HIV/AIDS in the South-East Asia Region

Progress Report 2011
HIV/AIDS in the South-East Asia Region: Progress Report 2011
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<tr>
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<th>Meaning</th>
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<tbody>
<tr>
<td>3TC</td>
<td>lamivudine</td>
</tr>
<tr>
<td>ACTG</td>
<td>AIDS Clinical Trials Group</td>
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<tr>
<td>AIDS</td>
<td>acquired immunodeficiency syndrome</td>
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<tr>
<td>ANC</td>
<td>antenatal clinic</td>
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<tr>
<td>ART</td>
<td>antiretroviral therapy/treatment</td>
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<tr>
<td>ARV</td>
<td>antiretroviral</td>
</tr>
<tr>
<td>AZT</td>
<td>zidovudine</td>
</tr>
<tr>
<td>BBS</td>
<td>biological and behavioural survey</td>
</tr>
<tr>
<td>CBO</td>
<td>community-based organizations</td>
</tr>
<tr>
<td>CCC</td>
<td>Community Care Centres</td>
</tr>
<tr>
<td>DPR Korea</td>
<td>Democratic People’s Republic of Korea</td>
</tr>
<tr>
<td>FSW</td>
<td>female sex worker</td>
</tr>
<tr>
<td>GAVI</td>
<td>Global Alliance for Vaccines and Immunization</td>
</tr>
<tr>
<td>GoB</td>
<td>Government of Bangladesh</td>
</tr>
<tr>
<td>GFATM</td>
<td>Global Fund to Fight AIDS, Tuberculosis and Malaria</td>
</tr>
<tr>
<td>HBV</td>
<td>hepatitis B virus</td>
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<tr>
<td>HCV</td>
<td>hepatitis C virus</td>
</tr>
<tr>
<td>HIV</td>
<td>human immunodeficiency virus</td>
</tr>
<tr>
<td>HMIS</td>
<td>health management information system</td>
</tr>
<tr>
<td>HSV-2</td>
<td>herpes simplex virus-2</td>
</tr>
<tr>
<td>IBBS</td>
<td>integrated biological and behavioural surveillance</td>
</tr>
<tr>
<td>ICTC</td>
<td>integrated counselling and testing centre</td>
</tr>
<tr>
<td>IHC</td>
<td>Integrated HIV Care</td>
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<tr>
<td>IPT</td>
<td>isoniazid preventive therapy</td>
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<tr>
<td>MARP</td>
<td>most-at-risk populations</td>
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<tr>
<td>MOPH</td>
<td>ministry of public health</td>
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<tr>
<td>MSM</td>
<td>men who have sex with men</td>
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<tr>
<td>NAC</td>
<td>National AIDS Committee</td>
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<tr>
<td>NACO</td>
<td>National AIDS Control Organization</td>
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<tr>
<td>NAP</td>
<td>National AIDS Programme</td>
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<tr>
<td>NASP</td>
<td>National AIDS/STD Programme</td>
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<tr>
<td>NFHS</td>
<td>National Family Health Survey</td>
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<tr>
<td>NGO</td>
<td>nongovernmental organization</td>
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<tr>
<td>NTP</td>
<td>National Tuberculosis Programme</td>
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<tr>
<td>NVP</td>
<td>nevirapine</td>
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<tr>
<td>NYSC</td>
<td>National Youth Services Council</td>
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<tr>
<td>OPD</td>
<td>out-patient department</td>
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<tr>
<td>OST</td>
<td>opioid substitution therapy</td>
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<tr>
<td>PHL</td>
<td>public health laboratory</td>
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<tr>
<td>PLHIV</td>
<td>people living with HIV</td>
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<tr>
<td>PMTCT</td>
<td>prevention of mother-to-child transmission</td>
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<tr>
<td>SACS</td>
<td>State AIDS Control Society</td>
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<tr>
<td>PWID</td>
<td>people who inject drugs</td>
</tr>
<tr>
<td>SEAR</td>
<td>South-East Asia Region</td>
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<tr>
<td>STD</td>
<td>sexually transmitted disease</td>
</tr>
<tr>
<td>STI</td>
<td>sexually transmitted infection</td>
</tr>
<tr>
<td>T&amp;C</td>
<td>testing and counselling</td>
</tr>
<tr>
<td>TB</td>
<td>tuberculosis</td>
</tr>
<tr>
<td>TG</td>
<td>transgender</td>
</tr>
<tr>
<td>THC</td>
<td>Township Health Centre</td>
</tr>
<tr>
<td>TRG</td>
<td>Technical Resource Groups</td>
</tr>
<tr>
<td>UNAIDS</td>
<td>Joint United Nations Programme on HIV/AIDS</td>
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<tr>
<td>UNFPA</td>
<td>United Nations Population Fund</td>
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<tr>
<td>UNODC</td>
<td>United Nations Office on Drugs and Crime</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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<tr>
<td>YFHS</td>
<td>Youth Friendly Health Services</td>
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</table>
The annual 2011 Progress Report on HIV/AIDS in the South-East Asia Region highlights key achievements, lessons learnt and areas that require further attention for the prevention and control of HIV in the South-East Asia Region of WHO.

Of the 3.5 million people living with HIV/AIDS in the Region, an estimated 210,000 new HIV infections occur annually, translating into 575 people getting infected every day. HIV continues to exact its toll, with an estimated 230,000 AIDS-related deaths every year.

Five high-priority countries in the Region account for 99% of the HIV burden. These are India, Indonesia, Myanmar, Nepal and Thailand. Although four of the five high-burden countries have reported a decline in new HIV infections, there are areas of concern. The most formidable challenge is the continued fuelling of the epidemic by key populations at higher risk for HIV, which include men who have sex with men, transgender populations, people who inject drugs and sex workers. HIV testing and counselling for pregnant women continues to be low in the Region; access to antiretroviral treatment for prevention of mother-to-child transmission is also very low.

Despite these challenges, there has been progress. The estimated number of new HIV infections dropped by 34%, from 320,000 in 2001 to 210,000 in 2010. Of those living with HIV and needing treatment, 717,000 were on antiretroviral treatment in 2010, which is a 12-fold increase from 2003. Across countries in the Region, 16 million people were tested for HIV in 2010.

There has been unprecedented global attention to address HIV in women and children, and the collateral benefits of investing in women and children’s health to achieve MDGs 4, 5 and 6. The Region has embarked on an ambitious agenda of eliminating mother-to-child transmission of HIV and syphilis by 2015. While this is feasible with the availability of more efficacious regimens for the prevention of mother-to-child transmission of HIV and maternal syphilis, coverage of these interventions remains low. An accelerated response that hinges on strengthening the maternal and child health (MCH) service delivery platform is needed to achieve these ambitious goals and move towards a generation free from HIV.

Though there has been some progress in addressing stigma and discrimination and repealing punitive laws, the road is still long and winding.
The Regional Health Sector Strategy on HIV 2011–2015, which was endorsed by Member States of the Region this year, lays down the blueprint for addressing the HIV epidemic in the Region. It identifies four strategic directions and sets of activities, and monitoring indicators that will support planning, implementing and monitoring the health sector response to HIV at the country level.

We call upon Member States, United Nations partners and key development partners to join WHO’s efforts at strengthening the health sector response to HIV in order to move towards the goal of zero new infections, zero HIV-related deaths and zero discrimination against HIV.

Dr Samlee Plianbangchang
Regional Director
Executive summary

After 30 years since the first HIV case was detected, the HIV epidemic still remains a serious public health concern globally with a large number of preventable new HIV infections occurring each year and millions of people dying prematurely of AIDS. In 2010, an estimated 34 million people were living with HIV in the world. An estimated 1,800,000 people have died of AIDS.

HIV epidemic situation in the South-East Asia Region

- In 2010 an estimated 3.5 million people were living with HIV/AIDS in the South-East Asia Region. The most vulnerable victims of this disease are HIV-positive children, 140,000 were living with HIV and the numbers are still increasing.
- Women account for 37% of the total number of people living with HIV, the majority were infected by their intimate partner.
- The HIV epidemic is declining in the South-East Asia Region; the estimated number of new infections has declined by 34% from 320,000 in 2001 to 210,000 in 2010.
- An estimated 230,000 people have died due to AIDS.
- Five countries (namely India, Indonesia, Myanmar, Nepal and Thailand) account for the majority (99%) of HIV infections. India ranks second among the highest HIV burden countries in the world. No case of HIV has been reported from the Democratic People’s Republic of Korea. Bangladesh, Bhutan, Maldives, Sri Lanka and Timor-Leste together represent less than 1% of all HIV infections in the Region.
- The number of new infections each year is showing a downward trend in four of the five high HIV burden countries (namely India, Myanmar, Nepal and Thailand). In Indonesia, however the HIV epidemic is still on the rise.
- The majority of HIV infections are transmitted sexually; injecting drug use is the second most common mode of HIV transmission.
- The overall HIV prevalence among the adult population is very low (0.3%) in the Region. Thailand is the only country having a prevalence over 1%. Key populations at higher risk for acquiring HIV, sex workers and their clients, men who have sex with men, transgender populations and people who inject drugs are disproportionately affected by HIV and the key drivers of the epidemic.
- The overall HIV prevalence is declining among female sex workers despite pockets of high prevalence. However, there is evidence of continuing high transmission among people who inject drugs, men who have sex with men and transgender people.
- The prevalence of sexually transmitted infections is also unacceptably high, particularly among these key populations.
- The South-East Asia Region accounts for nearly 15% of the global burden of new HIV-positive tuberculosis (TB) cases. At 5.7%, HIV prevalence among new TB patients is high in the Region.
Health sector response to the HIV epidemic

- Condom use at last sexual encounter and consistent condom use is reaching high levels among sex workers; however, men who have sex with men, transgender people and injecting drug users have low rates of condom use.

- Coverage with a comprehensive package of HIV interventions, including needle–syringe programmes and opioid substitution therapy for people who inject drugs, continues to be low in the Region. However India and Bangladesh reached the global standard of 200 needles per year distributed per person who injects drugs.

- Overall coverage with interventions is well below the universal access targets of 80% for all at risk populations.

- In 2010 over 16 million people received HIV testing and counselling through voluntary testing and counselling across the Region. The number of facilities offering testing and counselling has doubled since 2009, yet the majority of infected people are unaware of their HIV status; access to testing and counselling for key populations is far below optimal levels.

- Barely 20% of pregnant women have access to HIV testing and counselling. Two out of three HIV-infected pregnant women do not receive antiretroviral prophylaxis. Of the estimated HIV-infected pregnant women, only 32% received antiretroviral prophylaxis to prevent mother-to-child transmission of HIV.

- A dual elimination initiative for elimination of mother-to-child transmission of HIV and syphilis was launched in 2011 with the goal of eliminating congenital syphilis and new paediatric infections by 2015. Reported screening of pregnant women for syphilis is high in India and Bhutan, while Sri Lanka has almost reached the elimination target with 98% coverage.

- Two thirds of people with advanced HIV infection do not get treatment. Currently, 717 000 people with advanced HIV infection are receiving antiretroviral treatment. But these numbers represent only 39% of those in need of treatment as per the latest WHO criteria. Of those started on treatment, the majority, 83% were alive and on treatment 12 months after the start of therapy. Additionally 39% of children living with HIV received antiretroviral therapy.

- Countries with HIV–TB dual epidemics have made substantial progress in implementing collaborative activities; however, detection of HIV–TB coinfected patients remains low.

- Resistance to ciprofloxacin (an antimicrobial to treat gonorrhoea) is very high, in the Region ranging from 86% in Thailand to 90% in Sri Lanka. Most countries now do not recommend the use of ciprofloxacin to treat gonorrhoea in their national guidelines. Antimicrobial resistance testing is routinely carried out in some states in India, Sri Lanka and Thailand.

- Substantial progress has been made in expanding surveillance systems in the Region, leading to a better understanding of the national epidemics. There is
scope to improve routine programme monitoring systems to better track progress towards programme goals.

- HIV drug resistance surveys conducted in three countries — India, Indonesia and Thailand — indicate a low level of transmitted drug resistance. Early warning indicators to monitor and prevent developing HIV drug resistance are being piloted in the Region.

Challenges

Key challenges in achieving universal access to HIV prevention, care and treatment services in the South-East Asia Region include the following:

- continuing stigma and discrimination against people living with HIV and key affected populations;
- limited capacity of health systems, including lack of trained human resources; inadequate supplies of equipment and drugs and poor logistics; limited laboratory capacity; weak monitoring and evaluation systems;
- ensuring a continuing focus on and sustained political commitment to HIV;
- declining finances in the face of the global economic crisis and competing health priorities.

Future priorities

(1) Design structural interventions to reduce stigma and discrimination in community and health care settings, especially for key populations at higher risk; and address legal barriers by repealing discriminative laws that hinder access to prevention interventions.

(2) Increase the coverage of and access to HIV prevention, treatment and care services for women and children through integrated and linked responses with sexual and reproductive, maternal and child health services for eliminating mother-to-child transmission of HIV, and preserving the health of women and children.

(3) Enable people to know their HIV status through decentralizing HIV testing and counselling services.

(4) Improve access to and quality of HIV treatment through implementation of the five pillars of Treatment 2.0.

(5) Provide support for treatment adherence and ensure close monitoring to “slow” the development of HIV drug resistance.

(6) Continue advocacy to reduce the prices of antiretroviral drugs through the use of international treaties and instruments such as flexibilities in the Trade–Related Aspects of International Property Rights (TRIPs).

(7) Support strengthening of health systems to increase the capacity for implementing and scaling up HIV interventions.
(8) Ensure commitment to, and active collaboration with TB programmes to reduce the burden of TB/HIV and increase the survival of people living with HIV.

(9) Strengthen information at country level and undertake research on priority topics.

