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## Substance abuse and the HIV situation in Malaysia

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### ABSTRACT

#### Keywords:

Amphetamine type stimulants  
Drug user  
Heroin  
Human immunodeficiency virus  
Opiates

Heroin continues to be the main drug used in Malaysia, whereas amphetamine-type stimulants (ATSs, such as ecstasy, *syabu*, and *yaba*) have been recently identified as a growing problem. A cumulative total of 300,241 drug users were detected between 1988 and 2006. It is also estimated that Malaysia has 170,000 injecting drug users. Human immunodeficiency virus (HIV) prevalence among drug users in the country ranges from 25% to 45%. Currently, there are approximately 380 general medical practice offices that offer agonist maintenance treatments for approximately 10,000 patients. There are 27,756 active patients in 333 general medical practice offices and government-run methadone maintenance treatment (MMT) centers. The needle syringe exchange program reached out to 34,244 injection drug users in 2011. In the past 2 years (2011 and 2012) the number of detected drug addicts decreased from 11,194 to 9015. The arrests made by the police related to opiate and cannabis use increased from 41,363 to 63,466 between the years 2008 and 2010, but decreased since 2010. An almost four-fold increase in the number of ATS and ketamine users was detected from 2006 (21,653 users) to 2012 (76,812). Between 2004 and 2010, the yearly seizures for heroin ranged from 156 kg to 270 kg. However, in 2010 and 2011, heroin seizures showed a significant increase of 445 kg and 410.02 kg, respectively. There has been a seizure of 600–1000 kg of *syabu* yearly from 2009 to 2012. Similar to heroin, increased seizures for *yaba* have also been observed over the past 2 years. A significant increase has also been recorded for the seizures of ecstasy pills from 2011 (47,761 pills) to 2012 (634,573 pills). The cumulative number of reported HIV infections since 1986 is 94,841. In 2011, sexual activity superseded injection drug use as the main transmission factor for the epidemic. HIV in the country mainly involves males, as they constitute 90% of cumulative HIV cases and a majority of those individuals are IDUs. However, HIV infection trends are shifting from males to females. There are 37,306 people living with HIV who are eligible for treatment, and 14,002 people living with HIV were receiving antiretroviral treatment in 2011. The decreasing trend of heroin users who have been detected and arrested could be due to the introduction of medical treatments and harm reduction approaches for drug users, resulting in fewer drug users being arrested. However, we are unable to say with certainty why there has been an increase in heroin seizures in the country. There has been an increasing trend in both ATS users and seizures. A new trend of concurrent opiate dependence and ATS underscores the need to develop and implement effective treatments for ATS, concurrent opiate and ATS, and polysubstance abuse disorders. The low numbers of needle syringe exchange program clients being tested for HIV

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underscores our caution in interpreting the decline of HIV infections among drug users and the importance of focusing on providing education, prevention, treatment, and outreach to those who are not in treatment.

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## 1. Introduction

Malaysia is an Islamic country in Southeast Asia with a population of 29,703,240 [1]. It is situated close to the golden triangle and, historically, opium was used in Malaysia largely by the Chinese immigrants. In 1929, it had 52,313 registered opium users. By 1941, there were 75,000 opium users. The hippy culture in the 1970s and the Vietnam War resulted in the introduction of cannabis and heroin to Malaysia [2]. Heroin is commonly smoked or injected in Malaysia. Recently, amphetamine-type stimulants (ATSs), including crystal methamphetamine and various other methamphetamine and/or amphetamine-containing substances/pills, have been identified as a growing problem, not only in Malaysia but also throughout the Southeast Asia Region [3–5]. In our previous study, approximately 60% of opioid injecting drug users (IDUs) in Malaysia reported lifetime use of ATS, with 29% also reporting lifetime injection of ATS [6].

Between 1988 and 2006, a cumulative total of 300,241 drug users were detected, representing about 1.1% of the total population [7]. It is estimated that there are 170,000 IDUs in the country [8]. Human immunodeficiency virus (HIV) prevalence among drug users in Malaysia ranges from 25% to 45% [9]. In another previous study of ours, HIV prevalence of 43.9% was reported among IDUs not in treatment [6].

