



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

Sydney Medically Supervised Injecting Centre Interim Evaluation Report No. 1

Operation & Service Delivery (November 2002 to December 2004)

May 2005

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The data reported in this document were collected by the staff of the Sydney Medically Supervised Injecting Centre (MSIC), Kings Cross, NSW.

The database and data management systems of the Sydney Medically Supervised Injecting Centre were established by Dr Ingrid van Beek, Ms Jo Kimber, Mr Stuart Gilmour and Professor Richard Mattick.

The Sydney MSIC Evaluation Advisory Committee (see Appendix 1) provided guidance to the authors on the format of this report.

Executive Summary

Introduction and background

The Sydney Medically Supervised Injecting Centre (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 in the Kings Cross area.

The Sydney MSIC opened in May 2001 for an initial 18 month trial period which was subsequently extended to October 2007. The NSW Department of Health has commissioned the National Centre in HIV Epidemiology and Clinical Research (NCHECR) to undertake a second evaluation phase for the period November 2002 to April 2007. The NSW Bureau of Crime Statistics and Research (BOCSAR) will also produce evaluation reports.

This Interim Evaluation Report 1 describes the operational activity and service delivery of the Sydney MSIC and provides summaries of the service model, internal management protocols and data collection and management systems. Data are presented for evaluation period 1 (May 2001 to October 2002), evaluation period 2 (November 2002 to December 2004) and the total period.

Days of operation and client registrations

From May 2001 to December 2004, the service was open on 1,322 days or 12,766 hours, and registered 7,392 clients. While the number of new registrations to the service was initially high, registrations declined over time, suggesting that the total pool of potential clients has not been expanding substantially. Variability in registrations from month to month may also have been influenced by environmental factors such as road works in the immediate vicinity of the MSIC.

Client visits and eligibility for entry

Staff supervised 214,399 visits since May 2001, with an average number of visits per day of 162 and refused entry on 33 occasions per 10,000 visits. The average number of visits per day doubled in the second evaluation period (n=105 in period 1 and n= 201 in period 2), as both the total number of clients registered and the hours of operation increased. Since the commencement of the second evaluation period the service has regularly seen approximately 809 clients per month.

Client characteristics

Sydney MSIC clients had a median age of 31 years, and had been injecting drugs for a median of 11.6 years. Seventy four percent of clients were male, 81% identified as heterosexual, over 90% spoke English at home and approximately 10% were of Aboriginal and/or Torres Strait Islander background. Over 70% of clients had not completed high school and 60% were unemployed. One third were in unstable accommodation at the time of registration and 23% had been imprisoned in the previous 12 months. Fifty one percent of clients indicated at registration that they would have injected in public if they had not been able to access the Sydney MSIC on this occasion. Assuming that this pattern would have continued at subsequent visits and that Sydney MSIC attendance did not alter their injecting frequency, it can be estimated that 109,343 episodes of public injecting (i.e. 51% of the total number of injecting episodes taking place at the Sydney MSIC) were averted through use of the service over the 44 month period.

Client drug overdose incidents

The service managed 1,262 drug overdoses with no fatalities recorded. The majority of overdoses were heroin-related, with 19% requiring the therapeutic administration of naloxone. The total overdose rate was 7.5 per 1,000 visits for evaluation period 1 and 5.4 per 1,000 visits in evaluation period 2, with a pronounced decrease in the rate of heroin overdose between the two periods (9.8/1,000 vs. 6.6/1,000).

Referrals to drug treatment, health care and social welfare services

Sixteen percent of all registered clients (n=1,170) received 3,620 referrals to drug treatment, health and medical care and social welfare services since the Sydney MSIC opened in May 2001. The majority of these referred clients had visited the service more than once (97%). Thirty eight percent (n=445) of the individual clients had received one referral, while 23% had received two (n=268). Forty one percent of all referrals provided were for drug treatment services.

Needle syringe program

Since commencement, approximately 93,000 needles and syringes have been dispensed from the exit stage of the service. Needles were dispensed on 55 occasions per 1,000 visits, with an average of 8 needles dispensed per occasion.

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CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 Introduction and background

The Sydney Medically Supervised Injecting Centre (MSIC) evolved out of the NSW Parliamentary Drug Summit in 1999, which supported an 18-month trial of a single medically supervised injecting centre in Kings Cross, recognising that its operation may have both public health and public order benefits. The Joint Select Committee into Safe Injecting Rooms for the Parliament of NSW^{1,2} in 1999, identified the potential public health benefits of the supervised injecting facilities as including a reduction in the morbidity and mortality associated with drug overdoses; reduced transmission of blood borne infections such as HIV, hepatitis B and hepatitis C; increased access to health and social welfare services and contact with a marginalised injecting drug using population. Possible public order benefits of the service were a potential reduction in street based injecting, a reduction in the number of needles and syringes discarded in public places and reduced crime in the local area.^{1,2} Specifically, the Government's objectives were to prevent drug overdose deaths; provide a gateway into treatment and counselling; reduce problems of discarded needles and public injecting; and help reduce the spread of HIV and HCV. This report considers three of these potential outcomes, namely, reduced morbidity and mortality associated with drug overdoses; increased access to health and social welfare services and contact with a marginalised injecting drug using population; and, reduction in street based injecting.^{1,2}

The Sydney MSIC opened in May 2001 for a trial period of 18 months and was initially evaluated for the period May 2001 to October 2002, the data for which were presented in the "Final Report of the Evaluation of the Sydney Medically Supervised Injecting Centre"³. The trial period was subsequently extended to October 2007 and the NSW Department of Health commissioned the National Centre in HIV Epidemiology and Clinical Research (NCHECR) to undertake a second evaluation phase to cover the period November 2002 to April 2007. A contract was established which committed NCHECR to produce several reports over the period and this Interim Evaluation Report 1 describes the operational activity and service delivery at the Sydney MSIC. Further reports will follow on public amenity, client health and treatment uptake. A final evaluation report for the period November 2002 to April 2007 will be available in mid 2007. The NSW Bureau of Crime Statistics and Research (BOCSAR) has also been commissioned by the NSW Department of Health to produce a number of reports as part of this evaluation phase.

Throughout this report reference is made to the first evaluation period and the second evaluation period, which are defined as:

Period 1: May 2001 to October 2002 (an 18 month period, during which the service operated for approximately 60 hours per week)

Period 2: November 2002 to December 2004 (a 26 month period, during which the service operated for approximately 80 hours per week from January 2003).

The start of second evaluation period is indicated with a dotted line in Figures throughout this report.

1.2 Sydney MSIC service model

The Sydney MSIC is located in Kings Cross with a street front entry. Clients access the facility via a one-way system, with an exit at the rear of the facility exiting into Kellett Street. The three stage system, presented by van Beek in 2003⁴ is described below.