Overview of the epidemic and ART coverage in the South-East Asia Region

<table>
<thead>
<tr>
<th>Key indicators</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of people living with HIV (million)</td>
<td>3.5</td>
<td>3.4</td>
<td>3.5</td>
</tr>
<tr>
<td>Number of people newly infected with HIV (million)</td>
<td>2.0</td>
<td>2.2</td>
<td>2.1</td>
</tr>
<tr>
<td>Number of people dying from AIDS related causes (million)</td>
<td>2.3</td>
<td>2.3</td>
<td>2.3</td>
</tr>
<tr>
<td>Estimated number in need of ART (million)</td>
<td>1.8</td>
<td>1.8</td>
<td>2.0</td>
</tr>
<tr>
<td>Per cent of pregnant women tested for HIV</td>
<td>13%</td>
<td>18%</td>
<td>20%</td>
</tr>
<tr>
<td>Number of facilities providing antiretroviral therapy</td>
<td>1453</td>
<td>1800</td>
<td>2199</td>
</tr>
<tr>
<td>Number of people receiving ART</td>
<td>442 627</td>
<td>577 000</td>
<td>717 000</td>
</tr>
<tr>
<td>Number of children receiving ART</td>
<td>23 405</td>
<td>28 188</td>
<td>34 000</td>
</tr>
<tr>
<td>Coverage of ART among persons living with HIV</td>
<td>40%</td>
<td>32%</td>
<td>39%</td>
</tr>
<tr>
<td>Per cent women on ART</td>
<td>39%</td>
<td>40%</td>
<td>42%</td>
</tr>
<tr>
<td>Coverage of antiretroviral treatment for PMTCT</td>
<td>28.1%</td>
<td>34%</td>
<td>32%</td>
</tr>
</tbody>
</table>
1 Epidemiological situation of HIV
The global HIV epidemic

At the end of 2010, an estimated 34 million (31.6 – 35.2 million) people were living with HIV. Globally, this translates to an increase of 17% from 2001, including 3.4 million [3 000 000 – 3 800 000] children less than 15 years old. This reflects continued new infections and significant scaling up of antiretroviral therapy (ART) worldwide, which has helped in reducing AIDS-related deaths with increasing the survival of people living with HIV (PLHIV).

While 0.8% of the adult population is infected with HIV, region-wise differentials exist, from a low HIV prevalence of 0.1% in the Western Pacific Region to a high of 4.7% in the African Region (Figure 1). In recent years, a globally stable trend in HIV prevalence has been noted.

Figure 1: Estimated adult HIV prevalence, by WHO Region, 2010

In 2010, there were 2.7 million [2.4 million – 2.9 million] new HIV infections, down by 21% from the peak of the global epidemic in 1997 and 15% fewer than the 3.25 million people newly infected in 2001. This decline in HIV incidence levelled off in 2005–2006; since then, the global rate of new HIV infections appears to be stable, although the global reduction in the rate of new HIV infections hides regional variations. Since 2001, the HIV incidence has fallen in 33 countries, 22 of them in sub-Saharan Africa, the region most affected by the AIDS epidemic. Similarly, in South and South-East Asia, there were about 40% fewer new HIV infections in 2010 compared with 1998, when the epidemic in that sub-region peaked (427 000 versus 718 000). Declines in new HIV infections across the world have been the result of changes in behaviour among young people, sex workers (SWs) and their clients, people who inject drugs (PWID), men who have sex with men (MSM) and transgender people (TG), as well as greatly increased access to HIV prevention services.1,2

According to the Joint United Nations Programme on HIV/AIDS (UNAIDS) global report 2011, above-average declines in new HIV infections were recorded in sub-Saharan Africa.
and in South-East Asia, while Latin America and the Caribbean experienced more modest reductions of less than 25%. In India, the rate of new HIV infections fell by more than 56% and in South Africa by more than a third; both countries have the largest number of PLHIV. There has been an increase in the rate of new HIV infections in Eastern Europe, Central Asia and the Middle East.1

The number of people dying of AIDS-related causes fell to 1.8 million [1.6 million–1.9 million] in 2010, down from a peak of 2.2 million [2.1 million–2.5 million] in the mid-2000s. As a consequence of expanded treatment, AIDS-related deaths are decreasing, and growing numbers of PLHIV are living longer and more productive lives. An estimated 250 000 [220 000–290 000] children less than 15 years old died from AIDS-related causes in 2010, 20% less than in 2005.

Women account for 50% of PLHIV, although this proportion varies among the various World Health Organization (WHO) regions. More women than men are infected in the African Region.2

An estimated 390 000 [340 000–450 000] children were newly infected with HIV in 2010, 30% fewer than the peak of 560 000 [500 000–630 000] new infections annually in 2002 and 2003. Increased access to services for eliminating new HIV infections among children and keeping mothers alive has led to the drop in new infections among children. Nearly 250 000 children succumbed to AIDS-related illnesses in 2010. This calls for scaling up interventions for reducing mortality such as early diagnosis of paediatric infections and provision of prophylaxis treatment to avert deaths.1,2

The HIV epidemic in the South-East Asia Region

The WHO South-East Asia Region (SEAR) comprises 11 countries — Bangladesh, Bhutan, Democratic People’s Republic of Korea (DPR Korea), India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand and Timor-Leste. It is home to a population of over 1.8 billion. Tables A1–A3 in the Annex provide selected information on the demographic, socioeconomic and health infrastructure profiles of each of the WHO South-East Asia Region Member countries.

Magnitude of and trends in HIV infection

As the HIV epidemic has reached its third decade since the first case of HIV was reported in the Region in 1984 in Thailand, HIV continues to spread unabated in SEAR countries, causing concern over many public health issues. DPR Korea remains the only country in the Region which is still not affected by the epidemic.

In 2010, there were an estimated 3.5 million [3.0 million–3.9 million] PLHIV in the Region, an increase from the 3.3 million reported in 2009. Overall, estimated adult HIV prevalence in SEAR remains at 0.3%; however, there are extensive sub-regional differentials (range <0.1% to >1.3%) (Figure 2).1,2
Five countries in the Region account for the majority of the HIV burden: India, Indonesia, Myanmar, Nepal and Thailand. India with its large population bears the second-highest burden of the HIV in the world. As no case has been reported from DPR Korea, the remaining five countries, Bangladesh, Bhutan, Maldives, Sri Lanka and Timor-Leste, together represent less than 1% of the total HIV burden in the Region.

The estimated number of PLHIV range widely, from <100 in the Maldives to 2.4 million in India. The magnitude of HIV infection differs greatly between countries of the Region. Even within countries, there are marked differences and the national prevalence masks the high-prevalence areas within states. The majority of countries in the Region have low-level or concentrated epidemics; however, as of 2009, the estimated adult HIV prevalence is above 1% in Thailand, north-east India and the Papua province of Indonesia. Trend data indicate that the HIV epidemic has stabilized in most countries of the Region.

During 2010, an estimated 210 000 [180 000–260 000] people were newly infected with HIV, a substantial 34% decrease in new infections from 320 000 in 2001, indicating that the HIV epidemic is declining in SEAR and has stabilized in many countries (Figure 3). There were 230 000 [190 000–260 000] estimated annual deaths due to AIDS-related illnesses, which is a 41% drop from 240 000 in 2005 due to improved access to life-saving ART for PLHIV, especially over the past few years. Country-wise differences in incidence exist. Four of the high-burden countries now show a downward trend. Thailand was the first country...
to record a drop in HIV incidence in the early 1990s, followed by India, Myanmar and Nepal in the late 1990s to early 2000s. HIV incidence is still on the rise in Indonesia.

Annual new HIV infections in India have declined by more than 50% during the past decade (from 0.27 million in 2000 to 0.12 million in 2009) at the national level and in most of the high-prevalence states. The national adult HIV prevalence in India has dropped from 0.41% in 2000 through 0.36% in 2006 to 0.31% in 2009. While all six high-prevalence states (Manipur with the highest estimated prevalence of 1.4%, Andhra Pradesh, Mizoram, Nagaland, Karnataka and Maharashtra) show a declining trend, the low-prevalence states of Assam, Chandigarh, Orissa, Kerala, Jharkhand, Jammu & Kashmir, Arunachal Pradesh and Meghalaya show worrying rising trends in the past four years. Although the six high-prevalence states account for only 39% of new infections, the states of Orissa, Bihar, West Bengal, Uttar Pradesh, Rajasthan, Madhya Pradesh and Gujarat account for 41% of new infections.

Overall, the estimated number of PLHIV (both male and female) is decreasing in the Region in different proportions. Within countries, HIV prevalence is higher among urban than rural areas. The spread of HIV in some provinces of Thailand is still severe, especially those that receive a large number of tourists, and provinces bordering the eastern seaboard and Gulf of Thailand including Phuket, Cholburi, Trad and Samut Songkram, in which HIV among pregnant women is nearly 2%. In countries with a low HIV burden, such as Bangladesh, Sri Lanka and Timor-Leste, HIV cases are concentrated in urban cities. In Sri Lanka, the majority of cases are reported in the western province, specifically in the capital city of Colombo, as shown in Figure 4. Similarly, in Bhutan, more cases are reported in the capital city of Thimphu and Phuentsholing, a commercial town in the Himalayan foothills bordering west Bengal.
Modes of transmission

The main drivers of the epidemic in the SEAR countries are female sex workers (FSWs), MSM, TG and PWID as described in the report of the AIDS commission. HIV transmission in Asia followed a unique pattern, where HIV outbreaks were initially seen among MSM or PWID and then spread to SWs. The Asian epidemic is largely driven by sex work as many men buy sex in the Region and are the main source of infection; they, in turn, infect their sexual partners, including wives and casual partners.

The dominant mode of HIV spread in the Region is through sexual transmission, followed by injecting drug use, although much diversity is seen in the epidemics within and among countries (Figure 5). Unsafe sex continues to drive the epidemic in countries such as Indonesia, Bhutan, Sri Lanka, Timor-Leste, Thailand, Myanmar and India, despite successful prevention interventions. While heterosexual epidemics are common, an increasing trend of transmission through same-sex activity has been observed in the Region in recent years. PWID have fuelled epidemics in many countries of the Region, for example, in Indonesia and Bangladesh, and is an emerging threat in low-prevalence countries such as the Maldives.

In the Region, high-prevalence countries demonstrate more than one epidemic. Some states in the high-prevalence countries of Myanmar, Thailand, Indonesia and India have a growing epidemic among PWID. In Myanmar, the northern states bordering China, Thailand and India have significant epidemics driven by injecting drug use, while in India, the northeastern states bordering Myanmar continue to have significant epidemics among PWID, and new areas in the north are emerging. In contrast, HIV transmission due to heterosexual and same-sex sexual activities dominates in the northern states of India.

Figure 4: Geographical distribution of HIV/AIDS cases in Sri Lanka

Source: National STD/AIDS Control Programme, Sri Lanka
Indonesia has a dual epidemic driven by sex work and injecting drug use. During the early stages of the epidemic (2003–2007), transmission was mainly through injecting drug use; however, the picture has changed from 2008 onwards, and heterosexual transmission is now the dominant mode. Papua province has a heterosexual epidemic driven by sex work with an adult prevalence of over 1% in the general population, while in the other provinces, PWID continue to spread the epidemic through sexual networks with SWs and MSM to their partners and clients. The contribution of MSM-led transmission to the evolving epidemic cannot be undermined, as increasing HIV rates among different typologies of MSM have been noted over the years in the country.

**HIV/TB coinfection**

Globally, there were an estimated 8.8 million incident HIV-positive tuberculosis (TB) cases in 2010, of which 1.1 million were among PLHIV with an estimated 320 000–390 000 deaths. Of the 34 million PLHIV in the world, a third is estimated to have concomitant latent TB infection. SEAR accounts for nearly 15% of the global burden. Five countries in the Region – Myanmar, Thailand, India, Indonesia and Bangladesh – are among the 22 high TB-burden countries in the world, while four high HIV-prevalent countries – Myanmar, Thailand, India and Indonesia – have a high burden of TB/HIV coinfection (Table 1).

There is a declining trend in HIV/TB coinfection in all high-burden countries, while in Indonesia, a rise in both HIV and TB is observed. The incidence rate of HIV-positive TB cases was the highest in Myanmar, followed by Thailand, India and Indonesia. The incidence rate of HIV-positive TB cases was below 1 per 100 000 population in Bangladesh, Maldives, Sri Lanka and Timor-Leste. India accounted for the majority of new HIV-positive TB cases in the Region. Data on HIV prevalence among incident TB cases were limited in the Region, and showed wide variation, from <0.1 to 16%, as reported by a few countries. The Regional prevalence was 5.7% in 2009 and remained nearly the same in 2010. In SEAR, most countries

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**Figure 5: Distribution of reported AIDS cases by mode of transmission in selected countries, 2010**

Source: National AIDS programmes, Ministry of Health, SEAR countries, 2010
use direct measurement of the prevalence of HIV among incident cases of TB through national surveys, HIV sentinel surveillance and provider-initiated testing.\(^{13}\)

Regular HIV surveillance among new TB patients has been conducted in Myanmar since 2006 (Figure 6). In 2010, five new sentinel sites were added for new TB patients. Across 20 sentinel sites, the HIV prevalence was 10.4% compared with 11% in 2009, and ranged from 0.7% in Magway to 27.9% in Monywa. In this round, more than 20% prevalence was found in three sentinel sites: Monywa, Bahmo and Meiktila. Analysis by type of TB showed that HIV prevalence was higher among smear-negative TB patients (13.5%) compared to smear-positive TB patients (6.6%) and extrapulmonary TB patients (10.9%).\(^{10}\)

### HIV among women and children

Women and children still continue to be more vulnerable to HIV in the Region. An estimated 1.3 million [1.2–1.6 million] women aged 15 years and above are currently living with HIV in SEAR. The estimated proportion of women with HIV in the Region (37%) is lower than the global average (50%) (Figure 7).\(^{2}\)

Over time, the proportion of females among reported HIV/AIDS cases has gradually increased in all countries. However, this proportion has stabilized in the past few years in all countries of the Region where the female-to-male ratio for HIV infection remained less than 1, except in Bhutan and Timor-Leste. In Bhutan, approximately 52% of reported AIDS
cases are among women, while among the HIV/AIDS cases cumulatively reported in Timor-Leste, 52% are women. The majority of women living with HIV in the Region were infected by their husbands or intimate partners. Gender inequality, male dominance, stigma, low literacy levels, migration and barriers to accessing health-care services are some of the key issues that account for the higher vulnerability of women to HIV in the Region.