Malaysia's drug policy was largely shaped from a security standpoint, with the Ministry of Home Affairs being responsible for dealing with issues related to drug use and drug trafficking. Subsequently, this meant that the problem of drug use was largely seen as a threat to national security. Severe criminal penalties were given to drug users, which often included prison sentences. In regard to drug treatment, only mandatory institutional drug rehabilitation for a period of 2 years was provided through the criminal justice system. These mandatory institutional facilities did not provide medically assisted treatment programs and were more geared towards rehabilitating the physical aspects of the drug user. This program was not successful and resulted in high relapse rates, ranging from 70% to 90% within the first year following discharge [10].

In response to the continuing problems with heroin dependence and the emerging HIV/AIDS epidemic resulting from injecting drug use, Malaysia introduced opiate agonist maintenance treatment. Buprenorphine and methadone were approved in 2002 and 2003, respectively. Besides introducing opiate agonist maintenance treatment, Malaysia also implemented a needle syringe exchange program (NSEP) and started restructuring its mandatory institutional rehabilitation program. Currently, approximately 380 general medical practice offices offer agonist maintenance treatments for approximately 10,000 patients. There

are 27,756 active patients in 333 general medical practice offices and government-run methadone maintenance treatment (MMT) centers. MMT programs were also introduced into prisons in 2008, which had expanded to 18 MMTs in prisons by 2011. Twenty-one government-run compulsory drug rehabilitation centers are still open (including one center for females), with a total of 5102 residents/inmates undergoing rehabilitation in 2012. Forty-two voluntary government treatment and rehabilitation centers, known as Cure and Care Service Centres, had 1836 residential and 176,929 nonresidential inmates/patients in 2012. The NSEP started in 2006 and has reached out to 34,244 IDUs, with an average distribution of needle/syringe sets of about 116/IDU/year (2011).

In this paper, we will describe and discuss the trends of substance abuse and HIV in Malaysia.

## 2. Methods

Secondary data were collected by the authors mainly from the National Anti Drug Agency, which manages the national database on drug abuse in Malaysia, the Royal Malaysian Police, which maintains all drug seizure data, and the Ministry of Health, which maintains the HIV/AIDS database in the country. In addition to local databases, country data from the United Nations Office on Drugs and Crime and United Nations country reports were used. A literature search using the Internet was conducted to identify other relevant published studies.

## 3. Results

### 3.1. Drug use

Similar trends in the number of drug addicts detected and number of drug users arrested are observed in Figs. 1 and 2; there was an increase between 2008 and 2010 and a decrease from 2010 to 2012.

In Fig. 2, the Section 3(1) *Drug Dependents Act (Treatment and Rehabilitation)* 1983 refers to drug users who were arrested by the police. They tested positive for opiates or cannabis but had not been determined to be addicted to drugs; whereas in Fig. 1, the data provided by the National Anti Drug Agency are for those who have been medically certified to be addicted to drugs. We could not obtain data from 2000 to 2005 for arrests made under Section 3(1) *Drug Dependents Act* to compare with the number of detected drug users detected shown in Fig. 1.

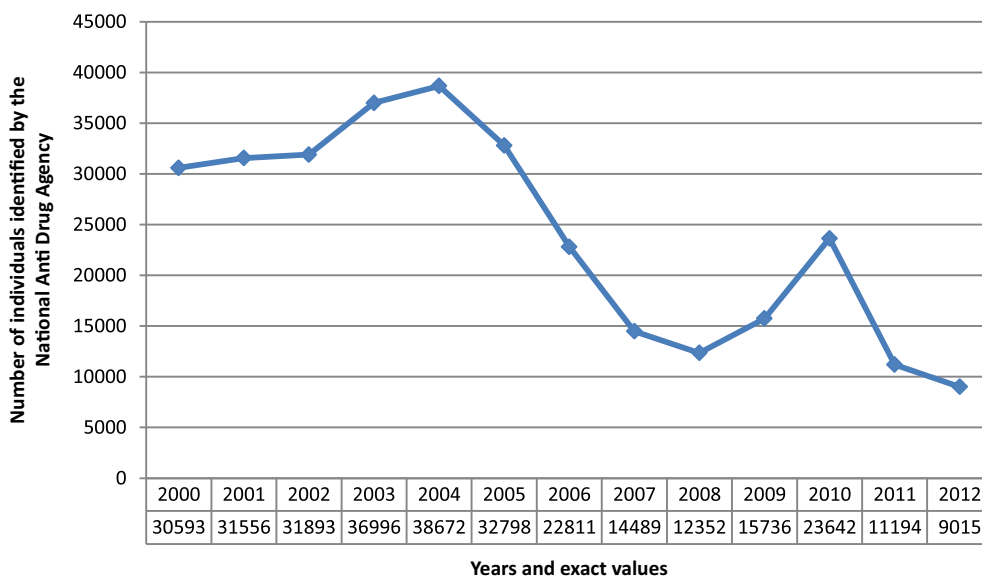


Fig. 1 – Number of drug addicts detected from 2000 to 2012. Source: National Anti Drug Agency (2013).