Illustration 1: Sydney MSIC Darlinghurst Road entrance⁹

source: www.sydneymsic.com



Illustration 2: Sydney MSIC Kellett Street exit⁹

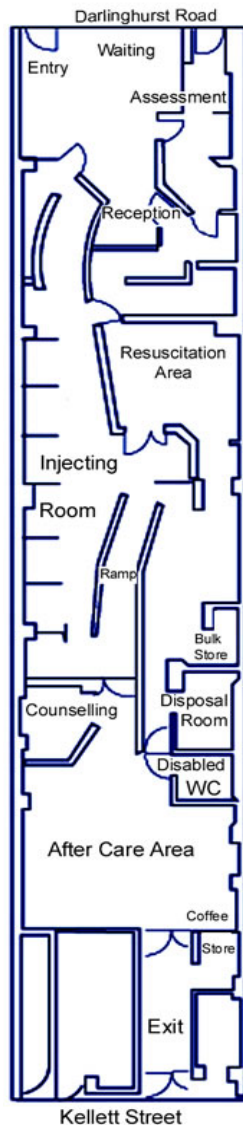


Illustration 3: Sydney MSIC floor plan
 # source: www.sydneymsic.com

Stage 1

The Waiting Room and Assessment Area is where clients are registered on their first visit and where they are assessed for eligibility to use the service on all subsequent visits. The initial registration aims to:

- o establish that the client is an existing injecting drug user, not aged under 18 years, not pregnant or accompanied by a child and not intoxicated, and
- o collect clients' demographic information and comprehensive medical history including previous drug overdose and treatment information as well as social welfare information.

At each subsequent visit clients are asked to provide details of the last drug used, other drug and alcohol use that day, and drug to be injected at this visit. This information is used to assess risk of drug overdose. Clients are also assessed by staff at each visit for evidence of intoxication.

Stage 2

The Injecting Room is a clinical environment with two trained staff, including a registered nurse, always on duty. It has eight open booths that can seat two people each, allowing staff to supervise at all times. In the Injecting Room clients are given sterile injecting equipment, advice on safer injecting practices and, where indicated, provided with first aid and other clinical services. There are disposal bins for used injecting equipment and a resuscitation room to manage drug overdoses and undertake other clinical procedures.

Stage 3

The After Care Area is where the clients remain under observation until they are ready to leave. Counsellors and social welfare staff are on hand to refer clients to other services including medical consultations, housing and legal assistance, social welfare, drug treatment and rehabilitation.

Exit

Clients leave the MSIC from the rear, onto Kellett St. This door also allows ambulance access to the centre.

1.3 Sydney MSIC internal management protocols

The Sydney MSIC operates under a licence issued by the Responsible Authorities, namely the Director General, NSW Health and the Commissioner for Police. The licence states that the Internal Management Protocols of the service must be adhered to (see Appendix 2).

These Protocols specify:

- services provided
- staff requirements
- occupational health and safety policies
- operating procedures.

Eligibility criteria in the Internal Management Protocols required that all clients:

- be 18 years of age or over
- have injected drugs previously
- not be known to be, or obviously, pregnant
- not be accompanied by children
- not be intoxicated (from alcohol and/or other drugs).

The Sydney MSIC Client Code of Conduct (Appendix 3) is provided to all clients on registration and displayed in all three stages of the service. A detailed description of the clinical service model of the Sydney MSIC was published in 2003.⁴

1.4 Sydney MSIC data collection and management systems

Integral to the Sydney MSIC operation and service delivery are a clinical database and data management system.

At the time of registration with the Sydney MSIC, eligible clients are assigned a unique registration number, along with a client chosen password to allow for accurate linkage to records from previous visits. In order to enhance client anonymity, which increases acceptability to the target population, clients are asked only for their first name and the first three letters of their surname. No personal contact details are collected or recorded.

Clients are assessed at registration in the client assessment room of Stage 1 by a health professional (see Illustration 3) and a range of demographic and clinical information is recorded. Consent for use

of the clients' data in the continued evaluation of the service is also obtained. The information collected at registration includes:

- demographics, including language spoken at home; accommodation; education levels; employment status; sexual identity;
- health profile, including self reported history of blood borne virus infection, significant health conditions, injecting drug practice, drug overdose, incarceration, drug and alcohol treatment.

At each subsequent visit, information is entered on the last drug used by the client, whether other drugs and/or alcohol have been used that day and the drug to be injected at the visit.

Data are stored on an electronic database, based on Microsoft® Access 2003 that has been operational since the opening of the Sydney MSIC in May 2001. The database holds information on registrations and visit details. Staff can enter and monitor client data in all three stages of the service. Data from previous visits can be reviewed via a unique identifying code. The database allows for monitoring of both individual and collated information on the use of the service, overdoses, and drugs injected for the purpose of client management, service delivery, and monitoring and evaluation of the service.

The ongoing maintenance and development of the database and data management systems is essential to a service of this kind. A review and revision of the database is planned for mid 2005.

Below are examples of the database interface used by Sydney MSIC staff in each of the service stages.

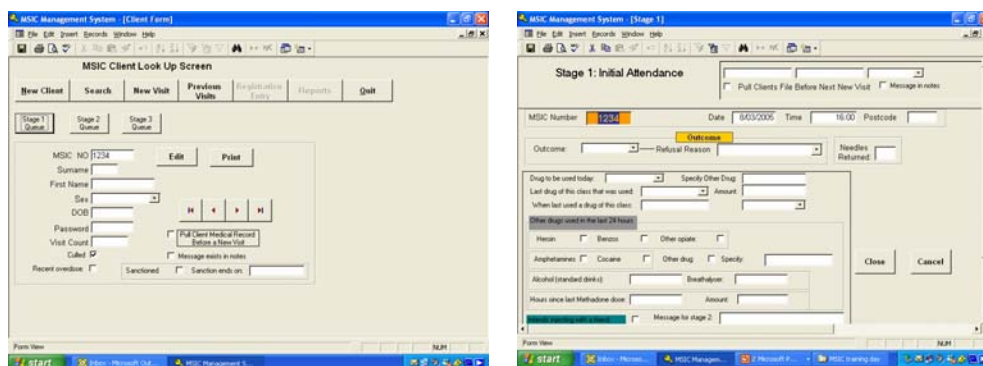


Illustration 4: Examples of the Sydney MSIC database interface for Stages 1 and 2

CHAPTER 2: RESULTS & INTERPRETATION

2.1 Days and hours of operation

From May 2001 to December 2004, the Sydney MSIC was open on 1,322 days, which represents 12,766 hours of operation in total.

Operating hours have been stable since January 2003 when they were extended to approximately 80 hours a week over seven days (see Figure 1), with hours of operation varying slightly on public holidays and for staff training as required.

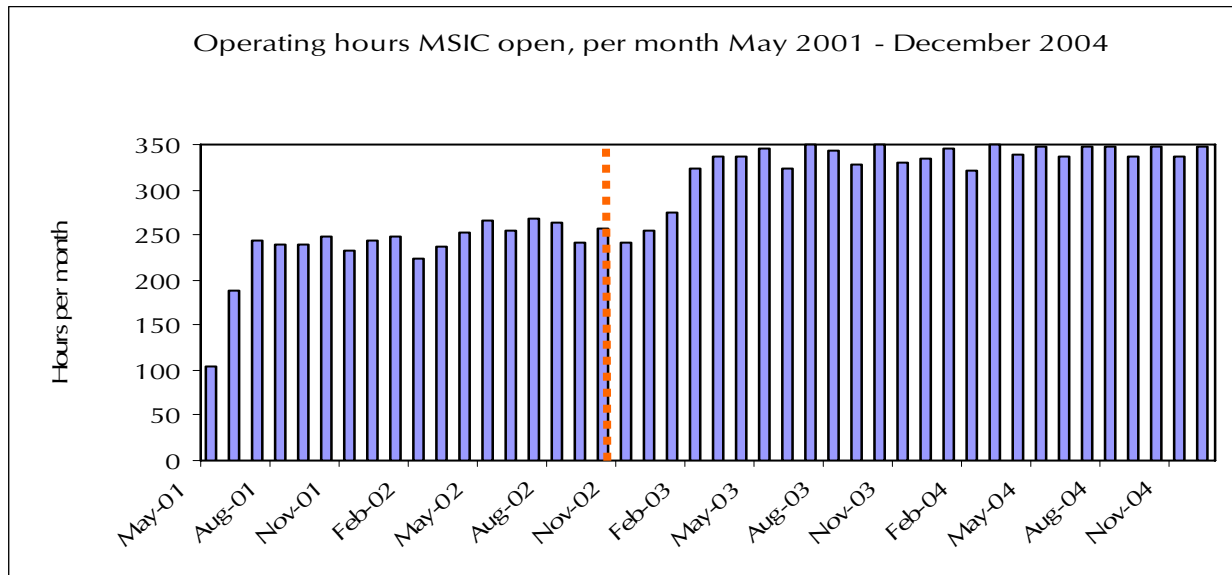


Figure 1: Evolution of operating hours of the Sydney MSIC, May 2001 to Dec 2004

When considering data comparisons between the first and second evaluation periods throughout this report it is important to note that opening hours in period 1 were lower than in period 2.