Figure 7: Estimated number of people living with HIV, by sex, South-East Asia Region, 2000–2010

Source: Estimates generated by Spectrum model using surveillance data reported by national AIDS programmes.
The estimated number of children living with HIV increased from 89,000 in 2001 to 140,000 in 2010 [92,000–190,000], an estimated increase of 46%.\textsuperscript{1,2} This may be due to increased survival of children on life-saving ART and co-trimoxazole prophylaxis treatment (CPT) or increased acquisition of infection from infected mothers due to low coverage of prevention of mother-to-child transmission (PMTCT) programmes in SEAR. It is estimated that approximately 17,000 babies were newly infected in 2010. Deaths among children with HIV are rather high compared to adults, as an estimated 12,000 [6800–18,000] children have died in 2010.\textsuperscript{1} The new global initiative on “Zero HIV infection in children, zero deaths from HIV/AIDS by 2015” draws the attention of governments and donors to focus heavily on early diagnosis of paediatric infections with the use of point-of-care rapid diagnostics that enable provision of early ART and care for babies born to infected mothers, and provision of CPT to prevent infant mortality. Increasing PMTCT coverage to prevent HIV infection in women and avert HIV infection in babies is a priority in the Region.\textsuperscript{1}

**HIV among key populations at higher risk**

Although the overall HIV prevalence in the Region is only 0.3%, certain population groups are disproportionately affected. These include PWID, FSWs, MSM and TG populations, as well as new emerging populations such as migrant workers.\textsuperscript{14} The magnitude and trends of HIV infection in these population groups could be considerably higher than that in the general population. For example, in India, MSM and PWID have an HIV prevalence that is nearly 20–30-fold higher than in general population (0.3%) (Figure 8).\textsuperscript{11}

**Figure 8: HIV Prevalence by population subgroup, India, 2008–2009**

<table>
<thead>
<tr>
<th>Population Subgroup</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women attending Antenatal Clinics</td>
<td>0.48%</td>
</tr>
<tr>
<td>Long Distance Truckers</td>
<td>1.62%</td>
</tr>
<tr>
<td>Single Male Migrants</td>
<td>2.35%</td>
</tr>
<tr>
<td>Patients attending STI clinics</td>
<td>2.46%</td>
</tr>
<tr>
<td>Female Sex Workers</td>
<td>4.94%</td>
</tr>
<tr>
<td>Men having sex with Men</td>
<td>7.30%</td>
</tr>
<tr>
<td>Injecting Drug Users</td>
<td>9.19%</td>
</tr>
</tbody>
</table>

Source: Source: National AIDS Control Organization, Ministry of Health, India.

**People who inject drugs**

The majority of countries in SEAR have a significant problem of injecting drug use, with an estimated 500,000 PWID. Six countries in the Region have been identified with a substantial injecting drug user problem – India, Indonesia, Maldives, Myanmar, Nepal and Thailand.\textsuperscript{15}
It has been estimated that more than one in three PWID surveyed in Indonesia, Myanmar and Thailand are estimated to be HIV-positive, and one in five are infected in Nepal. While not widespread, recent assessments show that injecting drug use is of increasing concern in Bhutan. Latest available official data reported by countries in 2010 show the estimated population of PWID in each country as follows: Bangladesh [40 000], India [177 000], Indonesia 105 000 [73 000–201 000], Maldives [300–2000], Myanmar 75 000 [60 000–90 000], Nepal [28 000], Thailand 68 000 [40 000–97 000] and Sri Lanka [675–700].

Data on the estimated number of PWID in Bhutan and Timor-Leste are not available. Over the years, with improved methods and use of more reliable data, these estimates have been revised and lower estimates have been computed; for example, in India and Indonesia, with implications for programme planning and coverage of interventions.

A review of six countries with significant epidemics of HIV among PWID (Thailand, Myanmar, Nepal, Indonesia, India and Bangladesh) in 2009 observed that there is no significant decline in the prevalence of HIV epidemics in Thailand, Indonesia, Bangladesh, Myanmar and India, while in Nepal, north-east India, and some cities in Myanmar, there is some evidence of a decline in risk behaviours and a concomitant decline in HIV prevalence, largely due to the implementation of harm reduction programmes. However, this is countered by the rapid emergence of epidemics in new geographical pockets. HIV prevalence among PWID is mostly high and is stabilizing at a higher level compared with other vulnerable groups such as MSM, TG and FSWs. In fact, HIV prevalence rates are highest among PWID.

The national HIV prevalence reported among PWID and from latest surveillance data available is as follows: Indonesia 27 % 2007; Nepal 21% in Kathmandu 2009, 6.3% in 2011; Myanmar 26.5% (range 7.9–39.4%) in 2010; India 9.19% in 2008–09; Thailand 46% in 2010; and Bangladesh 1% (range 0–5%) in 2010–2011. An analysis of trends of HIV prevalence among PWID do show an overall slow decline but HIV epidemics that commenced in the late 1980s and early 1990s among PWID in some countries still remain high and unresolved, as in Thailand and Myanmar (Figure 9).

In large countries such as India, Myanmar and Indonesia, the overall national prevalence masks subnational pockets with a high prevalence of HIV among at-risk populations.

HIV surveillance undertaken during 2007–2010 in 144 sentinel sites showed that HIV prevalence among PWID varied from less than 1% in 39 sites to above 20% in 20 sites (Figure 10).

Indonesia has the most severe injecting drug use epidemics. In five sentinel sites, >40% of PWID were infected with HIV in 2007: Medan and Surabaya 56%, Jakarta 55%, Bali 44% and Bandung 43%. Prior to 2000, HIV prevalence among PWID accounted for less than 1% of reported HIV infections; however, in 2010, nearly 34.5% of cumulative HIV infections were attributed to PWID, second only to heterosexual transmission, which accounted for 57.2% of cumulative infections. The data from the recently conducted integrated biobehavioural survey 2010–2011 revealed that the HIV prevalence remains at a worrying high level (41%) among PWID in the country.
Figure 9: Trends in HIV prevalence among injecting drug users, selected cities, South-East Asia Region, 2000–2010

Source: Sentinel surveillance data reported by national AIDS programmes. Sample size for each site was adequate as per national protocols. Dashed line indicates no data available for that period.

Figure 10: HIV prevalence among people who inject drugs, South-East Asia Region, 2007–2010

Source: Sentinel surveillance reports of national AIDS programmes, South-East Asia Region. The latest available surveillance data is used from each country: Indonesia-2007; Maldives and India-2008; Nepal and Sri Lanka-2009, Bangladesh, Myanmar and Thailand-2010.
In Bangkok, Thailand, HIV prevalence was >40% among PWID while in Myanmar, it was >20% in all sites except two (Muse and Myitkyina), which had a higher HIV prevalence (>35%). In Bangladesh, HIV was undetected among PWID in 27 of 30 sites, but one neighbourhood in Dhaka city had an HIV prevalence >5% and Narayanganj had a prevalence of 1%. No HIV infection has been detected among PWID in the Maldives. Bhutan, Sri Lanka and Timor-Leste continue to have insignificant injecting drug-use epidemics.

There is wide variation in HIV prevalence within countries. For example, in Myanmar, HIV prevalence among PWID ranged from 21.3% in Yangon to 39% in Myitkyina. In Nepal, all four sites had an HIV prevalence of over 1%. Kathmandu had the highest prevalence of 20.7%, while the sites in the Terai region had an HIV prevalence of over 5%. Data from the recent 2010–2011 national serosurveillance in India are not yet available; however, according to the 2008 sentinel survey, HIV prevalence ranged from 0% in some sites to 56% in Amritsar, Punjab. Seventeen of 50 sentinel sites in India had an HIV prevalence of more than 10% among PWID — most of these sites are in the north and north-eastern states.

Looking at HIV trends from regular rounds of surveillance, it is clear that many countries with long-standing injecting drug use epidemics continue to have worrisome levels of HIV among PWID. In Bangkok, HIV prevalence was almost 41% in 2010 and had remained above 30% in the past 20 years, despite many efforts to control the HIV epidemic in Thailand. In Tamil Nadu state in India, the overall HIV prevalence has significantly declined, but among PWID in Chennai city (the state capital), HIV prevalence increased from 27% in 2000 to 36% in 2008. In India, HIV prevalence among PWID in some cities has been above 20% in the past 10 years. In Manipur, where injecting drug use epidemics first started in India, HIV prevalence was 26% in 2003 and 29% in 2008 at consistent sentinel sites. Moreover, new pockets of high HIV transmission have emerged in the northern states of India – Amritsar (56%) in Punjab, Bhopal (40%) in Madhya Pradesh, Ropar (36%) in Punjab, north Delhi (30%) and Mumbai suburban (20%) in Maharashtra. In other parts of the country, HIV prevalence is low: Patna, Bihar (0.4%), Cuttack, Orissa (0.8%), Faridabad, Haryana (2%).

Papua in Indonesia has a generalized epidemic (2.4% HIV prevalence among the general population). HIV prevalence among PWID continues to be high, while in Surabaya, HIV prevalence has been rising consistently, from 48% in 2000 to 55% in 2007. In Myanmar, an in-depth analysis of the trends showed a somewhat cyclical pattern of fall in HIV prevalence every two to three years, followed by waves of increase; nevertheless, Lashio has shown a steady continuous decline since its peak in 2003 (from nearly 80% to almost 29% in 2010). Nepal is the only country in the Region where a consistent decline in HIV prevalence has been noted. In Kathmandu, HIV prevalence declined from 68% in 2003 to 20.7% in 2009 and to 6.3% in 2011 according to the fifth round of integrated biological and behavioural surveillance (IBBS) (Figure 11).

Most countries in the Region have been slow to introduce harm reduction programmes (HRP), including needle–syringe exchange and opioid substitution therapy (OST), to prevent the spread of HIV among PWID. In the absence of such programmes, HIV prevalence tends to rise drastically, as it has in Bangladesh’s capital, Dhaka (from 1.4% in 2000 to 7% in 2007).
The country responded by introducing HRP, which resulted in a remarkable drop in HIV prevalence among PWID in 2009 and a declining trend is continuing. The HIV prevalence in 2011 was 5.3\%.\(^{19}\)

The observed decline in HIV infection among PWID from surveillance data needs to be interpreted with caution before attributing it directly to effective programme response, as it may be due to several reasons: sampling bias, influx of new injectors, deaths of older cohorts of HIV-infected injectors, switching of PWID to inhalation practices or an actual decline in transmission following intense HRPs. Thus, triangulation of data with other available information from routine programme data or research is vital, though this is not done in most situations.

Drug use is illegal and not considered a health issue as yet in many countries. Drug use is dealt with by incarceration of persons who use drugs. More often, incarceration may be due to drug-related crimes. HIV prevalence is indeed higher in closed settings than among the general population. A survey in 24 prisons in Indonesia revealed that the prevalence of HIV was high (12\%) among female injectors compared to non-injectors (5.6\%), while 8\% of male PWID were found to be HIV-positive compared to 2.4\% of the general adult population.\(^{25}\)

**HIV risk behaviours**

High-risk behaviours for HIV transmission are consistently found among PWID. High rates of sharing injecting equipment are common and persist in various countries: Chapinawabgani, Chandpur and Dhaka in Bangladesh (2007), Chennai, Mumbai, Delhi and Manipur in India (2006); Yangon and Myitkyina in Myanmar (2008); Male and Addu (2008) in the Maldives.\(^{26}\) A 2008–2009 study in Bangkok found that 30\% of study participants reported borrowing syringes in the past six months.\(^{27}\) In 2007, in Indonesia, high rates of sharing of needles in
the past week were reported in Jakarta and Surabaya (63% and 56%, respectively); however, sharing practices seem to be declining among PWID with the scaling up of needle exchange programmes over the years.\textsuperscript{28} Eighty-seven per cent of PWID claim that they did not share needles with others, and only 13% admitted to sharing needles in the previous week with someone (see chapter 2). Recent national data on rates of sharing injecting equipment in India are not available. However, a study in five northeastern states of India reported that a large proportion of PWID shared injecting equipment with friends, largely due to lack of access to free needles and inconsistent supplies from intervention programmes.\textsuperscript{29} In Kathmandu and Pokhara, there has been a sharp decline in needle sharing but in the Terai districts, there has been a slight increase in this risk behaviour.\textsuperscript{14} The trends in needle sharing among PWID in Nepal are shown in Figure 12.

**Figure 12: Trends in needle sharing among PWID in Nepal, 2002–2009**

![Graph showing trends in needle sharing among PWID in Nepal, 2002–2009.](image)

Source: National Centre for AIDS and STD Control, Ministry of Health.

