OST programs - a Regional Perspective on the role and models of OST in HIV prevention and drug treatment

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Outline of presentation

1. Model of integrated OST and HIV care: evidence
2. Current status of OST in Asia: the response in the region
3. Gaps in response: Opportunity for improvement
4. Summary
1. MODEL OF INTEGRATED OST AND HIV CARE: EVIDENCE
# Opioid Substitution Therapy (OST): Triple Action

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target population</th>
<th>Responsible sectors, agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>OST as HIV prevention</td>
<td>IDUs</td>
<td>Ministry of Health, Prison authorities, NGOs</td>
</tr>
<tr>
<td>OST to improve treatment adherence to ART and TB DOTS</td>
<td>HIV + IDUs, IDUs with TB</td>
<td>Ministry of Health, ART Centres, Hospitals, Prisons / custodial settings, NGOs, Private Sector</td>
</tr>
<tr>
<td>OST as drug dependence treatment</td>
<td>Opioid dependent persons (includes both IDUs and non-injecting drug users)</td>
<td>Ministry of Health, Public Security, Drug treatment and rehabilitation centres, Prisons / custodial settings, NGOs, Private sector</td>
</tr>
</tbody>
</table>
OST in HIV settings: OST as HIV prevention

<table>
<thead>
<tr>
<th>Injecting frequency</th>
<th>Injecting risks</th>
<th>Sex risks</th>
<th>HIV infectivity</th>
<th>HIV incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>OST</td>
<td>↓</td>
<td>↓</td>
<td>X</td>
<td>--</td>
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</tbody>
</table>

Adapted from: Degenhardt et al, Lancet 2010; 376: 285–301
Heroin

Plasmic levels (M)

Euphoria
Normal
 Withdrawal

Hours

Methadone

Evidence for MMT as HIV prevention

Metzer et al, J Acquir Immune Defic Syndr. 1993 Sep;6(9):1049-56
Key findings from WHO collaborative study on OST and HIV

• OST can achieve similar outcomes consistently in a culturally diverse range of settings in low- and middle-income countries to those reported widely in high-income countries.

• It is associated with a substantial reduction in HIV exposure risk associated with IDU across nearly all the countries.

• Results support the expansion of opioid substitution treatment.

Lawrinson et al, 2008; Addiction, 103, 1484–1492
MMT Program, China
(128 clinics, 2-year follow-up)

Yin & Wu, 2008:
Presented at 19th International Conference on Harm Reduction,
11-15 May 2008, Barcelona, Spain
Impact of MMT Program, China

- In 2008 and 2009, respectively, an estimated 2969 and 3919 new HIV infections (excluding secondary transmission) were prevented
- Consumption of heroin was reduced by 17.0 tons - 22.4 tons
- $US939 million - US$1.24 billion in heroin trade were avoided
- MMT program is supported legislatively and financially by the central government with multi-sector cooperation
- Incorporation of MMT clinics into existing medical infrastructure, which has facilitated delivery of services

Evidence for OST:
Other benefits in HIV integrated care

BHIVES Collaborative findings

- Established in 10 sites as integrated models of HIV primary care and substance abuse treatment

- OST with buprenorphine/naloxone potentially effective in improving health related QOL for HIV-infected patients with concurrent opioid dependence

- Integration of buprenorphine/naloxone into HIV clinics increases receipt of high-quality HIV care

- Buprenorphine/naloxone provided in HIV treatment settings also decreases opioid use

J Acquir Immune Defic Syndr 2011;56
2. CURRENT STATUS OF OST: THE RESPONSE IN THE REGION
HIV prevalence among injecting drug users, WHO SEARO Region 2007-2009

% of IDU infected with HIV
- nil
- 0-4.9%
- 5-9.9%
- 10-14.9%
- 15-19.9%
- ≥20%
OST in Asia

- **Methadone scaling up in:**
  - Hong Kong, China, Malaysia, Indonesia

- **Methadone established in:**
  - Thailand, Myanmar, Vietnam, Cambodia
  - Nepal, Bangladesh, Afghanistan, Maldives

- **Buprenorphine substitution in:**
  - India
  - Malaysia
  - Detoxification using buprenorphine in Indonesia, Malaysia, India, China, Myanmar
# OST in Asia