2.2 Sydney MSIC client registrations

During the 18 months of evaluation period 1 there were 3,772 new registrations to the service as compared with 3,607 in period 2. The total number of client registrations from commencement of the service in May 2001 until December 2004 was 7,392. There has been a steady decline over time in the number of monthly registrations (see Figure 2).

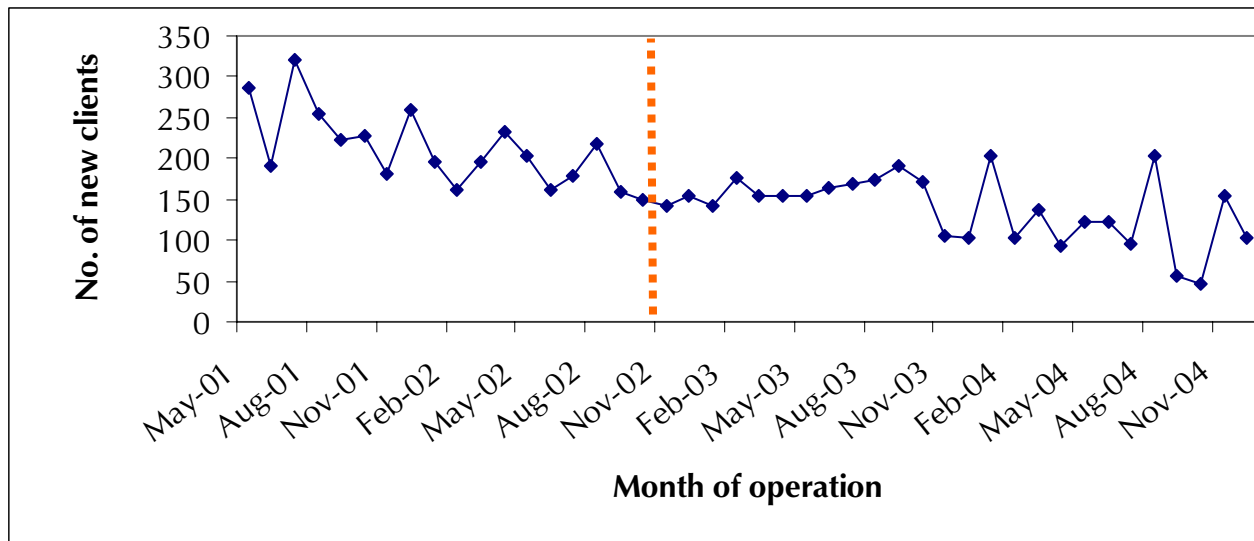


Figure 2: Sydney MSIC registrations, May 2001 to Dec 2004

Interpretation: Following the introduction of a new service it might be expected that registration numbers would decline after an initial period of high enrolment. Subsequently, in the absence of a new epidemic of injecting drug use or any increase in the rate of initiation to injecting drug use, the rate of registrations might be expected to decline.

Kimber et al., recently estimated the coverage of the Sydney MSIC to injecting drug users and found that the service was used at least once by two thirds of the resident IDU population in a) the Kings Cross area postcodes of 2010 and 2011; b) the postcodes within the local health area, South Eastern Sydney Area Health Service; and c) postcodes within the local and adjacent health area, South Eastern Sydney Area Health Service and Central Sydney Area Health Service.⁵ These data indicate comprehensive coverage, with 70% of IDUs in the local area accessing the service.

Of potential interest from a service delivery perspective, is the high variability of new registrations from month to month. There were a range of external factors which may have influenced the number of Sydney MSIC registrations during the period under evaluation, including extensive road works in the immediate vicinity during the second half of 2004.

2.3 Sydney MSIC client visits

Since May 2001 there were 214,399 client visits to the Sydney MSIC, with an average number of visits to the service per day of 162. The average number of visits per day in period 1 was 105, which almost doubled to 201 in period 2 (see Table 1). On average, these visits were made by 637 clients

per month in period 1 and 928 clients per month in period 2 (overall average number of clients visiting per month in May 2001 to December 2004 was 809).

Table 1: Sydney MSIC client visits, May 2001 to Dec 2004

	<i>Period 1</i> May 2001 to Oct 2002	<i>Period 2</i> Nov 2002 to Dec 2004	<i>Total</i> May 2001 –Dec 2004
Number of MSIC visits	56 861	157 538	214 399
Days open	538	785	1323
Average visits per day	106	201	162
Average visits per month	3159	6059	4873

The number of visits per month grew rapidly throughout the first year of operation and continued to increase throughout 2002 (Figure 3). A marked increase in the number of visits per month occurred with the extension of the hours of operation in late January 2003 and was sustained throughout 2003 and 2004, peaking at 266 per day in September 2003.

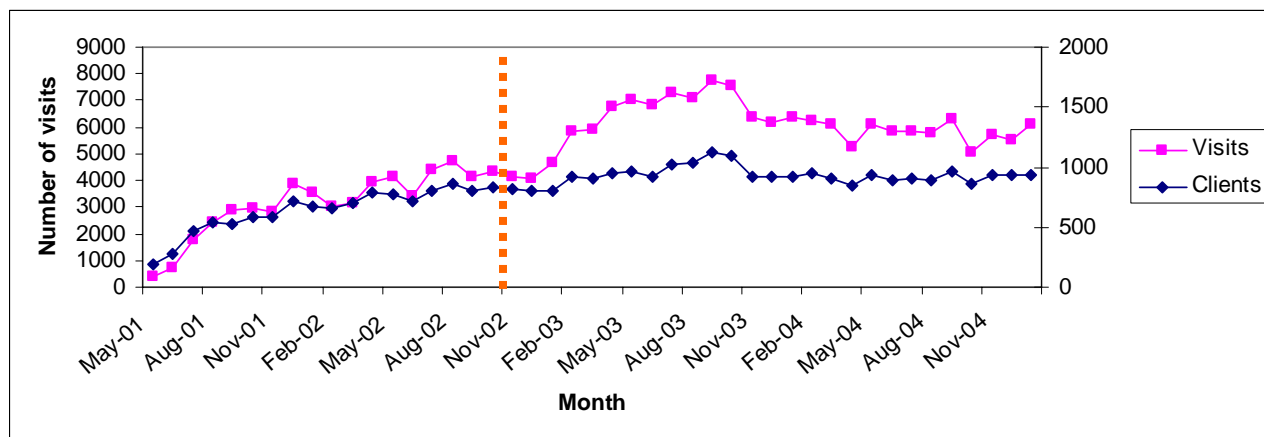


Figure 3: Number of visits and clients attending Sydney MSIC per month, May 2001 to Dec 2004

Interpretation:

The number of visits to the service, as might be expected, increased with the total number of clients registered and hours of operation per week. It is notable that the average number of visits and clients seen remained constant despite a decline in the number of new registrations per month. Short term fluctuations in visit numbers may have been influenced by the same external factors as registration numbers i.e. extended road works in the vicinity during the second half of 2004

2.4 Sydney MSIC client eligibility for entry

Table 2 below presents the total figures on entry refusal since the service opened, plus figures for the two evaluation periods, and rates of refusal per 10,000 visits. The rate of refusal relating to

intoxication doubled in the second evaluation period, with decreases in the rate of refusals for persons aged less than 18 years and those without a history of previous injecting drug use.