**Sexual risk behaviours**

Most PWID are sexually active, and HIV infection levels among their sexual partners can be high. Unsafe sex among PWID is common, and inconsistent condom use is widespread, whether it is with a permanent partner, casual partner or an FSW. Evidence shows an overlap between PWID and sex work in the Region and, consequently, HIV epidemics among PWID will invariably spread to other population groups until effective prevention efforts are established.\textsuperscript{15} A meta-analysis by a group of researchers found that MSM in the Region are increasingly injecting drugs and the prevalence of same-sex behaviour among PWID also is high.\textsuperscript{30}

In Indonesia, data from the 2007 IBBS suggest that the HIV epidemic among PWID may be closely linked to the rise in heterosexual transmission rates, through high numbers of unprotected sexual encounters. It was estimated that PWID had 380 000 unprotected sex encounters with FSWs in the previous year, a figure that nearly equals the estimated total number of FSWs in Indonesia.\textsuperscript{17} In Myanmar, high rates of needle sharing and unsafe sex
with FSWs have been observed among PWID in Yangon, Myitkyina, Lashio and Mandalay. Figure 13 describes the dual risk (unsafe sexual and needle sharing) practices among PWID in selected cities of Myanmar.

**Figure 13: Injecting and sexual risk behaviours among PWID by site, Myanmar, 2008**

![Graph showing injecting and sexual risk behaviours among PWID by site](image)


In India, the potential for sexual transmission of HIV from PWID to non-injecting sexual partners has been identified. An early study had found that only 22% of female regular sexual partners of male PWID reported condom use with their partner during last sex.

In this scenario, the importance of providing a comprehensive package of interventions with adequate coverage for promoting safe sexual and injecting practices among PWID cannot be overemphasized.

**Coinfections of HIV and viral hepatitis (HBV and HCV)**

In South-East Asia, PWID have high rates of hepatitis, in particular, with the hepatitis B virus (HBV) and hepatitis C virus (HCV). Viral hepatitis is increasingly being recognized as a major public health problem, particularly in cases where PLHIV are coinfected with HBV and/or HCV, as is commonly found among PWID. WHO recommends that PWID is a key group to be specifically targeted for prevention and treatment of viral hepatitis.

Sharing of injecting equipment among PWID is the most common route of HCV transmission. HBV and HCV are more easily transmissible than HIV, and research and surveillance show that the prevalence of viral hepatitis among PWID is often much higher than that of HIV. Overall, data on viral hepatitis among PWID in the Region are lacking. However, available data indicate a significant HCV epidemic among PWID in the following countries: Bangladesh (mid-range 1999–2005, 48.2%), Indonesia (mid-range 2007–2009, 77.3%), Thailand (mid-range 2000, 90%) and Nepal (mid-range 1997–2002, 87.3%).
In India, HCV prevalence among PWID varies widely, ranging from 36% to up to 90%. In Myanmar, the sentinel survey in 2010 found that the HCV-positivity rate among PWID was 23.9% (range 20.8%–26.9%) in Mandalay and Muse.

Coinfection with HIV is also common among PWID. In Chennai, India, among HIV-infected PWID, the prevalence of coinfection with HCV and HBV was 86% and 9.2%, respectively. In Indonesia, HIV/HCV coinfection among PWID was 10%–40%, while in Thailand it was 5%–98%. In Bangladesh, the rates varied in different cities and in six cities >50% were HCV-positive. A higher prevalence of HCV was found among PWID in several cities of Rajshahi division, with Kanshat having the highest prevalence (95.7%). In Dhaka, HCV prevalence rates have declined significantly \((P<0.05)\) over the rounds of surveillance.

In Myanmar, during the 2010 sentinel survey, screening of PWID for hepatitis was introduced for the first time. In Mandalay and Muse, a significantly higher prevalence of HCV was seen among HIV-positive PWID compared with those who were HIV-negative. Among those who had more than one infection (either HIV or HBV or HCV), the majority (64%) were coinfected with HIV and HCV (Figure 14).

These findings show that HRPs should be strengthened with emphasis on the use of sterile needles and syringes, not only for prevention of HIV but also for other parentally transmitted infections, especially hepatitis C and hepatitis B.

A few studies have examined the prevalence of HBV/HIV coinfection in PWID. In Myanmar, the hepatitis B seropositivity rate among PWID was 12.3% (9.9%–14.6%). Among PWID who had more than one infection (17%), one fifth was coinfected with HIV and HBV. To effectively respond to the dual infection, surveillance and data collection at the national level must be improved, and integrated models of treatment and care introduced.
along with capacity building of the health force. High prices of drugs for the treatment of hepatitis C and lack of standard guidelines for managing dual infections of HIV/hepatitis are some obstacles that have to be overcome by governments to deliver appropriate services for the control of dual infection.

**Men who have sex with men and transgender populations**

The majority of MSM and, to a lesser extent, TG, still experience widespread stigmatization and discrimination throughout the Region. In recent years, a serious HIV epidemic among these vulnerable high-risk population groups has been identified, often in cities and among young people.

Within the countries of WHO SEAR, surveillance conducted at 94 sentinel sites in eight countries among MSM and TG showed that there is an alarmingly high and rising HIV prevalence rate among MSM – most notably in India, Indonesia, Myanmar and Thailand (Figure 15).

**Figure 15: HIV prevalence among men who have sex with men, South-East Asia Region, 2007–2010**

Source: Sentinel surveillance data reported by national AIDS programmes. Sample size for each site was adequate as per national protocols. The latest available surveillance data is used from each country: Indonesia-2007; Maldives and India -2008; Nepal and Sri Lanka-2009; Bangladesh, Myanmar and Thailand-2010.
The national HIV prevalence rate among MSM in these countries ranges from 5.2% to 28.8%. In India, the national HIV prevalence rate is 7.4%, but the state-wise mean HIV prevalence from the HIV sentinel surveillance in 2007–08 does show some high HIV-prevalence areas: Andhra Pradesh (23.6%), Maharashtra (12.8%), Manipur (17.21%) and Karnataka (12.52%).

However, the state and national prevalence in large countries hides subnational pockets of very high prevalence. On analysis of site-wise prevalence in India, the highest was in Kadappa at 33%, Hyderabad 41% and Warangal 27% in Andhra Pradesh state, and 22% in Thiruvallur in Tamil Nadu state. Similarly, in Bangkok, Thailand the prevalence was 31%. All four surveillance sites in Andhra Pradesh and three out of four sites in Mumbai had an HIV prevalence above 10%. It is worrying to note that overall, around 20% of sites (14 sites out of 69) had high HIV prevalence rates among MSM (range 10%–20%).

In Sri Lanka and Nepal, the epidemic was insignificant among MSM, with an HIV prevalence below 5%, while Bangladesh and the Maldives have not identified HIV-infected MSM during their surveillance rounds. In Thailand, the overall HIV prevalence was 11.1% and by subgroup, it was 10.0% for general MSM, 16.3% for male sex workers (MSWs) and 0.4% for TG. It is noteworthy that HIV prevalence is increasing among all age groups but was highest among the age group of 23–28 years in contrast to the age group of over 29 years in 2009 in the large tourist cities of Bangkok and Chiang Mai. It is indeed unfortunate that high HIV prevalence rates were seen among young MSM even in some educational institutions sampled. High levels of HIV in the younger cohort of MSM (more than 60% of the MSM sample was between 15 and 22 years of age, and nearly 47% and 57% were MSWs and TG) is suggestive of a worsening epidemic. Thus, HIV prevention among MSM must begin at a young age, earlier or at about 15 years.

Analysis of trends shows that HIV transmission among MSM is continuing in Thailand. In Bangkok, HIV prevalence among general MSM increased rapidly from 17% in 2003 to 31% in 2010, while among MSM attending the Silom Community Clinic (Bangkok), HIV prevalence increased from 25% in 2005 to 35% in 2010 (data not shown). Of the 12 sentinel sites surveyed in 2010, all except one site reported high HIV prevalence; the highest in Bangkok at 31%, Chiangmai 13%, Phuket 9%, Pathum Thani 11% and Songkla 13%.

In Myanmar, the national HIV prevalence rate among MSM declined from 28.8% in 2007 to 11% in 2010, ranging from 8% in Yangon to 14% in Mandalay. A wider sampling of MSM may explain the observed low prevalence in 2010. However, with the limited data points (only three rounds of surveillance) and sentinel sites (only two sites), it is too early to declare a declining trend. Intense prevention efforts need to be continued to maintain a low prevalence of HIV among MSM.

In Indonesia, HIV prevalence among MSM rose sharply from 0.87% in 2002 to 5.3% in 2007, ranging from 8.1% in Jakarta to 2% in Bandung. The impact of low coverage of interventions for MSM in recent years is reflected in the findings of the recent IBBS survey, as
the HIV prevalence has risen sharply to 12.4% in 2010.18 According to modelling undertaken by the Commission on AIDS in Asia in 2008, unless prevention measures are improved, by 2020 up to 50% of new HIV infections in the Region could be among MSM9.

HIV prevalence varies among different typologies of MSM. Available HIV prevalence data among TG were limited but show that prevalence was mostly higher among TG than among general MSM. In Jakarta, HIV prevalence among TG was 34%,42 while a study at five sites in Tamil Nadu, India shows an HIV prevalence of 12%.43 In Thailand, HIV prevalence among MSWs was 16% (range 6%–21%) in eight cities surveyed and followed a similar pattern as that among MSM in high tourist areas: Bangkok, Chiang Mai, Phuket and Songkla have high HIV prevalence rates. Surprisingly, HIV has spread rapidly among TG residing in the low tourist cities as well, where HIV prevalence was 9.5% (range 5%–16%).4,44 In Bangladesh, TG residing in Dhaka and border cities had an HIV prevalence of over 1%, where cross-border mobility was a risk factor. HIV prevalence among MSM and MSWs was zero across the country.19 A study from Mumbai, India found that the HIV prevalence among MSWs was lower (17%) compared with TG (41%). In Nepal, 5.2% of MSWs were infected with HIV, while the HIV prevalence among the MSM was relatively low at 3.5%.41

HIV risk behaviours

A substantial proportion of MSM have a large number of male partners of all types – regular, casual, commercial (paid) and paying. MSM in high-burden countries have more clients. In India, the mean number of commercial partners of MSM ranged from 3.6 to 25.2 in the past six to 12 months44 while in Sri Lanka (2006–2007) it was 8.8 within 12 months.45 In Indonesia, the number of male partners of MSM varied from 2 to 10.42
Inconsistent condom use with male partners during anal sex was common. One third to two third of MSM across South-East Asia reported not using condoms during the last episode of anal sex with a male partner.39,46 Around 60% of MSM in Indonesia reported using a condom during last casual and commercial sex with a male partner, while condom use at last sex with females was less frequent, falling to 32% in encounters with casual female partners.42 In 2010, according to the country reports, condom use at last sex with a male partner varied from 22% in Bangladesh to 82% in Myanmar, 88% in Nepal, 50% in Sri Lanka, 65% in Thailand and 52% in Timor-Leste (Figure 17).

Consistent condom use among MSM, however, is considerably lower and varies with different partners. This is an area that specifically needs to be addressed in the programmes for condom promotion. About 30% of MSM had used condoms in the past month with male partners during both non-commercial and commercial transactions (buying sex), 11% with casual female partners, and 18% when selling sex to females in six cities in Indonesia.42 Lubricants are generally used to prevent condom breakage during anal sex and prevent HIV acquisition; however, lubricant use is not prevalent in the Region. In Indonesia, use of water-based lubricants during last anal sex ranged from 12% in Batam to 22% in Malang.42

The highest level of “always” condom use was found among a Bangkok sample in Thailand (63% in 2005 to 68% in 2010), with an increasing tendency over time. In Chiang Mai, consistent condom use with a lover or casual partner increased sharply from 30.6% in 2005 to 65.7% in 2010. Similarly, in Phuket, condom use increased from 28% to 67%.44 However, the recent IBBS survey in 12 provinces of Thailand noted an alarming increase in HIV infection among all categories of MSM (general MSM, MSWs and TG) in all the provinces, with very low condom use among TG and MSWs. A substantial number of young men engage in homosexual behaviour in Asia. A study among young MSM, MSWs and TG

Figure 17: Percentage of men who have sex with men using condoms during last anal sex, South-East Asia Region, 2006–2010

Source: Universal access country reports; Reports of behavioural surveys, national AIDS programmes. Sample size was adequate as per national protocols.
in Thailand reported high rates of inconsistent condom use by young MSM (46.7%), MSWs (34.9%) and TG (52.3%). Interventions for young MSM are much needed and must consider the distinct risk factors of MSM, MSWs and TG.47

A large proportion of MSM had used addictive substances in the three months before the survey, and the trend towards the use of addictive drugs prior to sex during the previous three months appears to be increasing in Bangkok, Chiang Mai and Phuket.44

In conclusion, there is evidence of a growing HIV epidemic among MSM in the Region. Reaching the more affected as well as hidden subtypes of MSM such as TG and MSWs with innovative, type-specific interventions is a challenge.

Female sex workers
The South-East Asia Region has over the years witnessed an overall decline in the prevalence of HIV among FSWs, with variations found between and within countries. Data from surveillance and United Nations General Assembly Special Session (UNGASS) reports from 2007 to 2010 show the following rates of HIV prevalence: Bangladesh (0. 1.6%, 2010–2011); India (4.9%, 2009); Maldives (0%, 2008); Myanmar (11%, 2010), Nepal (2.3% 2009 in the Terai districts), Sri Lanka (0%, 2009) and Thailand (3.2% [0–10%], 2010).

HIV prevalence varies between different states and regions, and by the type of sex work. Data available from 269 sentinel sites from nine countries in the Region, except Bhutan and DPR Korea, for 2007–2010 revealed that prevalence varied widely across the Region (Figure 18).

