

# Opioid Substitution Treatment (OST) in South Asia

## UNODC's Response for Prevention of HIV Among Drug Users in South Asia Through Opioid Substitution Treatment (OST)

### Concepts of Opioid Substitution Treatment (OST)

**Effects of drug use:** Drug use leads to substantial impairment in functioning, high risk behaviour, involvement in illegal activities and is a burden to family as well as an economic loss to society.

**What is OST:** OST substitutes an illicit drug with a medically safe, long acting agonist licit medication. It is prescribed by a medical doctor and administered under the supervision of a trained nurse or pharmacist. Methadone and Buprenorphine are the most well studied medications used for Oral Substitution Treatment.

**Why do Opioid Substitution:** The nature of drug dependence is such that it is a 'relapsing medical condition' and abstinence based approaches alone are unable to help the majority of drug users. OST results in significant harm minimization to the IDU, thereby reducing the risk of transmission of HIV and other blood borne viruses. For certain injecting drug users, abstinence can be achieved, if they are self-motivated to do so, by tapering of medication gradually through consultations between the doctor and the client.

**How OST works:** It results in elimination of craving for the illicit drug. In addition, it blocks the effect of illicit opiate drugs if used by the drug user while he/she is on OST, thereby gradually leading to total abstinence and recovery.

**Effectiveness of OST:** Five Cochrane reviews on substitution treatment (Clark et al, 2003; Faggiano et al, 2003; Ferri et al, 2003; Mattick, Breen et al, 2003; Mattick, Kimber et al, 2003), which include 52 studies with a total of 12,075 participants have been conducted so far. These examined maintenance treatments on both buprenorphine and methadone, besides other maintenance medications. These have been carried out using rigorous research methodology in USA, Australia, Netherlands, Switzerland, Italy, UK, Austria, China, Thailand, Spain and Sweden.

***Overall, these reviews indicate that Buprenorphine and Methadone were effective in retaining patients in treatment and were effective in reducing heroin use among drug users.***

OST is known to be effective in not only reducing illicit drug use but also has the following outcomes:

- Reduced high risk behaviour, risk of HIV infection
- Improved physical and mental health
- Reduced mortality
- Improved psychosocial functioning
- Reduced criminality
- Improved employment status

Overall, it stabilizes and normalizes the lives of drug users.

**Safety:** Buprenorphine and methadone are safe medications when used appropriately under medical prescription and dispensed by trained nurses or pharmacists after imparting adequate training to the staff.

## Scenario



[Bangladesh](#)



[India](#)



[Maldives](#)



[Nepal](#)



[Pakistan](#)

## Bangladesh



Bangladesh has 20,000 - 40,000 injecting drug users (NASP working group on size estimation of HIV infection in Bangladesh, March 22, 2004; final estimate recommended by the same group in Nov 28, 2004). Risky injection and sexual practices among IDUs, including needle and syringe sharing, multiple sexual partners and unprotected sex, have been identified as factors underlying the rapid spread of HIV/AIDS among IDUs and their partners [2]. HIV prevalence among IDUs has seen a steep rise; infection rate among intravenous drug users escalated from 1.7% in 2001 to 4% within a year [3]. To deal effectively with HIV in Bangladesh, International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR, B) has recommended among several steps that "Oral drug substitution treatment needs to be introduced urgently".

## India



Rapid Situation Assessments conducted in two rounds found a rising proportion of IDUs in 14 cities [4]. A small proportion of women and prisoners injected drugs. About 14.3% of those seeking treatment reported having ever injected drugs [5]. Data from the National Household Survey reports that about 0.1% of the sample population had ever injected drugs. Among drug users on the street, about 43% were injecting drugs [6]. Sharing of injection equipment including needles, syringes, water, cotton, use of contaminated needles and incorrect cleaning practices has been observed at sites across the country. In addition to risky injection practices, unsafe sexual activity is also reported among IDUs [7]. At the same time, IDUs did not perceive themselves to be at risk of HIV transmission and only a small proportion has reportedly undergone HIV testing [8]. The risk of HIV infection to wives/sexual partners of IDUs on account of low condom use has been viewed as a serious public health concern [4]. HIV prevalence among IDUs