Table 2: Reasons for refusal of entry for registration and use of Sydney MSIC, May 2001 to Dec 2004

Reason for refusal	Period 1 May 2001 to Oct 2002		Period 2 Nov 2002 to Dec 2004		Total May 2001 to Dec 2004	
	Total	Rate per 10,000 visits	Total	Rate per 10,000 visits	Total	Rate per 10,000 visits
Refusals as per eligibility criteria						
Aged <18 years old	27	4.75	16	1.02	43	2.01
Not previously an IDU	6	1.06	5	0.32	11	0.51
Pregnant or possibly pregnant	6	1.06	23	1.46	29	1.35
Accompanied by children	8	1.42	4	0.25	12	0.56
Unable to self-administer drugs	1	0.18	2	0.13	3	0.14
Intoxication (drug &/or alcohol)	72	12.66	381	24.18	453	21.12
Other reasons for refusal						
Wishing to use non-injecting routes of administration	1	0.18	2	0.13	3	0.14
Intending to share drugs	13	2.29	13	0.83	26	1.21
Unacceptable behaviour	12	2.11	19	1.2	31	1.44
Sanctioned ¹	5	0.88	63	4.00	68	3.17
Total	151	26.6	528	33.5	679	31.7

1. A temporary ban on accessing the MSIC

In addition to the number of refusals since May 2001, there were 200 episodes of clients or potential clients wanting to use the Sydney MSIC but who were either unwilling to wait or unwilling to register, which accounts for less than 10 per 10,000 visits.

Interpretation:

The number of refusals to the Sydney MSIC for both registration and use was low, with an overall rate of 31.7 per 10,000 visits. There has been a decrease in refusals relating to some of the specific eligibility criteria, which may be due to increased awareness of the service protocols among the client population. The increase in the rate of refusals due to intoxication (i.e. related to alcohol and/or drugs and based on a medical assessment of unacceptably high risk of overdose) in the second evaluation period may be related to an increase in drug availability since November 2002⁶ and the extension of opening hours in January 2003.

2.5 Sydney MSIC client characteristics

2.5.1 Client demographics

Socio-demographic data (Table 3), were collected at registration for a total of 7,379 clients.

Table 3: Demographic characteristics of MSIC clients newly registered May 2001 to Dec 2004, by evaluation period

Characteristic ¹	<i>Period 1</i> May 2001 – Oct 2002 N= 3772	<i>Period 2</i> Nov 2002 – Dec 2004 N = 3607	<i>Total</i> ² May 2001 –Dec 2004 N = 7379
Mean age in years (range)	32.7 (18-67)	33.1 years (18-70)	32.9 (18-70)
Median age in years	30.7	31.8	31.2
Sex			
Male	2751 (73%)	2693 (75%)	5444 (74%)
Female	999 (27%)	905 (25%)	1904 (26%)
Transgender	22 (<1%)	8 (<1%)	30 (<1%)
Missing	0	1 (<1%)	1 (<1%)
Indigenous status			
Aboriginal	310 (8%)	324 (9%)	634 (9%)
Torres Strait Islander	23 (<1%)	19 (<1%)	42 (<1%)
Aboriginal & Torres Strait Islander	15 (<1%)	20 (<1%)	35 (<1%)
Non indigenous	3307 (88%)	3174 (88%)	6481 (88%)
Missing	117 (3%)	70 (2%)	187 (2%)
Language spoken at home			
English	3468 (92%)	3376 (94%)	6844 (93%)
Other language	264 (7%)	220 (6%)	484 (7%)
Missing	40 (1%)	11 (<1%)	51 (<1%)
Education levels			
Didn't complete high school	2628 (70%)	2610 (72%)	5238 (71%)
Completed high school	1045 (28%)	909 (25%)	1954 (26%)
Missing	99 (3%)	88 (2%)	187 (3%)
Main source of income			
Full time employment	805 (21%)	768 (21%)	1573 (21%)
Part time employment	341 (10%)	307 (9%)	648 (9%)
Social security	2158 (57%)	2255 (63%)	4413 (60%)
Sex work	146 (4%)	74 (2%)	220 (3%)
Criminal activity	54 (1%)	31 (1%)	85 (1%)
Other	219 (6%)	152 (4%)	371 (5%)
Missing	49 (1%)	20 (<1%)	69 (1%)
Sex work in the last month			
No	3344 (89%)	3346 (93%)	6690 (91%)
Yes	370 (10%)	206 (6%)	576 (8%)
Missing	58 (1%)	55 (1%)	113 (1%)
Current accommodation			
Stable accommodation	2554 (68%)	2380 (66%)	4934 (67%)
Temporary accommodation	582 (15%)	666 (19%)	1248 (17%)
Street/homeless/squatting	311 (8%)	248 (7%)	559 (8%)
Other	260 (7%)	261 (7%)	521 (7%)
Missing	65 (2%)	52 (1%)	117 (1%)
Sexual orientation³			
Heterosexual	2985 (79%)	2981 (83%)	5966 (81%)
Homosexual	162 (4%)	137 (4%)	299 (4%)
Bisexual	371 (10%)	243 (7%)	614 (8%)
Missing	254 (7%)	246 (7%)	500 (7%)
Client of existing services			
Client of KRC only	1142 (30%)	1004 (28%)	2146 (29%)
Client of K2 only	563 (15%)	391 (11%)	954 (13%)
Client of both KRC and K2	611 (16%)	210 (6%)	821 (11%)

¹Missing categories include invalid data

²Differences assessed by chi squared test, p<0.05 and significance indicated by *

The majority of people registering since May 2001 were male (74%), 26% were female and less than 1% were transgender (n=30). The median age of clients at registration remained consistent between the periods at around 31 years of age. The median age of male clients was 32 years and the median for female clients was 29 years.

Consistently, around eighty percent of clients identified as heterosexual, 4% as homosexual and 8% as bisexual; this has been consistent since opening. In the male client group, 85% identified as heterosexual, 4% as homosexual and 5% as bisexual.

The percentage of clients reporting English as the language spoken at home was over 90% in both periods, and approximately 10% identified as Aboriginal and/or Torres Strait Islander.

Over 70% of MSIC clients reported at registration that they had not completed high school and approximately 60% reported their main source of income as social security benefits.

While sex work was reported as the main source of income for only 3% of all clients, 23% of female clients and 2% of male clients reported engaging in sex work in the last month.

Approximately one third of clients reported unstable accommodation at registration, with this proportion similar in both periods.

For the total period, 53% clients reported at registration that they had accessed the Kirketon Road Centre (KRC) and/or the Needle and Syringe Program (NSP) of K2. The proportion decreased from 61% to 45% between the two periods.