<table>
<thead>
<tr>
<th>Country</th>
<th>Estimated no. of PWID</th>
<th>No. of OST sites in 2008</th>
<th>OST in prison</th>
<th>Est. no. of PWID covered by OST in 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>1,800,000–2,900,000</td>
<td>531</td>
<td></td>
<td>159,439</td>
</tr>
<tr>
<td>Indonesia</td>
<td>190,460–247,800</td>
<td>35</td>
<td>4</td>
<td>3300</td>
</tr>
<tr>
<td>India</td>
<td>106,518–223,121</td>
<td>47</td>
<td>1</td>
<td>4600</td>
</tr>
<tr>
<td>Malaysia</td>
<td>170,000–240,000</td>
<td>68</td>
<td>4</td>
<td>22000</td>
</tr>
<tr>
<td>Maldives</td>
<td>400–500</td>
<td>1</td>
<td></td>
<td>45</td>
</tr>
<tr>
<td>Myanmar</td>
<td>60,000–90,000</td>
<td>7</td>
<td></td>
<td>500</td>
</tr>
<tr>
<td>Nepal</td>
<td>28,000</td>
<td>2</td>
<td></td>
<td>192</td>
</tr>
<tr>
<td>Thailand</td>
<td>160,528</td>
<td>147</td>
<td></td>
<td>4000-5000</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>135,305</td>
<td>6</td>
<td></td>
<td>1484</td>
</tr>
</tbody>
</table>

OST in Asia Malaysia

• Pilot methadone maintenance therapy (MMT) programme in 2005 under the Ministry of Health

• Government hospitals were pressed into service as therapy centres for the programme

• The initial success led to a widening of the coverage in 2007 to 5000 drug users
OST in Asia Malaysia

- As of June 2010, 211 free MMT service outlets with 13471 registered clients

- Additional 20000 individuals accessing fee based OST through private practitioners
OST in China

Guangxi province: Peer adherence support model

Dorabjee & Kumar, 2009; China Alliance
OST: Factors influencing adherence

OST medication dose is critical

Aim: 60–120mg methadone
12–20mg buprenorphine

Adapted from: Ball and Ross, 1991.
OST: Factors influencing adherence
Methadone dose is critical for retention

- There is a positive dose-response relationship between methadone dose and client retention in a cohort of MMT clients in Guangxi province, China

Mohamad et al. Harm Reduction Journal 2010, 7:30
# MMT in China: Barriers and facilitators

| Barriers to MMT for clients | Requirement for registration in the police department  
Perceived societal stigma; Logistic difficulties;  
Side effects; Inappropriate perception of methadone;  
Fear of being addicted to another drug;  
Lack of additional services; Economic burden |
|---------------------------|---------------------------------------------------------------------------------------------------|
| Barriers for Service Providers in MMT | Lack of professional training  
Difficulties in pursuit of career  
Lack of institutional support  
Concern for personal safety; Low income  
Large work load; Misunderstanding by society |
| Factors associated with successful MMT | MMT clinics affiliated with local CDCs have more clients, higher retention rates  
Longer operating hours  
Incentives for compliant clients |

Lin, 2009. Dissertations & Theses, UCLA
Factors that maximise participation in OST programs

| Client related | Ease of access          |                          |
|               | Extended opening hours at clinics | Sufficiently high doses |

| Service Providers related | Non-judgemental clinicians | Professionally & technically competent to deal with addiction related issues | High staff morale | Access to allied medical, psychological and welfare services |

| Support related | Significant peer support | Family support | Support groups |

OST in prisons
Implementation of OST within prison

• In many correctional settings, OST is absent or covers a small number of inmates (~1%)

• Comprehensive HIV prevention in correctional settings requires provision of condoms, sterile injecting equipment and sterile tattooing equipment in addition to a high level of coverage of opioid substitution treatment

Larney, Addiction. 2010;105(2):216-23
OST in prisons
Implementation of OST within prison

- OST reduces HIV transmission within prisons
- It serves as a conduit to care after release from prison
- It reduces the adverse consequences of injection drug use, including overdose both within prison and after release

OST in prisons: Malaysia
Attitudes of prisoners to MMT

• Secondary HIV prevention among prisoners in Malaysia is crucial to reduce community HIV transmission after release

• Half of the surveyed HIV+ prisoners believed that OST would be helpful, only a third said they needed it to prevent relapse after prison release

• Those reporting the highest injection risks were more likely to believe OST would be helpful

3. GAPS IN RESPONSE: OPPORTUNITY FOR IMPROVEMENT
OST: Key challenges for the resource poor settings

- What is the most effective model for implementing OST?