Approximately 30,000–40,000 drug addicts were detected annually from 2000 to 2005. The number of drug addicts detected between 2004 and 2008 decreased considerably (from 38,672 to 12,352) and increased (from 15,736 to 23,642) in 2009 and 2010. In the past 2 years (2011 and 2012), the number of drug addicts detected by the National Anti Drug Agency decreased from 11,194 to 9015 (Fig. 1).

In terms of arrests made by the police under Section 3(1) *Drug Dependents Act* (Fig. 2) related to opiate and cannabis use, there was an increase from 41,363 arrests to 63,466 arrests between 2008 and 2010, whereas a decrease has been observed since 2010.

The decrease in the number of detected drug addicts can be attributed to the introduction of needle exchange programs and also the availability of medical treatments by private

general practitioners (GPs). Prior to the implementation of these programs, GPs were not allowed to treat drug addicts but were required to report drug addicts to the government, which mandated them to undergo compulsory institutional rehabilitation. Currently, private GPs who treat drug addicts are not required to inform the government; hence, we think that this is the reason for the lower number of drug addicts being detected in the country.

Fig. 3 shows arrests made under Section 15(1) *Dangerous Drug Act of 1952*. This act applies when an individual tests positive for using dangerous drugs and does not need to be medically certified as being drug dependent. In Malaysia, mostly ATS and ketamine users are charged under this section. There was almost a four-fold increase in the number of

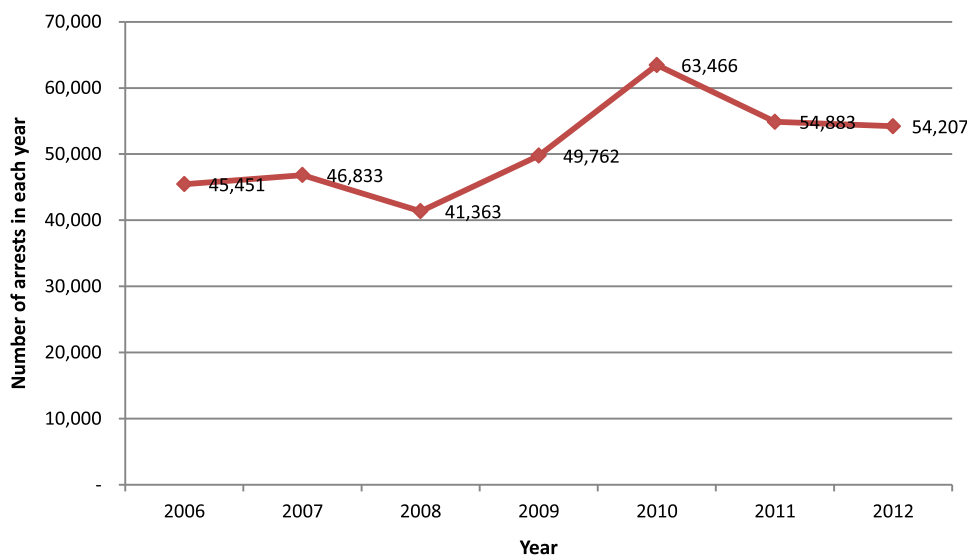
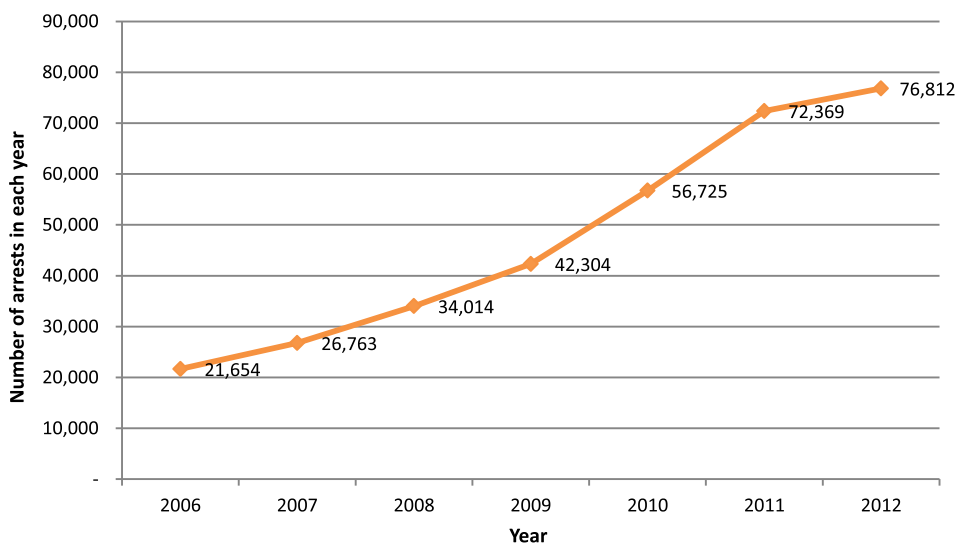


