Examples include information about assault, dental issues or other common medical complaints such as headache.

APPENDIX 2: CLIENT CODE OF CONDUCT

To ensure the health, safety and security of staff and client of the Sydney MSIC, clients agree:

- to comply with the policies and procedures of the MSIC
- to only inject in the Injecting Room stage of the MSIC
- not to divide drugs or exchange money with other clients
- not to buy or sell drugs at or near the MSIC premises
- to have no more than two people to a booth
- not to move from the booth with an uncapped fit
- not to inject in the neck or inject someone else
- not bring any weapons or alcohol to the MSIC
- not to be verbally or physically abusive towards other clients, staff or property of the MSIC
- not to bring pets of any kind
- not to leave any personal property at the MSIC
- not to place hand in the sharps bins