varies widely across cities. While seropositivity among injectors was found to be as high as 80.7% in Imphal, in Kolkata only 2% of IDUs were HIV positive [9]. In some of the north-eastern states, the spread of HIV/AIDS to the general population has been attributed to HIV infection among IDUs [4]. According to NACP-III, national epidemiological data attributed 2.24% of total HIV infections to injecting drug use [10]. Moreover the expert group which carried out size estimations of the core groups at risk in 2006, was of the opinion that the future of India's HIV epidemic depends on the scope and effectiveness of programmes for three high risk groups, including the sex workers, men having sex with men (MSM) and IDUs.

## Maldives



The first HIV positive case in the Maldives was reported in 1991. Till mid-2006, a total of 13 HIV positive cases had been reported among Maldivians and 168 cases among expatriates. According to the report on 'The HIV/AIDS situation in the Republic of the Maldives in 2006' [11], drug use is on the rise and injecting drug use is becoming more common. NNCB estimates that there are around 3000 drug users in Maldives, but unofficial estimates by the NGO Journey put the number at around 8000 drug users. Injecting drug use was indicated to be practiced by 8% of drug users in 2004, and research in 2006 indicated that this could be as high as 20%. However, in Male it was estimated that nearly 25% of drug users were injecting. Other high-risk behaviour like needle sharing is known to occur frequently. The report also mentions the link between sex work and drug use. Given this scenario, the report says that "rising prevalence of injecting drug use, combined with needle/syringe sharing, is the most likely entry point for the HIV epidemic in the Maldives". The report on the 'HIV/AIDS situation in the Republic of the Maldives in 2006' recommends that "of critical importance is introducing harm reduction interventions at an early stage to prevent introduction of HIV into this community (of drug users)". Specifically, the report recommends two pilot programmes for drug users - one on Needle Syringe Programmes and a program to use methadone. Further the final draft of the National Strategic Plan on HIV/AIDS, Republic of Maldives, 2007-11 [12] proposes that: "Drug users and their sexual partners will receive prevention services with the priority on drug users who inject drugs. They will receive comprehensive prevention and support services both in the community and closed or custodial settings."

## Nepal



The first HIV positive case was identified in Nepal in 1988. With consistently increasing prevalence of more than 5% in certain groups (injecting drug users, migrants), years after years, the country has remained at a critical juncture of concentrated epidemic [13]. Recent integrated bio-behavioral surveys (IBBS) indicate that HIV prevalence among IDUs to be 51.6% in Kathmandu, 31.7% in eastern Tarai districts and 21.7% in Pokhara [14]. The estimated number of IDUs in Nepal is 19, 850 and it is estimated that approximately 1707(8.6%) of the IDUs are covered by various harm reduction interventions [15]. At present, adequate provision of oral substitution treatment (OST) as a core element in the package of harm

reduction services for HIV prevention intervention among IDUs remains a critical gap in Nepal. The Methadone Maintenance Treatment (MMT) is the most acknowledged and extensively researched programme in Nepal. MMT was implemented successfully during 1994-2002 by the Patan Mental Hospital in Kathmandu Valley for 400 clients and proved to be an effective intervention. However this programme was discontinued in 2002. This programme also influenced the development of the National policy guidelines for oral substitution therapy in Nepal in 2002. Recently there was an immediate discontinuation of the MMT programme in the country in May 2007, thereby endangering the lives of IDUs who were clients of the private practitioners. At the same time, there is a high level of commitment on the part of the civil society and the government to roll out MMT in the country. UNODC as one of the cosponsor for UNAIDS, is the lead agency within the UN system for providing on going technical guidance and policy advice to the government of Nepal on HIV/AIDS prevention, care, treatment and support for Injecting drug users (IDU). As a result of the reports in the international media, UNODC stepped in to conduct a needs assessment of the situation and developed a three phased response in consultation with the government, UN, donors, and the civil society. UNODC was given a go-ahead by Ministry of Home Affairs (MoHA), Ministry of Health & Population (MOHP), National AIDS Centre, civil society, UN, donors, Narcotic Control Board etc. - to immediately start the emergency response (Methadone) for IDUs. Both MoH and MOHP have agreed to fast track the approval process and remove all bureaucratic bottle necks.