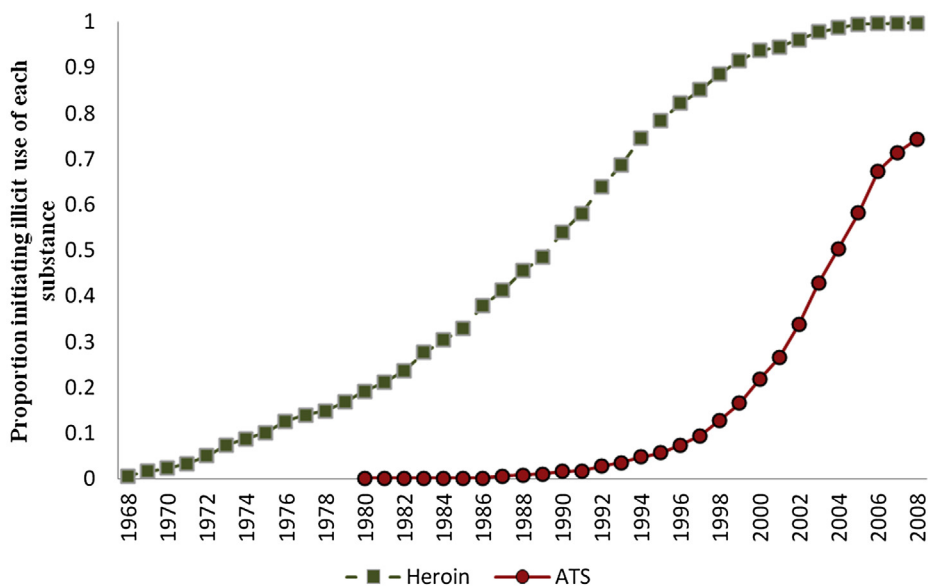
Fig. 2 – Arrests under Section 3(1) *Drug Dependents Act (Treatment and Rehabilitation) 1983*, related to opiate and cannabis drug use from 2006 to 2012. Source: Royal Malaysia Police (2012).



**Fig. 3 – Arrests under Section 15(1)(a) Dangerous Drug Act 1952 (DDA) related to party drug use from 2006 to 2012. Source: Royal Malaysia Police (2013).**

ATS and ketamine users detected from 21,653 in 2006 to 76,812 in 2012. This increase, which was documented by the national database, is also supported by surveys conducted by the authors as shown in Fig. 4’s timelines of initiation of illicit use of heroin and ATS in a sample of 732 not-in-treatment active opiate injectors in Kuala Lumpur, Johor Bahru, and Penang,

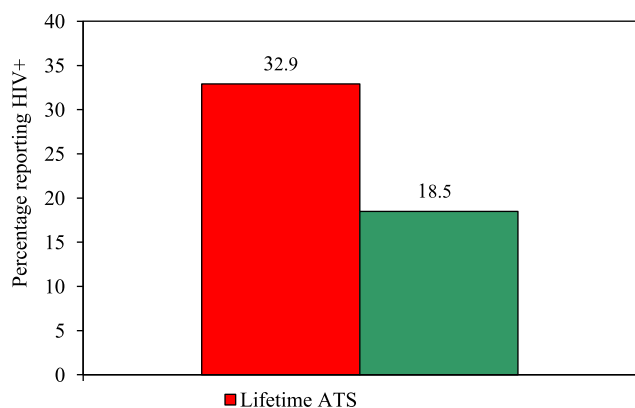
Malaysia [11]. Fig. 4 illustrates that the cumulative proportion of individuals initiating heroin use increased steadily beginning in the late 1960s. ATS use was negligible until 1987 (only one person reported initiation of ATS prior to 1987). The number of participants initiating ATS use increased slowly over the next number of years, prior to rising rapidly after



ATS = amphetamine-type stimulants.