Interpretation:

The data presented here are consistent with data presented following the first evaluation period.^{3,7} Information collected via the annual national Needle and Syringe Program (NSP) survey showed the percentage of participating men attending NSPs across NSW ranged from 62% to 69% in 2001 to 2003.⁸ As 74% of MSIC clients registering from May 2001 to December 2004 were male, this indicates that the service was effective in attracting male IDUs to the service, a group who are at risk of fatal overdose.^{9,10} Of particular risk of fatal overdose are older male IDUs (aged over 35 years) and this is a group who are well represented among clients registered with the service (38% of males are aged 35 years or over) and clients visiting the service (30% of males visiting are aged over 35 years).

Women registering with the MSIC were younger than male clients (median age of 29 years vs. 32 years), while the median age for all MSIC clients was 31 years. The age at registration for all clients was consistent with the median age of NSW participants in the National NSP Survey data which ranged from 30 to 32 years (2001-2003).⁸

Over eighty percent of all MSIC clients identified as heterosexual, which was slightly higher than NSW NSP survey participants (range from 76 to 78% in 2001-2003). Similarly, the percentage of MSIC clients reporting English spoken at home (90%), was higher than the 70% among NSW NSP survey participants in 2001 to 2003.⁸

The proportion of clients from Aboriginal and/or Torres Strait Islander backgrounds in the MSIC client group (approximately 10%) was consistent with the NSW NSP survey results (range from 9% to 12%, 1999 to 2003). There were more than twice as many female MSIC clients (n = 299, 16%) as male (7%) who identified as Aboriginal and/or Torres Strait Islander.

The decrease in the number of clients reporting as KRC and K2 clientele from period 1 to period 2 may be attributed to process of offering pre registration to existing clients of those services, prior to opening of the Sydney MSIC.

The overall profile is of a client population with low levels of education, high levels of unemployment and unstable accommodation, and half of whom are not who are users of local primary health services. An appreciable proportion of the young female clients have engaged in sex work.

2.5.2 Client injecting drug use and overdose history

Data collected at registration on history of injecting drug use and drug overdoses are presented in Table 4.

The median age of first injecting drug use among MSIC clients was 18 years in both evaluation periods (range <10 to 56 years).

Overall, there was an increase in the percentage of visits for injection of heroin between the two periods. The increase in reported use of heroin (51% to 60%) and amphetamines (17% to 27%) as

“last drug injected” from evaluation period 1 to period 2 was matched by a decrease in reporting of cocaine as last drug injected from 22% to 5%. There was a similar shift in the pattern of drugs reported as most commonly injected. There was a statistically significant increase in the proportion of clients reporting opioids (defined as heroin, morphine and other opioids) as the last drug injected from period 1 to period 2 ($P<0.001$), and in the proportion reporting opioids as the most commonly injected drug ($P<0.001$).

From period 1 to period 2, there was also a small decrease in the proportion of clients reporting injecting more than three times per day at registration (12% to 7%).

Forty percent of all MSIC clients reported that they had overdosed in the past ($n=2982$) and twenty five percent of this group reported having overdosed five or more times ($n=746$).

Twenty three percent of clients registered from May 2001 reported having been imprisoned in the 12 months prior to registration, with 33% of this group reporting injecting while in prison.

Overall, 42% of clients had been in methadone maintenance treatment (MMT) at some point prior to registration, and 14% were in MMT at the time of registration. The percentage of clients who reported current MMT at registration decreased in period 2 (17% to 10%).

Eighty three percent of Sydney MSIC clients reported consistent use of new needles and syringes in the month prior to registration. This is than the proportion of NSW participants in the national NSP survey (74%).⁸

Thirty nine percent of clients reported injecting daily or more frequently. At registration forty-eight percent of clients in evaluation period 2 stated that if the MSIC had not been available, they would have injected in a public place (defined as street, park, beach, car, public toilet, or squat), while 38% indicated they would have injected at someone’s home (their own, a friend’s or a dealer’s). Less than 1% stated they would have used a “shooting gallery” and 3% indicated other locations. Fourteen percent of clients also indicated that they would have been injecting alone had the MSIC not been available.

Table 4: Client injecting drug use and overdose history at registration, May 2001 to Dec 2004, by evaluation period

Characteristic¹	Period 1 May 2001 – Oct 2002 N= 3772	Period 2 Nov 2002 – Dec 2004 N = 3607	Total² May 2001 –Dec 2004 N = 7379
Median years of injecting drug use	11.3 years	12.1 years	11.6 years
Median age at first IDU	18 years (range <10-54 years)	18 years (range <10-56 years)	18 years (range <10-56years)
Age at first IDU			
<15 years	592 (16%)	538 (15%)	1130 (15%)
15 – 19 years	1756 (46%)	1697 (47%)	3453 (47%)
20 - 24 years	760 (20%)	729 (20%)	1489 (20%)
25 – 29 years	355 (10%)	330 (9%)	685 (9%)
30 – 34 years	125 (3%)	153 (4%)	278 (4%)
35 -39 years	60 (2%)	46 (1%)	106 (1%)
40 – 44 years	17 (1%)	30 (1%)	47 (1%)
45 and over	13 (<1%)	8 (<1%)	21 (<1%)
Missing	94 (2%)	76 (2%)	170 (2%)
Last drug injected¹			
Heroin	1918 (51%)	2154 (60%)	4072 (55%)
Amphetamines	644 (17%)	968 (27%)	1612 (22%)
Cocaine	847 (22%)	181 (5%)	1028 (14%)
Cocaine & heroin	71 (2%)	10 (<1%)	81 (1%)
Morphine/other opioids	100 (3%)	146 (4%)	246 (3%)
Steroids	2 (<1%)	4 (<1%)	6 (<1%)
Other	60 (2%)	46 (1%)	106 (1%)
Missing	130 (3%)	98 (3%)	228 (3%)
Drug most commonly injected¹			
Heroin	1862 (49%)	1910 (53%)	3772 (51%)
Amphetamines	632 (17%)	865 (24%)	1497 (20%)
Cocaine	659 (17%)	146 (4%)	805 (11%)
Cocaine & heroin	120 (3%)	16 (<1%)	136 (2%)
Morphine/other opioids	98 (1%)	119 (4%)	217 (3%)
Steroids	2(<1%)	3 (<1%)	5 (<1%)
Other	38 (1%)	36 (1%)	74 (1%)
Missing	361 (10%)	512 (14%)	873 (12%)
Frequency of injecting in last month			
> 3 times most days	456 (12%)	241 (7%)	697 (9%)
2 to 3 times most days	573 (15%)	520 (14%)	1093 (15%)
Once a day	521 (14%)	580 (16%)	1101 (15%)
More than weekly, not daily	804 (21%)	801 (22%)	1605 (22%)
Less than weekly	922 (25%)	964 (27%)	1886 (26%)
Did not inject in last month	384 (10%)	385 (11%)	769 (10%)
Missing	112 (3%)	116 (3%)	228 (3%)
N° of clients who reported injecting in the last month	n= 3278	n= 3101	n= 6379
Use of new needles & syringes in last month³			
Yes, for all injections	2679 (82%)	2628 (85%)	5307(83%)
No, not for all injections	563 (17%)	459 (15%)	1022 (16%)
Missing	36 (1%)	14 (<1%)	50 (1%)