#### **Pakistan**



According to the National Drug Abuse Assessment Study conducted by the government, in association with UNODC in 2000/01, there are an alarming 500,000 chronic heroin users, including drug injectors (15% or 60,000) in Pakistan [\[16\]](#). IDU is reported to be an urban phenomenon and on the rise. 60,000 drug users are reported to inject [\[17\]](#). Of these, 64% are reported to share injection equipment indicating an imminent threat of exploding HIV/AIDS and Hepatitis C epidemics. 2.19% cases of HIV/AIDS have been attributed to injecting drug use.

#### **Legal and Policy Scenario (as related to OST) [\[18\]](#)**



[Bangladesh](#)



[India](#)



[Maldives](#)



[Nepal](#)



[Pakistan](#)

#### **Bangladesh**



Bangladesh has enacted the Narcotics Control Act in 1990. The Act aims to control narcotic drugs and psychotropic substances and to provide measures for treatment and rehabilitation of drug users. The sale of narcotics is prohibited except for producing approved medicines, treatment, industrial use or if it is necessary for **conducting scientific research**. Use for industrial, medical and scientific purposes is permitted only under a license issued by the Director General of the Department of Narcotics Control (DNC) or by an officer authorized by him. The Act permits drug use if medically indicated.

## India



The Central Government has created a National Fund for the Control of Drug Abuse inter alia for "identifying, treating and rehabilitating addicts, preventing drug abuse, educating public against drug abuse and supplying drugs to addicts where such supply is a medical necessity" under Section 7A of the Narcotic Drugs and Psychotropic Substances Act, 1985 (NDPS Act). Under the NDPS Act, the Government may establish centres for identification, treatment, education, after-care rehabilitation and social re-integration of addicts. Such treatment centres and others approved by the Government are permitted to use prohibited substances for detoxifying addicts. The Act enables non-government entities to set up drug treatment services. The government may supply drugs, otherwise prohibited, to drug users on medical grounds. The Central and State Governments are authorized to frame rules to regulate such supplies. Rules enacted under the Act allow licensed pharmacists to supply a narcotic or a psychotropic drug to foreigners carrying a medical prescription. The NDPS Act clearly provides for treatment of drug-dependent offenders.

## Maldives



The original Law on Narcotics was enacted in 1977. However, it has been amended four times since then, reflecting the problems related to increasing drug consumption, and to be in consonance with the UN and SAARC narcotics conventions. The first amendment introduced two schedules demarcating "illegal drugs" and "medical drugs" for purposes of criminal culpability, in keeping with the UN and SAARC conventions. The classification of prohibited substances is found in the schedules to the law, categorized into "Illegal Drugs" and "Medical Drugs". Illegal Drugs include cannabis, cocaine, heroin, buprenorphine and MDMA. Methadone, pethidine, morphine and codeine are classified as medical drugs. In the context of harm reduction, it should be noted that buprenorphine is on the schedule of illegal drugs, whereas methadone and pethidine are on the schedule of medical drugs.

## Nepal



Nepal is the first country in the region that started a government-approved oral substitution programme in the form of Methadone Maintenance Clinic (MMC). Methadone is a Schedule A drug under the Drug Act 2035 and has to be approved by the MOHA to be imported into the country. Besides the government methadone clinic, another oral drug substitution programme using buprenorphine was being run by an NGO, Naulo Ghumti, with the support of International Nepal Fellowships (INF) in Pokhara. Buprenorphine used to be procured by an arrangement with an international organisation.