*Note.* From “Lifetime ATS use and increased HIV risk among not-in-treatment opiate injectors in Malaysia,” by M.C. Chawarski, B. Vicknasingam, M. Mazlan M, et al, 2012, *Drug Alcohol Depend*, 124, p. 1XX. Copyright 201X, Name of Copyright Holder. Reprinted [or Adapted] with permission.

**Fig. 4 – Onset of ATS abuse in Malaysia (Chawarski et al [11]).**



ATS = amphetamine-type stimulants; HIV = human immunodeficiency virus

**Fig. 5 – Lifetime ATS use and HIV infection rates.**

1997. By 2008, 75% of the participants had initiated ATS use. In this sample, we also observed a strong association between lifetime ATS use and HIV infection rates (Fig. 5).

### 3.2. Drug seizures

Over the past 2 years, a significant increase in heroin seizures has been observed. Between 2004 and 2010, the yearly seizure of heroin was 156–270 kg. However, in 2010 and 2011, heroin seizures showed an increase of 445 kg and 410.02 kg, respectively. This is in contrast to the number of drug users detected and arrested for the same period (2010 and 2011), when a decreasing trend was observed.

With regard to ATSS (*yaba*, *syabu*, and ecstasy), there has been a seizure of 600–1000 kg of *syabu* yearly from 2009 to 2012. Similar to heroin, increased seizures for *yaba* have also been observed over the past 2 years. A significant increase has also been recorded for the seizures of ecstasy pills—from 47,761 pills in 2011 to 634,573 pills in 2012.

Ketamine seizures have dropped from 378 kg seized in 2010 to 106 kg in 2011 and 118.07 in 2012. Similarly, cannabis seizures also recorded a downward trend from 2010. Table 1 shows the trend of seizures of drugs in Malaysia from 2004 to 2012.

### 3.3. HIV/AIDS situation

The cumulative total of reported HIV infections since 1986 is 94,841. Table 2 provides an overview of the HIV epidemic in Malaysia. In the 1990s, about 70–80% of HIV infections in the

**Table 2 – Overview of the human immunodeficiency virus (HIV) epidemic in Malaysia 2011.**

Indicator	No./%
Cumulative total of reported HIV infections since first detection in 1986	94,841
Cumulative total of reported AIDS since 1986	17,686
Cumulative total of reported deaths related to HIV/AIDS since 1986	14,986
Estimated no. of people living with HIV	81,000
New HIV infections detected in 2011	3479
Notification rate of HIV (per 100,000) in 2011	12.18
Women reported with HIV in 2011	735
Cumulative no. of women reported with HIV as of December 2011	9494
Children aged below 13 with HIV in 2011	65
Cumulative total of children under 13 with HIV as of December 2011	974
Estimated no. of people living with HIV eligible for treatment	37,306
No. PLHIV receiving ART (surveillance data) as of December 2011	14,002

Source: Ministry of Health Malaysia (2012).

country were attributed to IDUs. However, in 2011, HIV infection rates among IDUs declined to 38.7%. This is due to the implementation of harm reduction programs in 2005. These rates are projected to drop to 10% in 2015 [12]. In 2011, sexual transmission superseded injecting drug use as the main factor for the epidemic, with a ratio of six sexual transmissions for every four IDU transmissions reported. HIV in the country also mainly affects males, who make up 90% of cumulative HIV cases, and the majority of these individuals are IDUs. However, a growing number of females are being infected with HIV. The trend of the male-to-female ratio of HIV infection shifted from 1:99 in 1990 to 1:10 in 2000 and 1:4 in 2011 [12].

There are 37,306 people living with HIV who are eligible for treatment, and 14,002 of these (37.4%) were receiving antiretroviral treatment (ART) in 2011. Malaysia provides first-line ART for free, and ART is also made available for incarcerated populations. The second-line protease inhibitor-based regime is also subsidized by the government [12].