Number of times a needle & syringe used after someone else in the last month³			
> 5 times	50 (2%)	37 (1%)	87 (1%)
3 to 5 times	37 (1%)	36 (1%)	73 (1%)
Twice	52 (2%)	39 (1%)	91 (1%)
Once	100 (3%)	57 (2%)	157 (3%)
None	2964 (90%)	2851 (92%)	5815 (92%)
Missing	75 (2%)	81 (3%)	156 (2%)
Number of people who a needle & syringe was used after in the last month⁴			
> 5 people	12 (<1%)	20 (1%)	32 (1%)
3 to 5 people	11 (<1%)	18 (1%)	29 (<1%)
2 people	16 (1%)	14 (<1%)	30 (1%)
1 people	145 (4%)	89 (3%)	234 (4%)
No one	2912 (89%)	2812 (91%)	5724 (89%)
Don't know	15 (1%)	7 (<1%)	22 (<1%)
Missing	167 (5%)	141 (5%)	308 (5%)
Relationship with people with whom a needle & syringe was used after in the last month^{3,4}			
Regular sex partner	106 (3%)	68(2%)	174 (3%)
Casual sex partner	7 (<1%)	14 (1%)	21(<1%)
Close friend	58 (2%)	55 (2%)	113 (2%)
Acquaintance	34 (1%)	42 (1%)	76 (1%)
No one	2762 (84%)	2740 (88%)	5502 (86%)
Other	24 (1%)	15 (1%)	39 (1%)
Ever overdosed			
Yes	1619 (43%)	1363 (38%)	2982 (40%)
No	2093 (55%)	2229 (62%)	4322 (59%)
Missing	60 (2%)	15 (<1%)	75 (1%)
Number of overdoses			
< 5 to date	1164	1067	2231
>=5 to date	455	291	746
Missing	0	5	5
Imprisoned in the last 12 months	946 (26%)	784 (22%)	1730 (23%)
Reported injecting in prison	315	254	569
Ever in MMT	1714 (46%)	1378 (38%)	3092 (42%)
Currently in MMT	644 (17%)	368 (10%)	1012 (14%)

¹ Missing categories includes invalid data

² Differences assessed by chi squared test, p<0.05 and significance indicated by *

³ Clients who reported injecting in the lat month

⁴ More than one could be selected

Interpretation:

The median number of years of injecting drug use in the MSIC client group (11.6 years) was consistent with the durations reported by NSW NSP survey participants in 2001 to 2003 (10 to 11 years).⁸ Imprisonment in the previous year was also reported by a similar proportion of MSIC clients (23%) and NSP survey participants (21-22%).⁸

The decrease from period 1 to 2 in the number of clients reporting prior methadone maintenance treatment (MMT) may be due to the policy of pre registration at KRC and K2 (see section 2.5.1).

Clients registering in the second period were less likely to have had contact with these services and therefore possibly less likely to have experienced methadone treatment.

Approximately 60% of the MSIC client group in the second evaluation period had not used MMT, and therefore represented an important group to reach, due to the recognised role of MMT in reducing the risk of overdose.^{9,10}

The reported increase in the frequency of heroin as the most recent and most commonly injected drug followed the well documented decrease in heroin availability in 2001 and a related increase in cocaine, amphetamine and benzodiazepine use.¹¹⁻¹⁵ At 39%, the proportion of MSIC clients reporting injecting daily or more frequently was lower than the 46% reported among NSW NSP survey respondents in 2003.⁸

Eighty three percent of clients reported consistent use of new needles and syringes in the month prior to registration. Inconsistencies in self report may explain the level of missing data for both number of times clients used needle and syringes after someone else and the number of others after whom they reused in the last month.

Over the total period May 2001 to December 2004, 51% of clients reported at registration that they would have injected in a public place if they were unable to access the Sydney MSIC. Assuming that this pattern would have continued at subsequent visits and that Sydney MSIC attendance did not alter their injecting frequency, it can be estimated that 109 343 episodes (i.e. 51% of the total number of injecting episodes) of public injecting were averted through use of the MSIC over the 44 month period.

2.5.3 Characteristics of frequent users of the Sydney MSIC

There are a number of ways to define frequency of attendance at the MSIC. For the purposes of this report, a simple index based on number of attendances was used to make comparisons (Table 5).

The median age was consistent across the three groups defined by number of attendances (31-32 years), as was the proportion identifying as Aboriginal and/or Torres Strait Islander (9-10%). There were, however, greater proportions of women, proportion of MSIC clients reporting sex work in the last month, frequent injectors and clients with a history of overdose among those who had attended more than 10 times.

Table 5: Demographics of Sydney MSIC clients registered May 2001 to Dec 2004, by level of attendance

Characteristics ¹	Number of visits		
	Clients attending once (n=2093)	Clients attending 2 to 10 occasions (n= 2916)	Clients attending on >10 occasions (n= 2370)
Median age in years	31 years	32 years	31 years
Sex			
Male	1578 (75%)	2195 (75%)	1671 (70%)
Female	509 (24%)	710 (24%)	685 (29%)
Transgender	5 (<1%)	11 (<1%)	14 (1%)
Missing	1 (<1%)	0	0
Indigenous status			
Aboriginal /or TSI	212 (10%)	278 (10%)	221 (9%)
Non indigenous	1832 (88%)	2553 (88%)	2096 (88%)
Missing	49 (2%)	85 (3%)	53 (2%)
Sex work in the last month			
No	1945 (93%)	2695 (92%)	2050 (87%)
Yes	110 (5%)	174 (6%)	292 (12%)
Missing	38 (2%)	47 (2%)	28 (1%)
Imprisonment in previous year	465 (22%)	662 (23%)	602 (25%)
Frequency of injecting			
Daily or greater	774 (37%)	1034 (35%)	1165 (49%)
Ever overdosed			
Yes	737 (35%)	1195 (41%)	1050 (44%)
No	1331 (64%)	1689 (58%)	1302 (55%)
Missing	25 (1%)	32 (1%)	18 (1%)
Number of overdoses			
< 5 to date	506 (69%) [^]	891 (74%) [^]	728 (69%) [^]
>=5 to date	189 (26%) [^]	274 (23%) [^]	291 (28%) [^]
Missing	42 (5%) [^]	30 (3%) [^]	31 (3%) [^]

¹ Missing categories include invalid data
[^] percentage of ever overdosed

2.6 Sydney MSIC client injecting drug use

The drugs most commonly injected at the Sydney MSIC (Table 6) were heroin (72%), cocaine (13%), amphetamines (6%), benzodiazepines (5%), and other drugs (3%). The proportion of MSIC injections involving heroin increased in mid 2002 and has been moderately stable thereafter (Figure 4).

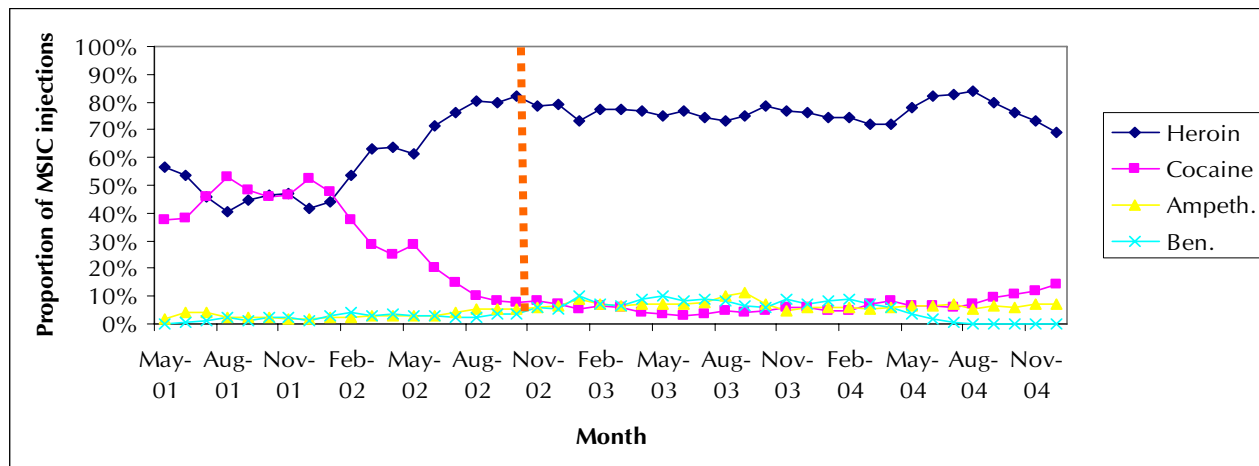


Figure 4: Proportion of visits to inject heroin, cocaine, amphetamines and benzodiazepines, May 2001 to Dec 2004