HIV prevalence was <1% in 33% of sites among FSWs, while it was 1%–5% in 38% of sites. A quarter of the sites had a prevalence of 5%–20%. The highest HIV prevalence was observed in India where five sites had a prevalence of over 20%: Namakkal in Tamil Nadu (22%), Kolhapur in Maharashtra (26%), Warnagal in Andhra Pradesh (27%), Bangalkort in Karnataka (34.5%), Pune in Maharashtra (41%). In India, the mean HIV prevalence among FSWs is highest in the state of Maharashtra (17.9%) followed by Manipur (13.7%), Andhra Pradesh (9.7%), Nagaland (8.9%) and Mizoram (7.2%).3,11,43

In Indonesia, the highest recorded HIV prevalence was in Tanah Papua (16%), followed by Batam (12%) and West Java (11.6%).17,48 Myanmar also has a significant epidemic among FSWs, as all six sites recorded over 5% HIV prevalence, the highest in Yangon (15%) followed by Mandalay (13%) and Myitkyina (12%).10 The epidemic in Thailand is declining as all the sites except six recorded an HIV prevalence of less than 5% in 2010.4 Bangladesh, the Maldives, Nepal and Timor-Leste had insignificant epidemics,19,20,21,49 while HIV was undetected in all six sites in Sri Lanka.22

HIV prevalence among FSWs is on the decline in India, Thailand and Myanmar. However, HIV prevalence has stabilized at a high level despite focused interventions for FSWs (Figure 19). In Indonesia, HIV prevalence among sex workers is on the rise, especially in
Figure 18: Percentage of female sex workers infected with HIV, South-East Asia Region, 2007–2010

Source: Sentinel surveillance reports of national AIDS programmes, South-East Asia Region. The latest available surveillance data is used from each country: Indonesia-2007; Maldives and India-2008; Nepal and Sri Lanka-2009, Bangladesh, Myanmar, Thailand and Timor-Leste-2010.

Figure 19: Prevalence of HIV among young sex workers aged 15–24 yrs in selected high-burden SEAR countries, 2003–2010

Source: Sentinel surveillance data reported by MoH.
Papua province, while some states of India have consistently had a high prevalence. The low-prevalence countries have been able to keep the HIV prevalence below 5% among FSWs.

In most high-burden countries, young FSWs get infected rapidly, as was seen in Mumbai, India where 25% of HIV-positive FSWs were below 25 years of age. In Indonesia, 12.8% of direct and 5%–8% of indirect young FSWs were infected with HIV compared to their older peers (9.4% and 4%, respectively). In Myanmar, 6.7% of HIV-positive FSWs were below the age of 25 years.

HIV prevalence varies with the type of sex work. HIV infection among direct sex workers in Thailand has shown a decline in all regions of the country: central region, including Bangkok (5.26%), north (3.70%), south (2.76%), and northeast (1.6%).

In Indonesia, depending on the province, in 2007, between 6% and 16% of direct FSWs (brothel- and street-based), and 2% to 9% of indirect FSWs (bars and massage parlours) were infected with HIV. Recent data from IBBS 2011 confirms that indeed the sex work-driven epidemic has not abated, as overall 10% of direct FSWs and 3% of indirect FSWs are infected with the virus and unfortunately, of these, one in four are young women (Figure 20).

In Bangladesh, overall HIV prevalence among FSWs in different settings was <1%, except among casual sex workers from Hili (1.6%), where cross-border mobility to India was high. In a study in Mumbai and Thane districts of India, the overall HIV prevalence among sex workers was 4.6%. The highest HIV prevalence (13.1%) was observed in brothel-based FSWs, while 3.3% bar-based, 4.7% street-based, 1.6% home-based and 1.6% lodge-based sex workers tend to have a low prevalence.

In conclusion, while HIV prevalence among FSWs has generally declined in many countries, pockets of high transmission still persist, and the designing and delivery of

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**Figure 20: HIV prevalence among direct and indirect sex workers in selected SEAR countries, 1999–2010**

Source: Ministry of Public Health, Thailand and Directorate of Communicable Disease Control, Indonesia.
targeted interventions need to be specific for the country, geographical location and type of sex work; one model does not suit all. Priority attention should be given to providing information to and intensively supporting consistent condom use among those new to the sex trade and young.

**Migrant populations**

Although data are scarce, internal and international migration appears to be a substantial factor in the HIV epidemics in a number of countries across the Region and, of the estimated 50 million international migrants in the Asia–Pacific, the proportion of women is increasing. Migration per se is not a risk factor for HIV, but the circumstances that lead people to migrate and the conditions they encounter as migrants can increase their vulnerability. Among international migrants, a large number of women are employed in Gulf countries as unskilled labour, and are reported to have been sexually exploited or to engage in unsafe sex practices including commercial sex while abroad. In addition, trafficking of women across borders and sex trading is rampant in the Region in Bangladesh, India, Nepal and Myanmar, and migrant women are more vulnerable to HIV according to the evidence and research.

In general, HIV infection rates among the population of international labour migrants are higher. The possible reasons may be increased detection as a result of repeated compulsory HIV testing required by the destination country of employment such as in the Gulf states and the Maldives, or increased vulnerability of men and especially women to HIV infection while abroad. For example, during the 2007–2008 IBBS, HIV infection was detected in resort workers in the Maldives and almost all of the reported HIV cases were among non-Maldivians seeking employment in the Maldives. In Sri Lanka, among the reported HIV-positive women, nearly 40% were unskilled labour migrants returning from Gulf countries.

In a recent survey, it was also evident that wives of returnee migrant labourers in the four districts of far Western Nepal surveyed had an overall HIV prevalence of 0.8%. Doti district had a slightly higher prevalence (2.6%) than Kailali (0.4%) and Achham (0.7%), while none of the sampled wives of migrants in Kanchanpur district tested HIV positive. The impact of extensive prevention programmes targeted at these populations over the years is evident as the HIV rate has declined from 3.3% in 2008 to 0.8% in 2010 among spouses...
of male migrants. While needle-sharing and sex work drives the epidemic in the majority of areas in Kathmandu valley and highway districts of the Terai belt in Nepal, migration to India and other countries drives the epidemic in the hilly areas where key populations are concentrated. Addressing the issue of prevention among migrants (probable clients of FSWs abroad) and their spouses, especially in the far Western region, remains a challenge in Nepal.

In Myanmar, cross-border migration to India and Thailand has been identified as a risk factor for acquisition of HIV, while in the Karnataka state of India, migrant SWs had a slightly higher prevalence of HIV.

In Thailand, HIV positivity among migrants is increasing (0.75% in 2006 to 1.5% in 2010), notably in some parts of the central region (Kanchanaburi: from 1% in 2006 to nearly 2% in 2010), while in the south in Pattani, a decline in HIV prevalence was seen, from 3.9% in 2006 to 1.6% in 2010. It has been found that FSWs in Thailand who are foreign migrants have a higher HIV prevalence than their Thai counterparts. Limitations in education and lack of knowledge of the Thai language are identified as barriers to accessing information and services for prevention of HIV and STIs among migrants.

### HIV in the general population

#### Military recruits

Data among military recruits reflect HIV prevalence among young males in the general population. A few countries have included young conscripts for regular serological surveillance. Long-term trends in HIV infection from surveillance data among military recruits are available from Myanmar, Thailand and Sri Lanka. In 2010, HIV prevalence among military recruits...
recruits was 1.6% and 0.57% in Myanmar and Thailand, respectively, while no HIV-positive recruits were detected in Sri Lanka.\textsuperscript{4,5,10,22} In Thailand, a distinct drop in HIV prevalence was noted in the early 1990s, consistent with the decline in the overall epidemic at the same time and the prevalence was less than 0.5% in new military recruits in Thailand. In Myanmar too, HIV prevalence among young military recruits seems to have stabilized over the past few years. HIV was undetected among uniformed personnel in Sri Lanka over the past surveillance rounds, and data were unavailable from other countries (Figure 22).

**Figure 22: Trends in HIV prevalence among military recruits in selected SEAR countries, 1989–2010**

Wide variations are noted within countries. For example, in Thailand, the national prevalence of HIV in pregnant women was less than 1% and showed a declining trend but with wide inter-district variation. According to the recent sentinel survey, HIV was undetected in six districts and prevalence above 1% was seen in 21 districts of the 75 districts surveyed. Where data are available, the highest rates were in Chumphong and Ranong (1.7%), while U Thanni, Phanagnga and Petchaburi recorded rates of 1.46%, 1.37% and 1.36%, respectively (Figure 23).\textsuperscript{4,5}

\textbf{Antenatal clinic attendees}

Women attending antenatal clinics (ANC) are used as a proxy for assessment of HIV prevalence in the general population, with some adjustments. ANC attendees are the largest population under surveillance in the South-East Asia Region, as this group is relatively easy to access and it is inexpensive to conduct surveillance for this group. Regular surveillance of ANC attendees is largely carried out in high-prevalence countries in the Region; in India (643 sites) in 2008, and Myanmar (36 sites) and Thailand (75 sites) in 2010. The average HIV prevalence in Myanmar, Thailand and India was 0.96% (range: 0–4%), 0.77% (range: 0–3.2%) and 0.6%, (range: 0–3.9%) respectively.\textsuperscript{4,5,10,11}

Wide variations are noted within countries. For example, in Thailand, the national prevalence of HIV in pregnant women was less than 1% and showed a declining trend but with wide inter-district variation. According to the recent sentinel survey, HIV was undetected in six districts and prevalence above 1% was seen in 21 districts of the 75 districts surveyed. Where data are available, the highest rates were in Chumphong and Ranong (1.7%), while U Thanni, Phanagnga and Petchaburi recorded rates of 1.46%, 1.37% and 1.36%, respectively (Figure 23).\textsuperscript{4,5}

\textsuperscript{4,5}\textsuperscript{5,10,11}
The spread of HIV in some provinces of Thailand is still severe, especially those that receive a large number of tourists, and provinces bordering the eastern seaboard and Gulf of Thailand. These include Phuket, Cholburi and Samut Songkram, in which HIV among pregnant women was still high, at above 1% in 2010, though it has declined from nearly 2% in 2009. Similarly, the Upper North region of the country, which experienced the highest levels of HIV prevalence in the early part of the epidemic, reported a higher prevalence of HIV among pregnant women (3% in Payao and Uttaradit) in 2009, but a fall in the HIV prevalence to nearly 1% was observed in 2010.4,5

In Myanmar, HIV was undetected in six sites in 2010, while 50% (17 out of 35 sites) of the sites reported an HIV prevalence of above 1%. Muse recorded the highest prevalence of 3% (Figure 24). Though an overall declining trend has been observed over the years, Haka, Mywaddy, Pyi o Lewin, Haka and Kwathong provinces had a high HIV prevalence in 2010.10

In India, surveillance data from the recent sentinel survey were not available. However, as reported in 2009, based on the 2008 survey, HIV was undetected in 38% of the sites (246 of 643 sites), while nearly 20% of sites (134 of 643 sites) had an HIV prevalence above 1% and six sites had an HIV prevalence above 3%. Sites in Manipur and Nagaland in the northeast, Maharashtra, as well as Karnataka and Andhra Pradesh in the south had an HIV prevalence of more than 3% (Figure 25).11,26

HIV trends among antenatal attendees have shown a steady decline in Thailand, Myanmar and India, but seem to have stabilized over the past few years, as shown in Figure 26.
Figure 24: HIV prevalence among antenatal clinic attendees by district in Myanmar, 2010


Figure 25: HIV prevalence among antenatal clinic attendees by district in India, 2009

Source: Sentinel surveillance 2008, National AIDS Control Organization, India.
Sexually transmitted infections

In 2008, there were 498 million new cases of sexually transmitted infection (STI) (only four of more than 30 infections that can be transmitted sexually) globally, a slight increase from 448 million in 2005 (106 million new cases of Chlamydia trachomatis, 106 million new cases of Neisseria gonorrhoeae, 10 million new cases of syphilis and 276 million new cases of Trichomonas vaginalis, similar to the values seen in 2005). It is estimated that more than half of the STIs other than HIV occur among young people.2

Of the global STI burden, the WHO Region of the Americas (128 million) and the Western Pacific Region (125 million) accounted for the highest numbers of new infections, while the South-East Asia Region accounted for 78.5 million new STIs, in contrast to 71 million in 2005. However, the pattern remained the same as infection due to T. vaginalis was the most prevalent (42.9 million, an increase from 38.6 million in 2005), followed by gonorrhoea (25.4 million from 22.7 million in 2005), whereas chlamydial infection (7.2 million from 6.6 million in 2005) and syphilis (3 million from 2.9 million in 2005) infections were relatively lower.2 These indicate that the global as well as Regional burden of STIs remains high.

Sexually transmitted infection is a co-factor for HIV transmission; moreover, high rates of STIs indicate unprotected sex. While HIV surveillance systems have been strengthened over the years, unfortunately STI surveillance has been neglected in the Region due to various reasons: poor laboratory facilities, high cost and non-availability of point-of-care simple diagnostic tests, lack of human resources, limited funds dedicated to STIs compared with HIV and lack of commitment by governments. Therefore, the majority of countries in the Region report STIs based on syndromic diagnosis and, even when reported, the STI syndromes are not generally disaggregated by key affected populations. Most aetiological data available are limited to research studies, especially for key affected populations. The rates of STIs are...
disproportionately high among key populations at higher risk of HIV, particularly among FSWs and their clients, and MSM, due to a high turnover of partners (Figure 27).

Syphilis is the most commonly reported bacterial STI among key at-risk populations and from the reported data in 2010 and recent surveillance data the national syphilis prevalence among MSM ranged from 3.5% to 18% in India (2007), 9% in Indonesia (2011), 1% in Myanmar (2010), 4.7%(0–5%) in Sri Lanka (2009), 1.5% in Bangladesh (2011) and 2% in Nepal 2009 (Figure 28).10,11,18,22,26,49

Source: HSS, National AIDS Programme, Department of Health, Myanmar.
Note: Syphilis data was not available for military recruits in 2010.

Figure 27: Prevalence of STIs (syphilis) by population subgroup in Myanmar, 2009–2010

Source: HSS, National AIDS Programme, Department of Health, Myanmar.