## Pakistan



The Control of Narcotic Substances Act (CNSA), 1997 is the secular legislation on narcotics in Pakistan. Although the CNSA and the Prohibition (Enforcement of Hadd) Order 1979 do not permit oral substitution therapy for drug users, such programs could be implemented lawfully if supply of methadone/buprenorphine is recognized as a medical necessity or for the purpose of treatment of drug dependents.

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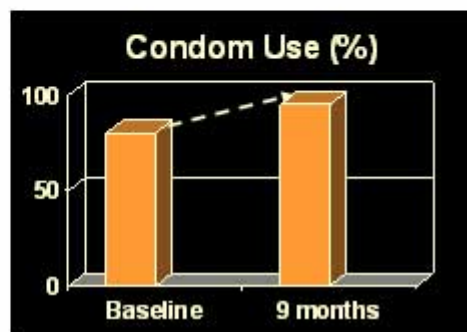
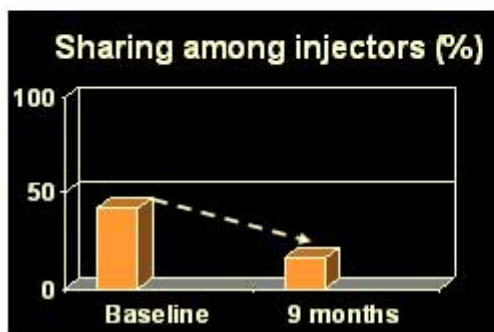
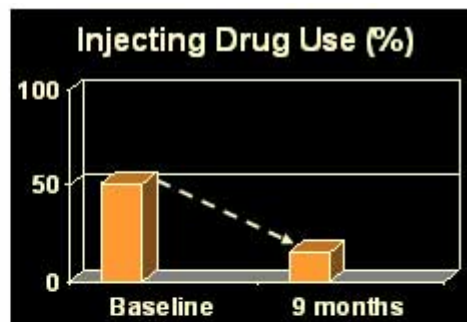
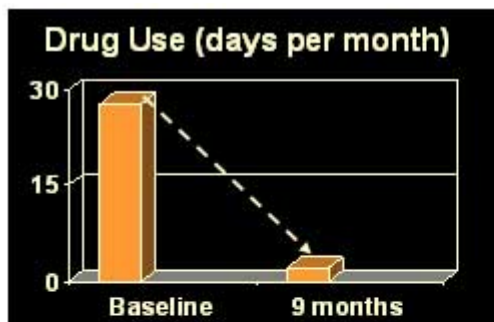
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### [UNODC's OST Interventions in South Asia](#)

UNODC through its regional project on prevention of transmission of HIV among drug users, implemented interventions on Oral Substitution Therapy - Buprenorphine (OSB) in two institutional and three community based settings in **India**. After a comprehensive conceptual-cum-practical training on OSB, interventions were carried out, in collaboration with Ministry of Social Justice and Empowerment and National AIDS Control Organisation (NACO) under the guidance and technical support from All India Institute of Medical Sciences (AIIMS), one of the premier institutes of medical education in the South Asian region. At the end of 9-month follow-up, the key findings of OSB intervention were:



- High retention rate: 68%

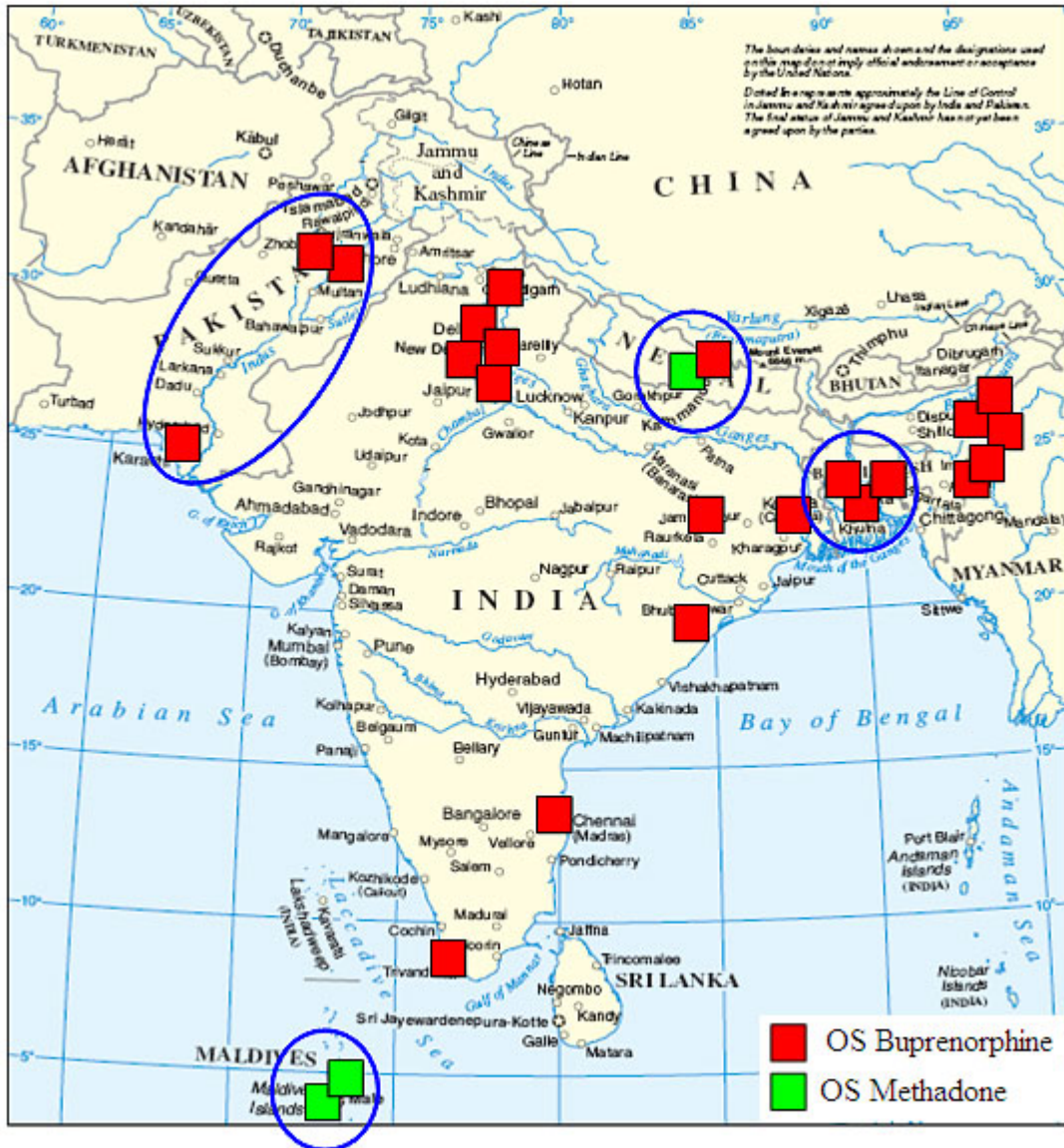
- Low current mean dosage: 3.8 mg
- Significant reduction in drug use (27.8 days/month at baseline to 2.1 days/month at follow-up), injecting drug use (52.8% at baseline to 28.5% at follow-up), high risk injecting behaviour (among those injecting) and high risk sexual behaviour
- Improvement in WHO Quality of Life and Addiction Severity Index Scores

**Scale up:** UNODC scaled-up OSB interventions to 15 sites in India and is in the process of initiating OST (Buprenorphine/Methadone) interventions in other member countries of the region.

**Oral Substitution transition plan:** National AIDS Control Organisation (NACO), Ministry of Health and Family Welfare, Government of India is preparing a transition plan for a possible take over of the OST interventions in India as part of the National AIDS Control Programme (NACP) III, including those supported by the project.



**Opioid Substitution Sites (ongoing & proposed interventions) in South Asia  
Project H13, UNODC ROSA**



## References

[1] UNAIDS (June 2005). Intensifying HIV prevention: UNAIDS policy position paper. Geneva, Switzerland. Endorsed by the 16th meeting of the UNAIDS Programme Coordinating Board.