Table 6: Proportion of drugs types injected by Sydney MSIC clients, May 2001 to Dec 2004

	<i>Period 1</i> May 2001 to Oct 2002 n = 56 302 injections	<i>Period 2</i> Nov 2002 to Dec 2004 n = 155 830 injections	<i>Total</i> May 2001 –Dec 2004 n = 212 132 injection
Heroin	61%	76%	72%
Cocaine	30%	6%	13%
Amphetamines	3%	7%	6%
Benzodiazepines	3%	6%	5%
Other	2%	3%	3%

Interpretation:

During evaluation period 1, and consistent with the registration data noted above, the reduction in heroin availability coincided with a peak in reported cocaine injection, accounting for cocaine as the drug injected in 30% of all injections. In evaluation period 2, the heroin injecting returned to levels seen prior to the first period.

Benzodiazepine accounted for 5% of total injections for the period May 2001 to December 2004, and decreased to below 1% after July 2004. This reduction has most likely been due to the withdrawal of the gel cap formulation of temazepam from the Australian pharmaceutical market in March 2004.

2.7 Drug overdose incidents

The Sydney MSIC defines the opioid overdose syndrome according to Harrison's Principles of Internal Medicine¹⁶ and uses the Glasgow Coma Scale¹⁷ to objectively assess level of consciousness.

Since opening, the Sydney MSIC has managed 1,262 drug-related overdoses without fatality (see Table 7 below). Overdoses were overwhelmingly associated with heroin use (n=1,118, 89%), and 19% (n=208) of these episodes required the therapeutic administration of naloxone. There has been an overall drug overdose rate of 5.9 per 1,000 visits to the Sydney MSIC, and among visits to inject heroin, an overdose rate of 7.3 per 1,000 visits. The total overdose rate was 7.5 per 1,000 visits for evaluation period 1 and 5.4 in evaluation period 2. There was a more pronounced decrease in the number of overdoses among people who injected heroin across both periods (9.8/1,000 vs. 6.6/1,000) (see Figure 5).

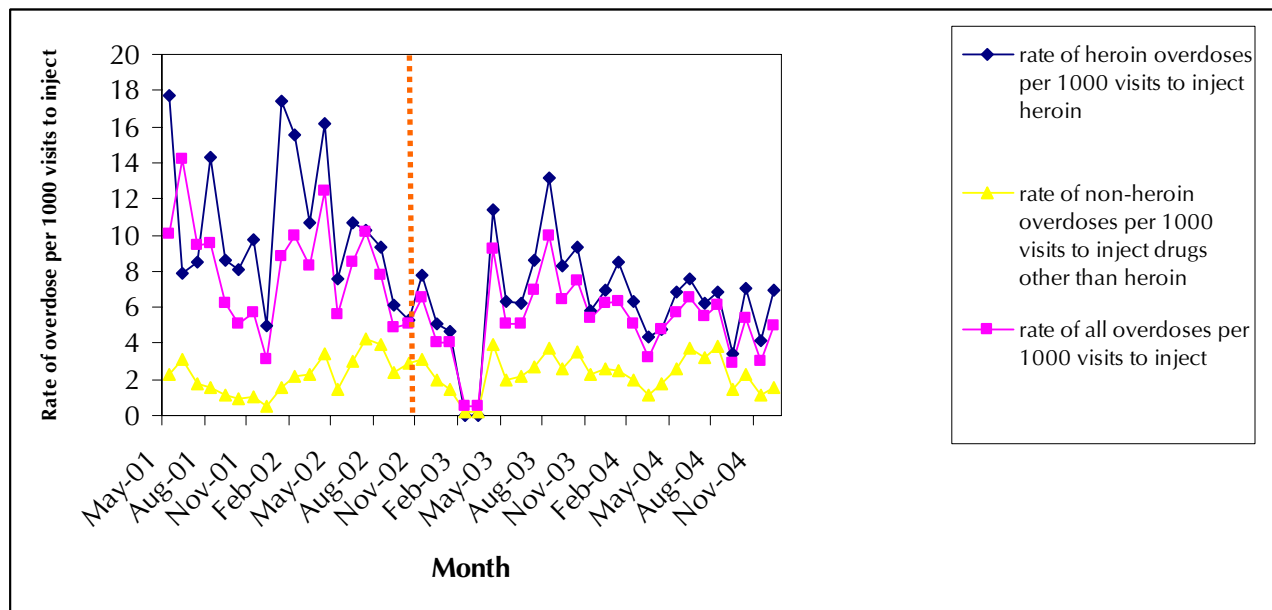


Figure 5: Rate of overdose to inject heroin and other drugs, per month, May 2001 to Dec 2004

In addition to heroin related overdoses, the Sydney MSIC has also managed a total of 66 cases of cocaine-related toxicity (5%), 53 benzodiazepine-related overdoses (4%), 20 other opioid overdoses (2%), three cases of amphetamine-related toxicity (<1%) and one case of ecstasy-related toxicity (<1%).

While the number of injecting episodes involving benzodiazepines decreased, the rate of overdoses following benzodiazepine injection remained relatively stable from evaluation period 1 to period 2.

Table 7: Drug overdose incidents at the Sydney MSIC, May 2001 to Dec 2004

	Period 1 May 2001 to Oct 2002 n= 56,302 injections	Period 2 Nov 2002 to Dec 2004 n= 155,830 injections	Total May 2001 –Dec 2004 n = 212,132
Heroin	337 (79%)	781 (93%)	1118 (89%)
Cocaine	60 (14%)	6 (1%)	66 (5%)
Benzodiazepines	16 (4%)	37 (4%)	53 (4%)
Other opioid	11 (3%)	9 (1%)	20 (2%)
Amphetamine	0 (0%)	3 (<1%)	3 (<1%)
Ecstasy	0 (0%)	1 (<1%)	1 (<1%)
Other drugs	0 (0%)	1 (<1%)	1 (<1%)
Total	424	838	1262
Overdose rate	7.5/1,000 visits	5.4/1,000 visits	5.9/1,000 visits
Heroin overdose rate	9.8/1,000 visits to inject heroin	6.6/1,000 visits to inject heroin	7.3/1,000 visits to inject heroin

Interpretation:

It is not possible to state which specific overdose incidents at the Sydney MSIC would have resulted in an ambulance call out or significant mortality and morbidity had they occurred elsewhere. However, it is likely that a substantial proportion of overdoses managed at the Sydney MSIC would otherwise have occurred in public.

2.8 Sydney MSIC referrals to drug treatment, health care and social welfare services

Sixteen percent of all registered Sydney MSIC clients (n=1170) received at least one of the 3620 referrals to drug treatment, other health and medical care and social welfare services provided by staff since May 2001. Thirty eight percent (n=445) of clients had received one referral, while 23% had received two (n=268).

Forty one percent of all referrals made by the Sydney MSIC provided were for drug treatment, while 33% were for health care, and 26% were for social welfare services (Table 8).