The rates of syphilis vary among the subgroups of MSM. Most recent data indicate an alarming rise in syphilis among MSM in Indonesia, and prevalence of syphilis has almost trebled among MSM, from 4% in 2007 to 13% at the same site in 2011. TG had the highest overall prevalence (25%) among the risk groups surveyed, and infection has remained high among them (from 27% in 2007 to 28% in 2011) over the past four years at the same site (Figure 29).

Similarly, active syphilis rates were high among general MSM (1.5%), but highest among hijra (6%), followed by male sex workers (MSWs, 4.2%) in Bangladesh in 2010. In Kathmandu, the prevalence of active syphilis was 2.3% among MSM. In Thailand, STI symptoms are increasingly being reported among MSM in Bangkok and Phuket, while a slow decline is seen in Chiang Mai (data not shown) and together with low condom use, HIV has rapidly increased HIV among MSM. Myanmar seems to have effectively managed to keep the prevalence at 1%.

Acute bacterial infections, gonorrhoea and active syphilis give a better indication of recent risk behaviour and infection. Gonorrhoea and chlamydial infection are generally high among MSM and TG. In Indonesia, the results of the IBBS in 2011 showed an increasing trend of rectal STIs among MSM; 33%–43% of MSM and TG were infected with one or more STIs (chlamydial infection, gonorrhoea), a substantial increase from 29% to 34% among MSM in three cities surveyed in 2007. This indicates that unprotected anal sex is frequent among MSM (Figure 30). Chlamydial infection had a slightly higher prevalence (19%–21%) than gonorrhoea (15%–22%) previously, but it appears that both these STIs are currently spreading with equal dynamics among MSM.
Similarly, high rates of rectal gonorrhoea (12.5%) and chlamydial infection (5%) were seen among the MSM population, with a relatively high prevalence among MSWs: 18.5% rectal gonorrhoea and 11% chlamydial infection, respectively, in Kathmandu valley in Nepal. The overall prevalence of at least one STI was 21.5% among MSM in the valley. Notably, two out of three MSM (66.7%) who were diagnosed with urethral gonorrhoea were HIV-positive. At the same time, two out of 10 MSM (20%) with urethral chlamydial infection and one out of six MSM (16.7%) with untreated syphilis were HIV-positive in Kathmandu, indicating a potential relationship between such STIs and HIV.41

This signals the urgent need for a concerted effort to increase the coverage and quality of comprehensive interventions targeting MSM, especially promotion of consistent condom use and an uninterrupted supply of condoms and lubricants to curtail an epidemic among MSM in the Region.

Herpes simplex virus (HSV) type 2 infection is the leading cause of genital ulcer disease in developing countries and plays an important role in the transmission of HIV. Its prevalence in developing Asian countries ranges from 10% to 20%. A very high prevalence of HSV–2 among MSM was noted in the Region: 15%–78% in India and <40% in Bangkok.26,43 The prevalence of hepatitis B virus among MSM is also high: 2.15% in Andhra Pradesh in India, 73% among HIV-positive MSM in Bangkok; 13% among MSM in Timor-Leste and 6% among MSM in Addu, Maldives.26

The burden of syphilis among FSWs in the Region is still high despite comprehensive interventions, possibly due to low coverage. Timor-Leste, Bangladesh and Indonesia have reported high rates of 8.84% (in 2008), 4% (2011) and 7% (2011), respectively, while Thailand...
and Myanmar reported a low prevalence of 0.6% (2010) and 0.7% (2010), respectively, among FSWs. Sri Lanka and Nepal reported a syphilis prevalence of 3% (2009) and 1% (2008), respectively (Figure 31). 4,5,10,18,19,22,23,49

**Figure 31: Active syphilis rates among female sex workers, where data available, in SEAR countries, 2008 –2011**

The pattern of infection varies with the type of sex work. For example, syphilis prevalence among brothel-based FSWs increased from 2005 to 2007 in Indonesia (7.8% vs 14.5%), while the prevalence of active syphilis (rapid plasma reagin [RPR] ≥1:8) among direct and indirect FSWs varied from 7.5% to 3.1%, respectively. Those who had received at least one dose of a prior periodic presumptive treatment tended to have lower rates (3.9% vs 6.0%). 55 Street-based FSWs in Bangkok had a substantially higher prevalence of syphilis than other FSWs (3.37%–13%). 56 A declining trend of syphilis was noted among street-based FSWs over the surveillance rounds; nevertheless, active syphilis rates of >5% were detected in five sites during the last survey round in Bangladesh. The highest prevalence was recorded among street sex workers in Hili (12.5%) and Chittagong (10.3%), and hotel based FSWs in Sylhet (9.3%). 19

In Indonesia, bacterial STIs remain at a high level among FSWs. The prevalence of one or more STI (chlamydial infection or gonorrhoea) ranged from 38% to 56% in 2011 among direct FSWs in seven cities. In comparison, a relatively low proportion of indirect FSWs (19%–49%) were infected with one or more STI. 18 In Nepal, the prevalence of gonorrhoea and chlamydial infection has significantly decreased to 1.2% and 8.3%, respectively, in 2009 from a high of 7.8% and 14.0%, respectively, in 2006 as a result of intensified interventions targeting FSWs to bring about behaviour change for safer sex practices mainly through promoting condom use. 49
The prevalence of HSV-2 antibody among FSWs was very high and ranged from 34% in Chennai and Thane to 96% in Pune. FSWs in Andhra Pradesh had a high HBV prevalence of 2.1%, particularly among those with reactive syphilis.

A few studies carried out among clients of FSWs have reported high levels of STIs. In Jessore, Bangladesh, the presence of an STI was assessed using seminal fluid from condom samples collected from clients of FSWs and the prevalence of gonorrhoea, chlamydial infection and trichomoniasis among clients of FSWs was high: 4.5%, 2.5% and 7%, respectively. In Karnataka in South India, clients of FSWs were found to have high rates of STIs: HSV-2, syphilis, chlamydial infection and gonorrhoea (5.6%, 28.4%, 3.6%, 2.2%, respectively). Male STI clinic attendees in general represent sexually active men who have risky sexual exposures and are more often viewed as clients of FSWs. Genital herpes is the most common genital ulcer disease detected among male STI clinic attendees in Sri Lanka. There has been a gradual increase in viral STIs such as genital warts and herpes over the past six years. The prevalence of gonorrhoea decreased from more than 7% in 2004 to less than 2% in 2009, and remained stable at below 2% in 2010. During the same period, the prevalence of infectious syphilis continued to be less than 2%.

Limited data are available on STIs among the general population in the Region. Syphilis prevalence among ANC attendees ranged from 0% in the Maldives to 1% in Bhutan, while Myanmar and Bangladesh recorded high rates of 0.7% and 0.6%, respectively, in 2010.

Decreasing trends in the prevalence of syphilis among ANC attendees were observed in Myanmar, Thailand and India, while Sri Lanka with a very low syphilis prevalence (0.02%) among ANC attendees, and has already reached the target of virtually eliminating congenital syphilis (Figure 32).

**Figure 32: Trends of syphilis rates among ANC attendees in selected countries in SEAR 1991–2010**

Source: National AIDS Programmes.
In many countries, overall trends in STI rates have remained stable or declined. In Sri Lanka, the incidence of bacterial STIs has remained stable at very low levels for the past 10 years. In Thailand, the reported number of STI cases has remained constant at about 20 per 100 000 population for many years.60

References


2
Health sector response to HIV prevention among key populations
Key messages

India, Myanmar and Thailand have reduced their HIV infection rates with wider and more intensive HIV prevention programmes among female sex workers (FSWs). However, attention should be targeted at the emerging new typologies of FSWs operating through mobile phones, and home-based and indirect FSWs, who are more difficult to access with specific interventions.

While many countries in the Region are focusing on increasing the coverage of interventions for safer sexual behaviours and safe injecting practices, the magnitude of the current prevention programmes for men who have sex with men (MSM) and people who inject drugs (PWID) is highly inadequate for reducing HIV infections in almost all the countries.

Commendable actions have been taken by some countries in the Region to reform punitive and discriminatory laws and policies that hinder the delivery of prevention interventions for MSM, creating a more enabling environment for an effective response.

Prevention of HIV transmission among key populations at higher risk

Despite evidence from improved epidemiological surveillance and estimations indicating that key affected populations – PWID, MSM and FSWs and their clients – continue to fuel HIV epidemics, the coverage of interventions in the Region for these populations remains low. The reported median Regional prevention coverage was 17%, 49% and 40% for PWID, MSM and FSWs, respectively, compared to a global median coverage of 32%, 58% and 57%, respectively, which is the expected universal access target of 80%.\(^1\) Punitive laws criminalizing their behaviours and sociocultural factors continue to discriminate and stigmatize them, which are barriers to preventive actions.

The HIV epidemic is still driven by specific behaviours, unsafe sexual practices and drug injecting, which put people at risk for HIV infection. New infections are concentrated among FSWs and their clients, MSM and PWID. National AIDS programmes have to prioritize delivery of services for these hard-to-reach populations. It is evident that meaningful involvement of key populations and those affected by HIV in planning is a key factor for successful implementation of programmes to halt and reverse the epidemic. To have an impact, it is essential to reach 80% of the key affected populations with targeted interventions aimed at producing behaviour change among 60%.

People who inject drugs

Policy environment

The policy environment has changed substantially in the Region as a result of ongoing advocacy efforts, as well as the sharing of and learning from experiences within countries of the Region as to how to address HIV among PWID. Harm reduction interventions are
viewed with increasing understanding, validity and acceptance due to a growing body of evidence globally and within the Asian context of their effectiveness, impact and ability to achieve broad-ranging benefits across a range of important objectives. Yet, it cannot be denied that despite harm reduction interventions receiving increased endorsement as an effective public health model for PWID, there are ongoing reports throughout the Region that criminalization of drug use continues to overshadow HIV prevention efforts for PWID.

There is a greater understanding of the nine essential interventions of the harm reduction package recommended by the World Health Organization (WHO), United Nations Office on Drugs and Crime (UNODC) and Joint United Nations Programme on HIV/AIDS (UNAIDS), and that the package has greatest impact when all interventions are all delivered together. These include needle and syringe programmes (NSPs), opioid substitution therapy (OST) and other drug dependence treatments, HIV counselling and testing, provision of antiretroviral therapy (ART), prevention and treatment of sexually transmitted infections (STIs), condom promotion for PWID and their sexual partners, targeted information, education and communication (IEC), diagnosis and treatment of and vaccination for viral hepatitis, and prevention, diagnosis and treatment of TB.2

However, few countries of the Region have the technical capacity and resources to implement the package in its entirety. There is increased emphasis on ongoing advocacy efforts to focus on at least five of the nine interventions – NSP, OST, condom promotion, HIV counselling and testing, and ART. However, the coverage and scale up of these interventions remain a challenge in the Region.

Ten Member countries (except DPR Korea) reported information on programmatic and policy responses in 2010, and six countries with a high HIV prevalence among PWID had NSPs and offered OST. India is the only country providing harm reduction programmes for FSWs who inject drugs, including for alcohol dependency. India and Indonesia have introduced OST in prison settings. Surprisingly, eight out of 10 countries reported the availability of other drug dependence treatment, despite the fact these treatments may not be as effective as OST. Frequently reported interventions were HIV testing and counselling, and provision of ART. Nine out of 10 countries offer STI treatment to PWID. All countries in the Region have condom programming and IEC for PWID. Seven out of 10 countries in the Region provide TB screening and treatment for PWID, in response to the high burden of TB/HIV coinfection among PWID. Other interventions are less frequently available. Only three countries provide screening for hepatitis B and C among PWID. It is encouraging to note that 60% of the countries in the Region include 90% of the elements in the comprehensive package compared to global average of 40%.3

In Thailand, to implement a harm reduction programme has been a challenge for the public health authorities, as the Judicial Council of State considers it illegal to provide syringes, in accordance with the 1979 Narcotics Act and the related Drug Users Rehabilitation Act, 2002.4

The responses to prevent HIV among PWID and coverage of interventions for them remain insufficient in the Region.
**Needle–syringe programmes**

Global evidence highlights the effectiveness and importance of establishing NSPs to prevent, halt and reverse HIV infections among PWID. While Bhutan, DPR Korea, Maldives, Timor-Leste and Sri Lanka do not allow NSPs to operate, other nations in the Region with high levels of injecting drug use are witnessing an increased number of sites, coupled with an increased number of syringes/needles being distributed by NSPs (refer Annex Table A4). The overall number of NSP sites increased to 700 in 2010 from 350 in 2009. However, there was wide variation across countries: Bangladesh showed a substantial increase from 106 in 2009 to 120 in 2010 and Thailand from 39 in 2009 to 49 in 2010, while in Indonesia, the number of NSP sites dropped from 242 in 2009 to 194 in 2010, and in India, the number of NSP sites dropped from 270 in 2009 to 255 in 2010. This will affect the supply of sterile injecting equipment to around 4 million of the estimated PWID population in the two countries.\(^3\)\(^5\)

Available data show that accessibility to NSPs remained limited globally as well as regionally in 2010, with a median of 1.4 NSP sites per 1000 PWID, the same figure observed among 28 reporting countries in 2009 globally. Regionally, the average number of NSP sites was 1.44 per 1000 PWID. The highest levels were observed in Bangladesh and India, respectively, with 3.0 and 1.8 NSP sites per 1000 PWID, from the data reported by the countries for the universal access report.\(^3\)\(^5\)

Overall, 58 million needles and syringes were distributed to PWID in 2010, compared with 30 million in 2009. A number of countries have greatly increased the number of needles and syringes distributed between 2008 and 2010: Bangladesh (4 072 729 and 8 576 858, respectively); India (5 342 069 and 40 394 986, respectively); Indonesia (797 455 and 1 080 531, respectively); Thailand (47 513 and 231 458, respectively); Myanmar (3511 232 and 6 880 235, respectively); Nepal (692 466 and 1 605 644, respectively) \(^3\)(Figure 33).