The annual reported number of new HIV infections declined from 6978 cases in 2002 to 3479 in 2011. The notification rate of HIV (new and recurrent episodes notified to Malaysian Ministry of Health for a given year, expressed/100,000 population) also decreased from 28.4 in 2002 to 23.4 in 2005, and to 12.2 cases/100,000 population in 2011 [8]. Providing free first-line and affordable second-line ART has

**Table 1 – Seizures of drugs in Malaysia from 2004 to 2012.**

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Heroin (kg)	183	221	156	243	270	217	234	445	410.02
Cannabis (kg)	1031	920	2216	705	751	1734	953	796	751.80
Syabu (kg)	63	37	139	65	355	1093	760	830	608.67
Ketamine (kg)	11	396	190	178	241	378	268	106	118.07
Yaba (pills)	92,549	108,430	242,732	121,629	197,343	107,573	107,963	36,487	521,384
Ecstasy (pills)	103,895	114,887	252,231	151,211	80,800	67,775	60,713	47,761	634,573

Source: Royal Malaysia Police (2013).

also resulted in a decline of AIDS-related deaths. In 2011, 14,000 > PLHIV were in treatment, which is 77.5% of the estimated PLHIV eligible for ART treatment.

We would like to caution that although declining rates are encouraging, the introduction of harm reduction programs has also resulted in fewer drug users being tested for HIV. Prior to the implementation of harm reduction programs, all detected drug users who were mandated to undergo mandatory institutional rehabilitation were tested upon entry to these centers.

#### 4. Discussion

The numbers of heroin addicts detected (Fig. 1) and opiate users arrested (Fig. 2) decreased in 2011 and 2012, whereas the seizures of heroin in the country for the same period almost doubled. We think that the decreasing trend observed in Figs. 1 and 2 is due to the introduction of medical treatments and harm reduction approaches for drug users.

We are, however, unable to say for certain why there has been an increase in heroin seizures in the country. A plausible reason is an obvious increase in demand for heroin in the country. As explained above, the lower number of drug users detected may not necessarily reflect a decreasing trend of drug users in the country. The data provided for heroin seizures in the country are for heroin No. 3, which is for local consumption. Only heroin No. 4 is exported, so the argument that this seized heroin is heading for the international drug market is not plausible. The second potential reason is that Malaysia is often regarded as a transit country for the trafficking of drugs to Australia.

The number of drug users arrested for ATS and ketamine has increased significantly since 2006. Seizures for ATS have also increased, whereas ketamine seizures have decreased over the past 2 years. ATS abuse and opioid dependence are highly prevalent, frequently coincide, and are the major drivers of the HIV and other major public health problems in Malaysia and throughout Asia. ATS abuse by MMT patients may also undermine the effectiveness of MMT.

These new trends, particularly in concurrence with opiate dependence, underscore the need to develop and implement effective treatments for ATS, concurrent opiate and ATS use, and polysubstance abuse disorders. The importance of using a medical model for treatment of drug users needs to be emphasized. This should include using medications and psychosocial interventions. Once individuals enter into drug treatment programs, there also is a higher likelihood that those who are HIV-positive will be able to enroll in HIV treatment. Although we have shown from our survey data that lifetime ATS use is linked to increased HIV infection rates, more studies and more behavioral data are needed to understand the link between ATS use and HIV infection in local settings. Colfax et al [13] and Degenhardt [14], have shown that ATS use might contribute to HIV infection through a number of behavioral and biological pathways—increased energy and sexual activity, impaired judgment leading to unsafe sexual practices, increased injecting drug use and sharing of equipment, and more impulse-sharing in high risk situations.

The introduction of NSEP is commendable, considering the barriers that the government and nongovernmental

organizations had to overcome in 2006 to implement the nationwide program [15]. However, after several years of implementation, the proportions of clients being referred to voluntary counseling and testing and MMT are low, with only approximately 10% of NSEP clients referred to voluntary counseling and testing and 4% referred to and entering MMT [8]. The low numbers of NSEP clients being tested for HIV underscores our caution in interpreting the decline of HIV infections among drug users and the importance of focusing on providing education, prevention, treatment, and outreach to populations of not-in-treatment current drug users.

As Malaysia has, only over the past several years, allowed private medical practitioners to treat drug users in the country, there is a need to provide training to more physicians, especially training on how to dispense medication in a proper way for GPs. Similarly, there is a need to provide counselors with high quality counseling training.

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