The majority of these clients receiving a referral had visited the service more than once (97%).

Table 8: Number and type of referrals at the Sydney MSIC, May 2001 to Dec 2004

Referral type	Period 1 May 2001 – Oct 2002	Period 2 Nov 2002 – Dec 2004	Total May 2001 –Dec 2004
Drug treatment			
Detoxification program	134	289	423
Buprenorphine treatment	179	150	329
Drug and alcohol counselling	107	200	307
Methadone maintenance	125	105	230
Residential rehabilitation	43	122	165
Narcotics Anonymous/Self-help	10	8	18
Naltrexone maintenance	3	3	6
<i>Sub-total for drug treatment</i>	601 (43%)	877 (39%)	1478 (41%)
Health care			
Medical consultation ¹	313	471	784
Health education	86	256	342
BBV/STD testing	40	38	78
<i>Sub-total for health care</i>	439 (32%)	765 (34%)	1204 (33%)
Social welfare			
Social welfare assistance	227	406	633
Other counselling	63	123	186
Legal/advocacy	51	17	68
Other	4	47	51
<i>Subtotal for social welfare</i>	345 (25%)	593 (27%)	938 (26%)
Total	1385	2235	3620

¹ Includes dental health and psychiatric referrals

Interpretation:

Nearly all referrals were provided to clients who had visited the Sydney MSIC more than once (97%). This is consistent with evidence from clinical practice suggesting that some degree of familiarity and rapport between clients and service providers is an important pre-requisite to a successful referral system.^{18,19} The percentage of individual clients receiving a referral (16%) is similar to the proportion (15%) reported in the first evaluation report for the period May 2001 to October 2002.³

A Case Referral Coordinator position was established in October 2004 to focus on coordinating client referrals to treatment and social welfare services.

2.9 Other occasions of service provided at the Sydney MSIC

Data on the number and type of other occasions of service provided at the Sydney MSIC (excluding referrals) was not available for this current report due to coding issues with these indicators. The Sydney MSIC has employed a consultant to review and provide advice on this issue.

2.10 Needle and syringe program of the Sydney MSIC

In addition to the injecting equipment provided during supervised injecting episodes at the Sydney MSIC, 93,606 needles and syringes were dispensed from the exit stage of the service between May 2001 and December 2004 (Figure 5). This service was provided at a rate of 55 occasions per 1,000 visits with an average of 8 needles and syringes per occasion. The maximum monthly number of needles and syringes dispensed was 3,432 in December 2004 (Figure 5).

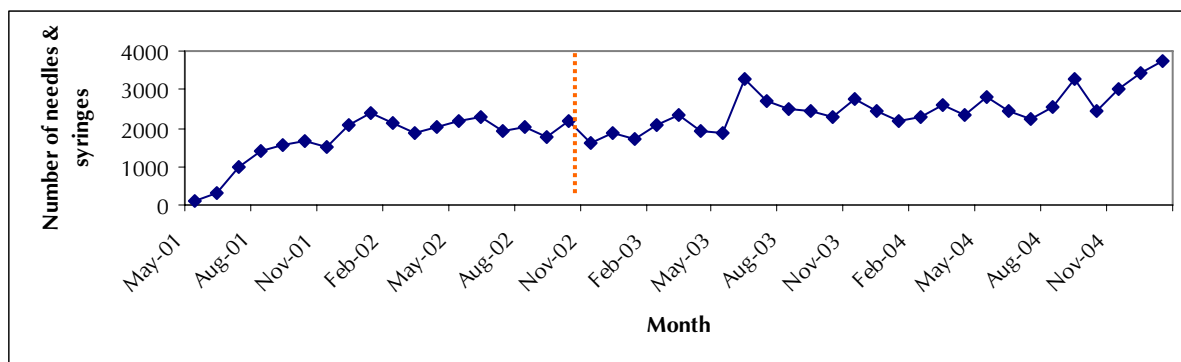


Figure 6: Injecting equipment supplied at the Sydney MSIC, per month, May 2001 to Dec 2004

Interpretation

Increased numbers of needles and syringes dispensed from the exit stage of the service in the second evaluation period may be attributed to the increase in opening hours since January 2003.

CHAPTER 3: SUMMARY AND CONCLUSIONS

The operational and service delivery data presented in this Interim Evaluation Report can be considered in the context of three potential public health and public order benefits associated with supervised injecting centres, namely, reduced morbidity and mortality associated with drug overdoses; increased access to health and social welfare services and contact with a marginalised injecting drug using population; and, reduction in street based injecting.^{1,2}

Reduction in the morbidity and mortality associated with drug overdoses

- Most injections supervised in the Sydney MSIC were of heroin (72%) or cocaine (13%). During the first evaluation period, which included the period of a reduction in heroin supply in Australia, there was a higher level of cocaine injection, accounting for more than 50% of injections in August and December of 2001.
- A total of 1,262 drug overdose incidents have been managed without fatality at the Sydney MSIC since May 2001. The majority these were heroin related, 19% of which required the administration of naloxone. There was a decrease in heroin overdose per 1,000 visits in evaluation period 2 compared to evaluation period 1 (9.8/100 vs. 6.6/1,000), which is consistent with a general decline in overdoses, both fatal and non fatal, seen in NSW and nationally.^{10,11}

Increased access to health and social welfare services contact with marginalised IDU population

- Sixteen percent of all registered clients (n=1170) received at least one of the 3620 referrals to drug treatment, health and medical care and social welfare services provided by Sydney MSIC staff since May 2001. Thirty eight percent (n=445) of the clients had received one referral, while 23% had received two (n=268). The highest number of referrals received by one client was 27. Forty one percent of all referrals provided were for drug treatment, 33% were for health care, 26% for social welfare (Table 8).
- Nearly all referrals were provided to clients who had visited the Sydney MSIC more than once (97%), which is in line with evidence from clinical practice which suggests that some degree of familiarity and rapport between clients and service providers is an important pre-requisite to a successful referral system.^{18,19}
- The percentage of individual clients receiving a referral (16%) is consistent with the proportion (15%) reported in the first evaluation report for the period May 2001 to October 2002.³

-
- Since opening in May 2001 the Sydney MSIC has continued to engage its targeted client population, including people injecting on a daily basis, those who have overdosed previously and IDUs with a history of public drug use.
 - The internal management protocols and the clinical model of the Sydney MSIC appear to have built a service that is acceptable to clients and has achieved good coverage of local injecting drug users.
 - The average number of visits per day in period 1 was 105, which almost doubled to 201 in period 2. On average, these visits were made by 637 clients per month in period 1 and 928 clients per month in period 2 (overall average number of clients visiting per month in May 2001 to December 2004 was 809).
 - Demographic details collected at registration indicate that the median age of Sydney MSIC clients was 31 years and that the majority of clients were male, heterosexual and unemployed. High levels of residential instability and sex work among female clients also indicate that the MSIC is engaging marginalised groups of IDUs.
 - Forty-seven percent of clients began injecting between ages 15 and 19 years and most (75%) report always using new needles and syringes. Heroin was most commonly reported, at registration, as the drug most frequently injected (55%), followed by amphetamines and cocaine.

Reduction in street based injecting

- Over the total period May 2001 to December 2004, 51% of clients reported at registration that they would have injected in a public place if they were unable to access the Sydney MSIC. Assuming that this pattern would have continued at subsequent visits and that Sydney MSIC attendance did not alter their injecting frequency, it can be estimated that 109 343 episodes (i.e. 51% of the total number of injecting episodes) of public injecting were averted through use of the MSIC over the 44 month period.

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