**Figure 33: Number of syringes/needles distributed by needle and syringe programmes (NSP) among SEAR countries, 2008–2010**

![Graph showing the number of syringes/needles distributed by NSP among SEAR countries, 2008–2010](Image)

Source: Universal access country reports, 2008-2010, South-East Asia Region.
The median number of syringes distributed per year per PWID was 50.7 globally.\textsuperscript{1} Six countries in SEAR reported a median of 43.8 syringes/needles distributed per PWID per year, an increase from the 40 reported by eight countries in 2009. These levels are nevertheless substantially below the minimum of 200 syringes per PWID per year recommended by WHO, UNODC and UNAIDS as a key HIV prevention policy for this population.\textsuperscript{2} Among countries providing data in 2010, uptake reached the internationally recommended target in two countries, Bangladesh and India, at 214 and 228 syringes/needles/ PWID/year, respectively (Figure 34).

Despite an impressive increase in the distribution of needles and syringes in some countries, the figures still remain inadequate.

Significant challenges remain in reversing the current HIV epidemic among PWID. For example, in Nepal and Myanmar, the number of syringes distributed per PWID per year was between 56 and 92. Thailand and Indonesia, both countries with a high HIV prevalence among PWID, were providing a very low number, 3 and 10 syringes per PWID, respectively. Indonesia has the most severe HIV epidemic among PWID in the Region, yet the number of NSP sites per 1000 PWID was 1.1, and the 10 syringes/needles distributed by NSPs per PWID per year are highly inadequate to make an impact and avert the PWID-driven HIV epidemic in the country. Countries in the Region are being encouraged to be more ambitious in the number of injecting equipment distributed to enhance impact. In Myanmar, it has been recommended that authorities should aim to provide 30 million needles and syringes/year within five years.\textsuperscript{6}

Information on the frequency and regularity of contact with NSPs is not widely available and the quality of programmes is not documented. Less than 50% of PWID accessed any
harm reduction programme in Indonesia in 2010 (Figure 35). Nevertheless, it is clear that with the low supply of injecting equipment, PWID will resort to sharing practices. As shown in Figure 36, only 65% PWID used a sterile needle and syringe at the last injection in Indonesia. The country reported data in 2010 indicate that the proportion of PWID using sterile injecting equipment varied from 65% to 90% in the Region.

Figure 35: Percentage of PWID accessing NSPs, substitution and detoxification programmes in Indonesia, 2011


Figure 36: Percentage of PWID reporting the use of sterile injecting equipment the last time they injected and condom use at last sex, 2007–2011

Source: Universal access country reports, 2010; Behavioural surveillance surveys and Intergrated Behavioural Biological Surveillance Surveys. Sample size was adequate as per national protocols.
**Opioid substitution therapy**

Official endorsement for the use of OST exists in over half the countries of SEAR, and there is an understanding that the delivery of OST has a significant impact on HIV prevention, treatment and care for PWID. Yet, the reality is that the coverage of OST in the Region is too low to have an impact on the HIV epidemic among PWID. Countries that provide methadone alone are Bangladesh, Maldives and Myanmar, while India provided only buprenorphine till 2009. There have been several delays in delivering methadone in India but introduction in a phased manner has started. Currently, Indonesia, Thailand and Nepal deliver both methadone and buprenorphine. Sri Lanka, Bhutan and Timor-Leste do not provide OST at all.

Expansion of OST sites has seen little change from 2009 to 2010, and the number of PWID receiving OST remains low: Bangladesh 127–137 on methadone; India 4810–5350 on buprenorphine, 4800 on methadone; Indonesia 2540–2575 on methadone, 3000–5000 on buprenorphine; Maldives 57–40 on methadone; Myanmar 1087–1121 on methadone; Nepal 380–349 on methadone, 175 on buprenorphine in both years; and Thailand 2200–2201 on methadone, 150 on buprenorphine. Nearly 35,000 received OST in 2010, a slight increase from 20,000 PWID on OST in 2009. However, coverage with OST among PWID remains limited and ranged from 0.3% to 5.5% based on data reported by SEAR Member countries.

A national review of the OST programme in Indonesia in June 2011 found 68 methadone clinics with an average of 40 clients per clinic. Some clinics in Central Java had less than 10 clients. There were more than 50 “trained” medical prescribers in private practice dispensing buprenorphine. In Myanmar, 821 clients were receiving methadone in January 2010, from 8 sites in 4 States and, by June 2011, it had increased to 1087 clients, of which 4 were women.

The introduction of methadone in 2008 in the Maldives faced many challenges and the number of PWID receiving treatment has fluctuated considerably. In mid-2010, only 11 clients received methadone but at the end of 2010, this number increased to 40, and one year later in 2011, it rose to 57 clients, which is encouraging (Figure 37).

Each country has its own specific challenges during the process of scale up. In the Maldives, there is a need for clients to obtain clearance from five different government departments before being accepted into the programme to ensure that no criminal cases are pending against them. In Myanmar, a client is required to be an inpatient for two weeks during the induction period of methadone, though it is acknowledged that this requirement can be a deterrent for potential methadone clients. It is commendable that the feasibility of providing take-home doses for maintenance is being explored.

Dispensing the correct and appropriate dose of OST is an issue in some countries of the Region. In India, 4–8 mg is recommended as the optimal buprenorphine dose, despite international evidence recommending that clients can be stabilized only on 8–16 mg daily. An inadequate dose commonly results in clients seeking alternative drugs, returning to
illicit opiate use and commonly experiencing relapse. In Myanmar, where the current OST coverage is low (less than 2000 PWID on OST), a recent recommendation to increase the dosage to 80 mg is a challenge faced by the government, as provision of a continuous supply of methadone is donor dependent.

In a review of six cities in SEAR, programme data indicate that less than 12 000 of the estimated 800 000 (1.5%) PWID have access to OST, and 20%–25% were reached by NSPs at least once during the past 12 months in 2009. Mapping of harm reduction interventions revealed a lack of congruence between the location of established and emerging epidemics and the availability of scaled-up prevention services. This highlights the importance of prioritizing areas for scaling up of harm reduction programmes according to epidemiological data (prevalence, size of the population and geographical distribution) to achieve the maximum benefit.

Harm reduction interventions are almost non-existent in closed settings (prisons and rehabilitation centres) where drug users are incarcerated for drug use or drug-related offenses. A prison survey in Indonesia revealed that less than 5% of prisoners received methadone when the male and female PWID prisoners were referred for methadone treatment, while less than 24% had accessed NSPs. To achieve a significant impact on the HIV epidemics among PWID, national AIDS programmes need to urgently scale up NSPs and OST, which should be widely available both in community and closed (prison) settings.

Poor programme coverage poses a danger of resurgence of epidemics in countries that have managed to reduce HIV prevalence with intensive and comprehensive targeted interventions. In order to reverse the epidemic, national AIDS programmes need to give priority and timely attention to increasing the quality and coverage of programmes.
In conclusion, the 2011 Political Declaration on HIV/AIDS, adopted by the United Nations General Assembly on 10 June 2011, affirmed a commitment to working towards reducing the transmission of HIV among PWID by 50% by 2015. To achieve this goal, intensive ongoing advocacy efforts and technical assistance will be required to focus on improved delivery and coverage of harm reduction services. The small-scale OST programmes and NSPs in many countries need to be evaluated for their quality and effectiveness, and better advocacy conducted. While the concept of harm reduction as a public health intervention to address the needs of PWID is accepted as a part of the health sector response dialogue, the public policy and legislative problems of criminalization of drug use continue in many countries, and can overshadow HIV prevention efforts for PWID.

**Way forward and role of WHO**

Methadone and buprenorphine were added to the WHO Model List of Essential Medicines in 2005, providing high-level official support to advocate with the appropriate government ministries for the introduction (where it did not exist) of the wider use of OST to drug users. Yet, in 2011, only a small number of all PWID in the Region received OST. Statistics on HIV-infected PWID receiving ART are not commonly collected or available, but it is acknowledged that only a small number of HIV-infected PWID access ART, despite the fact that some countries in the Region have the highest rates of HIV prevalence among PWID. NSP sites are expanding in number, and more injecting equipment is distributed to PWID than ever before, but these are insufficient to halt and reverse the HIV epidemic among this population group.

During 2010–2011, the WHO Regional Office for South-East Asia (SEARO) supported national harm reduction programmes in various ways, by contributing towards a national review of OST in Indonesia; providing technical assistance and advocacy towards the scale up of methadone, and contributing towards a national harm reduction review in Myanmar; designing strategies for drug use, HIV prevention and harm reduction in Bhutan; developing a monitoring tool kit for drop-in centres for drug users in the Maldives; raising the profile of coinfections (HIV, hepatitis B and C) among PWID and advocating for a health sector response; and highlighting the need to advocate for greater efforts and resources to be channelled into harm reduction interventions in SEAR.

**Interventions for men who have sex with men and transgender populations**

Across SEAR, HIV epidemics among MSM are growing, especially in the young and those in cities. According to the report by the Commission on AIDS in Asia, unless prevention measures are improved, up to 50% of new infections in the Region could be among MSM by 2020. Yet, the proportion of MSM reached with preventive services remains very low in the Region. Promoting universal access to services for MSM and TG is a challenge in the Region due to legal barriers, discriminative laws, and continuing stigma and discrimination. The UNAIDS report *HIV in Asia and Pacific: getting to zero* in 2011 highlights the contradiction between policing practices and public health campaigns as a barrier for implementing
prevention programmes. For example, carrying condoms is viewed as evidence of selling sex by legal authorities, while local programmes promote condoms for HIV/STI prevention. In addition, laws on age-of-consent requirements and the need to obtain parental consent for HIV testing prevent young MSM and TG from accessing information and services.

Limited progress has been made in the region in reaching MSM and TG with interventions.

Policy environment

Few countries have taken initiatives to repeal punitive laws criminalizing same-sex behaviour between consenting men. As a follow up to the annulment of the 150-year-old law commonly known as Section 377 of the Indian Penal Code by the Delhi High Court in 2009, when the National AIDS Programme contended that only 6% of MSM have access to prevention and care services, in 2010 India’s Supreme Court began deliberations to evaluate the High Court’s decision to see if and how the amendment could be replicated in other states across the country. In November 2008, Nepal’s Supreme Court ruled in favour of guaranteeing full rights to lesbian, transgender, bisexual and gay people as natural persons under the law, including the right to marriage. According to the reported data, almost all countries in the Region do not allow young people below the age of 15 years to access STI/HIV services without parental consent. These discourage young MSM and TG from seeking the information and services that will protect them from HIV infection, from adopting safe behaviours, and from accessing HIV treatment and care. Governments need to pay more attention to these restricting laws that violate young people’s rights and are barriers to universal access.

Despite the fact that the legal and social environments remain restrictive for MSM and TG in the majority of countries in the Region, many national AIDS programmes have developed various HIV responses in their national HIV strategic plans, which pay specific and focused attention to MSM and TG. These responses vary from social enablers (advocacy to repeal laws, political commitment, reducing stigma and discrimination, community mobilization) to programme enablers (designing community-centred programmes, conducting capacity building of community organizations and nongovernmental organizations [NGOs], procuring and supplying commodities, health systems strengthening, research, etc.). A review of the 2010 UNGASS reports submitted by countries showed that India and Indonesia have MSM-specific strategic plans or action plans.

WHO and partners have made recommendations for a public health approach to the prevention and treatment of HIV and other STIs among MSM and TG, and identified key areas where action is needed to develop comprehensive and effective responses, including recommendations on human rights and non-discrimination in health-care settings. This package of interventions covers: (i) prevention of sexual transmission of HIV; (ii) HIV testing and counselling; (iii) behavioural interventions and information, education and communication; (iv) substance use, and prevention of bloodborne infections; (v) HIV care and treatment; and (vi) prevention and care of other STIs.
Review of data on prevention and care programmes for MSM reported by countries in the Region showed that most countries deliver some elements of the comprehensive package of recommended interventions for MSM. Thailand, Myanmar, India and Timor-Leste provide nearly 80% of the interventions. Eight out of 10 countries reported promoting consistent condom use to prevent sexual transmission among MSM. While all countries reported providing HIV testing and counselling, eight out of 10 countries reported providing STI management and ART to MSM. Social marketing campaigns were not provided by four out of the 10 countries, the majority of which had a low national HIV prevalence. The most appropriate interventions, such as individual- and community-level interventions, were in place in eight countries, while sex venue-based interventions were lacking in most countries. Innovative methods of reaching hidden populations such as internet-based prevention programmes were provided only in Thailand and Indonesia, while hepatitis B vaccination was provided only in Indonesia and Timor-Leste.

However, currently the response does not match the scale of ongoing risk behaviours. Among MSM, condom use with a partner at the last sex is low (see chapter 1) and consistent condom use is much lower in the Region. In Indonesia, less than 30% of MSM use condoms always with casual partners (Figure 38).

Coverage of services for MSM ranged from 18% in India, 69% in Myanmar and 77% in Nepal according to data reported from behavioural surveys conducted from 2009 to 2010 by countries. In most countries, coverage was below the 80% target considered necessary to reverse the HIV epidemic among these high-risk population groups.18 Towards universal access: progress report 2011 by WHO, UNAIDS and United Nations Children’s Fund (UNICEF) indicates a median coverage of 49% by HIV prevention programmes for MSM in the 12 months preceding the survey in East, South and South-East Asia.3 However, most interventions operate only in major urban cities and there is hardly any coverage among the semi-urban and rural populations. Coverage of interventions for MSM is shown in (Figure 39).
Disaggregated data are not available for the TG population. This highlights the need for better understanding of their specific needs, where they can be reached and the most appropriate methods to approach them to be able to scale up and improve the quality of HIV prevention and care interventions for them.