[http://data.unaids.org/publications/irc-pub06/jc1165-intensif\\_hiv-newstyle\\_en.pdf](http://data.unaids.org/publications/irc-pub06/jc1165-intensif_hiv-newstyle_en.pdf)

[2] FHI, CARE, HASAB "What will happen to us...?" National Assessment of Situation and Responses to Opioid/opiate use in Bangladesh (NASROB) (June 2002; reprinted August 2002).

[3] Azim "Injecting Drug users and the HIV/AIDS Epidemic in Bangladesh" in Drugs: Treatment Works International Day against Drug Abuse and Illicit Trafficking (Department of Narcotics Control, Ministry of Home Affairs,

Government of Bangladesh, 26 June 2004).

[4] Ministry of Social Justice and Empowerment, Government of India, UNODC ROSA, UNAIDS "Injecting Drug Use and HIV/AIDS in India: An Emerging concern" (December 2004).

[5] UNODC, Government of India. "The Extent, Patterns and Trends of Drug Abuse in India", National Survey (2004).

[6] UNODC. Formation of peer networks to address HIV risks in injecting drug user populations (North-east India and metropolitan cities of India).

[7] National AIDS Control Organisation "Part II: MSM and IDUs" of "National Baseline High Risk and Bridge Population Behavioural Surveillance Survey" (2002).

[8] Ministry of Social Justice and Empowerment, Government of India and UNODC ROSA. "Rapid Assessment Survey of Drug Abuse in India" (2002).

[9] Dorabjee and Samson. SHARAN. "A multicentre rapid assessment of injecting drug use in India". International Journal of Drug Policy Vol. 11 (2000); 99-112.

[10] National AIDS Control Organisation. Ministry of health and Family Welfare. Government of India. National AIDS Control Programme Phase III (2006-11). November 30, 2006.

[11] Jan W de Lind van Wijngaarden. 'The HIV/AIDS situation in the Republic of the Maldives in 2006', National HIV/AIDS Council (NAC), Ministry of Health of the Maldives and the UN Theme Group on HIV/AIDS.

[12] For details see the draft document on the 'National Strategic Plan on HIV/AIDS, Republic of Maldives, 2007-11', Ministry of Health, Male, Maldives, 3 July 2007.

[13] National HIV and AIDS Strategy 2006-2011.

[14] Integrated Behavioural and Biological Survey( 2004) among IDU population, FHI ( Unpublished).

[15] Ministry of Health and Population, Department of Health Services, National Centre for AIDS and STD Control (NCASC), National Consolidated HIV/AIDS Workplan, 2006-2008.

[16] Pakistan Narcotics Division

[17] National AIDS Control Programme, National Institute of Health, Ministry of Health, Government of Pakistan "Programme Implementation Plan" (2003 - 2008).

[18] UNODC ROSA, Lawyers Collective HIV/AIDS Unit. Legal and Policy

Concerns related to IDU harm Reduction in SAARC Countries. 2007.

## Photo Gallery - UNODC's Response for Prevention of HIV Among Drug Users in South Asia Through Opioid Substitution Treatment (OST)

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**Dr. Rajat Ray, Chief, NDDTC, AIIMS, India during the session on 'Concepts of Agonist Maintenance and Substitution Therapy' during OSB training**



Staff from partner agencies in India interacting with clients on OSB at a project site in Delhi during the training workshop



A nursing staff dispensing buprenorphine to a recovering IDU at Presbyterian Hospital, Aizawl, Mizoram a UNODC project site in India



Buprenorphine tablet is powdered and sublingually dispensed in the UNODC Project H13 Drop in Centers as seen in this picture from a UNODC Project H13 site in India



**Mr. Gary Lewis, Representative, UNODC ROSA in a meeting with the officials from Bangladesh during the OSB study tour**



**Officials from Government of Bangladesh at community based DIC, Delhi during the OSB study tour to India**



All of the persons featured in these photographs have given their informed consent to the use of the photos.