- How can OST become a fundamental component of integrated HIV prevention?

- How can the quality of the OST programmes be ensured and evaluated?
OST: Key gaps identified

• OST is available for a limited number of IDUs at present in most countries of Asia

• Lack of exclusive OST centres for women injecting drug users

• Effective linkages with other services such as ICTC, ART, TB DOTS, Drug dependence treatment is a significant challenge

• Operational guidelines and Standard Operating Procedure

• Pharmacological options for OST need to be expanded
  – Methadone; Buprenorphine; Buprenorphine-Naloxone; Oral morphine
Evidence for OST as HIV prevention: Coverage is critical

<table>
<thead>
<tr>
<th>Country</th>
<th>IDU prevalence (%)</th>
<th>OST availability</th>
<th>HIV incidence among IDUs, 2005</th>
<th>HIV incidence among IDUs, 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russian Federation</td>
<td>Current IDU 1.78</td>
<td>OST not available</td>
<td>72/million</td>
<td>79/million</td>
</tr>
<tr>
<td>Ukraine</td>
<td>Current IDU 1.16 (1.00, 1.31)</td>
<td>OST mostly unavailable (~1%)</td>
<td>134/million</td>
<td>153/million</td>
</tr>
<tr>
<td>USA</td>
<td>Current IDU 0.96 (0.67, 1.34)</td>
<td>OST available (1998–2004: 15%–25%)</td>
<td>18/million</td>
<td>NA</td>
</tr>
<tr>
<td>Canada</td>
<td>Lifetime IDU 1.3 (1.0, 1.7)</td>
<td>OST available (2003: ~26%)</td>
<td>7.2/million</td>
<td>7.3/million</td>
</tr>
<tr>
<td>EU (27 countries)</td>
<td>Current IDU 0.19 (0.16–0.21)</td>
<td>OST available (2004: ~33%)</td>
<td>6.4/million</td>
<td>5.9/million</td>
</tr>
<tr>
<td>Australia</td>
<td>Current IDU 1.09 (0.65–1.50)</td>
<td>OST available (2006: ~50%)</td>
<td>1.6/million</td>
<td>1.4/million</td>
</tr>
</tbody>
</table>

OST Scale-up

What is the ideal coverage?
Example: India

- 30-50% IDUs may need to be covered to have greater impact on reducing HIV incidence among IDUs

- Assuming 180,000 IDUs are in India, we need to cover 54,000 - 90,000 IDUs with OST (30-50% coverage)

- We require on a priority OST centres in all districts with high IDU prevalence or high HIV prevalence/IDUs
Combining interventions: Greater impact on the reduction in HIV incidence

Effects of recruitment rates and intervention combinations on HIV incidence after 5 years

OST and NSP only, 50% recruitment annually: 9-37% reduction in HIV incidence

Degenhardt et al, Lancet 2010; 376: 285–301
How to improve and ensure effective linkages?

• Co-location of services

• Collaboration between various departments

• Cross training of health professionals

• Treatment literacy for IDUs

• Other supportive services
  – mental health, psychosocial support, nutrition
Why OST is needed for non-injecting opioid dependent users?

Local HIV epidemics are sensitive to different types of structural changes: Karachi

8-12% reduction in transition from non-injecting to injecting could prevent 65–98% of incident HIV infections in Karachi

Strathdee et al, Lancet 2010; 376: 268–84
4. SUMMARY
Summary

• OST is an effective evidence based drug use treatment for injecting as well as non-injecting opioid dependent individuals

• OST in HIV settings is primarily to prevent HIV and improve ART adherence; often benefits go beyond HIV related issues

• The identified gaps in OST in Asia can be effectively addressed in future through scaled-up efforts (in community & custodial settings) and multi-sectoral collaboration