With other UN partners and stakeholders, in 2010–2011 WHO SEARO contributed towards a Multi-City Initiative for MSM and TG populations. This review explored, examined and reviewed examples of programme activities seeking to address HIV prevention and promote the health and rights of these populations in six cities of Asia, of which three were in South-East Asia (Bangkok, Jakarta and Yangon). An Internet-based, safe-sex mini-series focusing on gay teenagers, produced by a collaboration of private and public partnerships between the Thai Ministry of Health, a media company and Rainbow Sky Association, has attracted many viewers. In Yangon, TG fashion shows were used to promote public awareness of HIV and advocate greater acceptance of TGs. In Bangkok, an MSM-led organization formed partnerships with local primary care sites and outpatient departments of hospitals in the district, ensuring continuity of treatment and care for MSM. However, it is noted that these innovative projects are scattered and need to be scaled up to have any impressive outcome.

In many countries, community-based organizations (CBOs) are the only or main entities that can reach key populations at higher risk, including MSM. They engage in raising awareness on HIV in MSM communities, deliver prevention services and support treatment programmes, campaign for the rights of PWID and their access to treatment and affordable drugs.

Networking of CBOs and NGOs has further strengthened civil society and the affected communities to catalyse and shape global, Regional and national actions. A Regional
advocacy group, Asia Pacific Coalition for Male Sexual Health, is one such network spearheading the response in the Region, which has MSM, community-based, government and nongovernmental organizations, the UN and donors as partners.1

Considering the large number of MSM and TG engaging in high-risk behaviours that contribute to the growing AIDS epidemic, the National AIDS Control Organization (NACO) of India has given a significant thrust to interventions for MSM and TG. In 2010, through targeted intervention projects implemented by CBOs, managed by the community and supported by NACO, 69% of the estimated MSM and TG were reached with a variety of services, spending nearly Rs 0.3 million.2 The India HIV/AIDS Alliance provides support for strengthening community institutions to deliver quality outreach services under the Global Fund Round 9.2 Community intervention models for MSM have been evaluated, and show increased attendance at STI services. A decrease in STI syndromes are the favourable outcomes of a large, Avahan intervention programme in India.

The empowerment of MSM and meaningful participation of MSM organizations in programme planning and implementation have had positive results in many countries. The major drawback in assessing the coverage of interventions has been the lack of data on the size of high-risk populations and geographical distribution of the MSM population. To overcome this, countries in the Region (Sri Lanka,23 Maldives,24 India25 and Myanmar26) successfully engaged the MSM community and CBOs to conduct mapping and size estimations of key populations including MSM in 2009–2010. CBOs have led successful multicountry Global Fund proposals to address HIV among MSM. The Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) has approved a US$ 47 million grant for Round 9 for a community strengthening programme aimed at reducing the rapid spread of HIV/AIDS in South-East Asia. The proposal has been submitted by NAZ Foundation International, Population Services International, United Nations Development Programme (UNDP) and the South Asian MSM network covering seven countries including Nepal, Sri Lanka, Bangladesh, Bhutan and India. At the same time, proposals submitted to the Global Fund Rounds 9 and 10 by ministries of health and NGOs in many countries of the Region have included activities to reduce HIV infection among MSM (Sri Lanka, India and Bangladesh). Realizing the dearth of data on key affected populations for proper programme planning and evaluation, strengthening strategic information and monitoring and evaluation systems is a major component of the requests for funding.27

Commitment by international partners

Despite these ongoing challenges, support, capacity building, advocacy and raising awareness of the urgent need to address the health needs of MSM and TG have been growing in various ways throughout the Region. Recent guidelines published by WHO entitled Prevention and treatment of HIV and other sexually transmitted infections among men who have sex with men and transgender people: recommendations for a public health approach will contribute towards addressing the HIV epidemic in the Region.20 Some key recommendations outlined in the guide include establishing more inclusive services for MSM and TG based on their right to health, developing anti-discrimination laws and fostering an enabling environment, encouraging HIV testing and counselling, and scaling
up behavioural interventions including promotion of consistent condom use and use of water-based lubricants. Encouraging greater support and capacity building for organizations to serve the needs of MSM and TG populations will enhance the response. Towards this, commitment and continued support by the Global Fund to countries to scale up targeted interventions in future rounds is essential.

To avoid the predicted resurgence of an epidemic driven by MSM in the near future, much has to be done in the areas of legal, social and programmatic response. National responses are also challenged due to the drying up of funds, which affects the continuity of funding to CBO/NGOs to implement programmes and projects, unless governments divert more domestic funds and invest in utilizing the right strategies, increasing efficiency, reducing costs and promoting innovation. UNAIDS has recently mapped a new framework for AIDS investment focused on high-impact, high-value strategies to help overcome these issues.28

Female sex workers

According to the UNGASS country progress reports 2007–2009, no country in the Region has yet achieved the target of 80% of FSWs being reached by prevention services, which is the coverage needed to make an impact on halting and reversing the HIV epidemic. From available data, coverage in the countries was as follows: Bangladesh 6.9% (2007);29 India 49% in Karnataka (2009);25 Indonesia 24% (2007);30 Myanmar 76%,26 (2009); Nepal 41% (2009).31 Thailand and Sri Lanka intend to apply the standard UNGASS definition in the future IBBS surveys to collect data on prevention coverage.23,32 From a Regional perspective, coverage is low; however, details regarding the quality of services accessed or comprehensive prevention measures offered are not generally available.

Interventions for female sex workers

Stigma and discrimination towards FSWs remains widespread and the lack of an enabling environment provides many challenges that impede efforts to halt HIV infections among FSWs. Despite punitive laws and policies around sex work, the demand or the number of people buying and selling sex remains high. Many FSWs in the Region suffer from various forms of emotional, physical and sexual abuse and, despite the need to have various health needs addressed, a comprehensive package of services for sex work programmes is not common in the Region. As a health sector response, it is critically important to build capacity, provide support and sensitize health-care providers to respond to the health needs of FSWs, which also includes providing sexual and reproductive health services, counselling and testing for HIV and STIs, as well as support to those FSWs who suffer from various drug dependency issues.1

Policy and programme response

The key elements of the comprehensive package of services for FSW interventions include: (i) creating an enabling environment through advocacy at the local and national levels in an
environment where sex work is still illegal in many countries of the Region; (ii) promoting access to STI services and condoms through peer outreach; and (iii) supplying and promoting condoms with the objectives of increasing condom use, reducing curable STIs, and improving access to HIV testing and counselling, care and treatment services.

Good progress has been made towards these objectives in the Region. Ten out of 11 countries provided information on the existence of policies and programmes. A review of availability of services by stakeholders in six countries showed that less than 50% of countries offer targeted interventions for FSWs and, even when these are delivered, less than 40% of the essential elements are included in the package of services. Increased commitment by the ministries of health in the Region is evident as all the reporting countries have targeted interventions for FSWs in place, while Regional variations exist on the number of recommended essential elements included in the package, depending on the local situation, availability of resources and funding. Overall, over 75% of the recommended services are made available for FSWs in the Region, while all the elements of the essential package are provided in Thailand, 86% in Myanmar, Indonesia, India and Bangladesh; 75% in Sri Lanka, Nepal and Bhutan; and only 7% in the Maldives.

In the SEA Region, among all reporting countries, the most commonly available targeted services were for HIV testing and counselling, HIV treatment and care, and symptomatic STI treatment. Nine out of 10 SEAR countries have included condom programming and asymptomatic STI treatment. Empowerment of FSWs and meaningful involvement in planning and implementing prevention and care are reported by nine out of 10 countries.

FSWs who inject drugs themselves or are partners of injectors are at a higher risk for HIV. Thailand is the only country that has harm reduction programmes for injecting FSWs, including treatment for alcohol and amphetamine-type stimulant (ATS) dependence. Periodic presumptive treatment for STIs (regular six-monthly treatment of high-risk groups without symptoms) is provided by 50% of the reported countries. Essential HIV prevention measures for FSWs include ensuring consistent and correct condom use. Condom use among FSWs varies across the Region. Overall, more data are available on condom use with the last client among FSWs than on coverage.

From available data, condom use at last sex appears to be increasing, with some countries in the Region reaching the 80% target: Bangladesh (66.7%, 2006–2007); India (sex with occasional client – Manipur 83%; Andhra Pradesh 99.6%; Karnataka 98.7%; Tamil Nadu 92.6%; Uttar Pradesh: 84.5%, 2009); Thailand (92.2%, 2009); Indonesia (66%, 2007) Myanmar (over 96%, 2009); Nepal (75%, 2009–2010); Sri Lanka (89%, 2006–2007).23,25,26,30,31,32

Some countries in the Region reported high levels of condom use by FSWs with their recent clients. India, Myanmar and Sri Lanka have reached the universal access target for condom use. Five countries – India, Myanmar, Nepal, Sri Lanka and Thailand – reported more than 75% condom use at last sex with a client, according to the data reported by the countries based on behavioural surveillance surveys conducted from 2006 to 2010 (Figure 40).
Interventions for FSWs are working and condom use has given results in the Region. HIV prevalence among FSWs is declining where condom use is high. Old epidemics in Thailand and Myanmar continue to show a decline with the 100% condom use drive. However, the epidemic has stabilized at a higher level (above 5%) for the past seven years in Thailand, India and Myanmar. Thailand and India show a slight increase in incidence lately, possibly due to more young sex workers entering the cohort.

Studies have shown that condom use varies among different typologies of FSWs. Direct FSWs in Indonesia, Thailand and Nepal had higher condom use levels and lower HIV prevalence than indirect FSWs. However, reported levels of consistent condom use are lower and condom use with regular partners of FSWs is much lower. Surveys reporting high levels of condom use do not necessarily reflect the true picture as they hardly capture those FSWs who are most at risk, such as those operating from home, through mobile phones and bars. There could be reporting bias; for example, FSWs in Myanmar reported a high prevalence of STI symptoms despite high levels of condom use (96%). There seems to be a disconnect between coverage and behaviour, which needs to be analysed to reflect a more accurate situation, and addressed at the country level. Continued education of clients and sexual partners on preventive measures is essential to contain the epidemic. Insufficient programme coverage carries the danger of resurgent epidemics even where current condom use is good.

Control of sexually transmitted infections among sex workers

Enhanced syndromic management of STIs (at drop-in centres [DICs] run by NGOs and health-care institutions) and improved screening and treatment of STIs at special STI clinics (India, Myanmar, Sri Lanka and Thailand) through etiological or periodic presumptive
treatment (Indonesia), along with comprehensive IEC and condom promotion have reduced the incidence of STIs among FSWs in the Region. Syphilis is not a good marker of recent sexual exposure to assess incidence of STIs compared to gonorrhoea; however, the syphilis burden among FSWs in the Region is still high despite interventions, possibly due to low coverage. Timor-Leste, Bangladesh and Indonesia reported STI prevalence rates of 8.84%, 4.5% and 7%, respectively, while Thailand is the only country that reported a low prevalence (0.62%). Sri Lanka and Nepal reported a prevalence of 3% and 1%, respectively (see Figure 28, Chapter 1).

There is continuing evidence from research and evaluation studies that prevention interventions for FSWs are working and have helped reduce STIs and HIV as described below.

As with other key populations – PWID, MSM and TG – it is commonly advocated that FSW involvement and mobilization needs wider acceptance as an essential component of any HIV and sex work programme strategy. Evidence shows that where programmes are led by FSWs, there is greater effectiveness and sustained impact.33

**Community interventions and declining HIV prevalence among FSWs**

The proportion of FSWs reporting consistent condom use doubled in 2009 from 2007 with condom promotion by the local community and an adequate supply of condoms. A steady decrease in prevalence was observed for gonorrhoea (from 36.1% to 7.6%) and chlamydial infection (from 33.7% to 10.2%) among FSWs in Bintan in Indonesia with periodic presumptive treatment followed by syndromic management.34

Similarly, a community-based prevention intervention led to an increase in condom use and a reduction in STIs (HSV, syphilis, chlamydial infection and gonorrhoea) among FSWs in Andhra Pradesh in India. In Thane and Mumbai, India a community-led intervention programme for FSWs over four years was accompanied by a rise in attendance for STI screening by FSWs and a fall in HIV prevalence from 45% to 13% among brothel-based FSWs.35

Assessment of community involvement in promoting STI services in Avahan clinics in India from 2008 to 2010 using a clinic quality tool revealed that STI check-ups increased significantly, from nearly 43 000 in 2005 to almost 2 700 000 in 2010 in clinics with efficient community involvement and outreach work. This led to a decline in STIs including HIV.36 A prevention programme in Karnataka led to increased condom use (from 38% to 60%) and a drop in HIV prevalence (from 25% to 13%) and active syphilis (from 13% to 9%) among FSWs in three selected districts from 2005 to 2009 (Figure 41).37

In Nepal, the prevalence of syphilis dropped from 4.15% in 2007 to 3.1% in 2010 among FSWs attending satellite clinics linked with community outreach run by NGOs on highways. A pilot study in Chennai demonstrated that microenterprise interventions are successful in both providing FSWs with licit income opportunities and is associated with a reduction in HIV risk behaviours.38
In Indonesia, however, outreach work and scaling up of STI services to increase coverage of comprehensive structural interventions in 12 districts has not produced the intended behaviour change results of increasing condom use and declining HIV/STI prevalence. Around 11,659–175,301 FSWs were reached through outreach workers from 2006 to 2010, while condom distribution increased to over 20 million (free and commercial), condom use at last sex was 69% and consistent condom use in the past week remained low at 35%. A large number of FSWs were provided with periodic presumptive treatment for STIs through 643 STI facility services. Despite these measures, the prevalence of chlamydial infections and gonorrhoea was very high; above 50% among direct FSWs. Effective policy implementation, allocation of funds, capacity and commitments at the local levels, are some of the factors that were not optimal for delivery of services and may have challenged the response.

HIV prevention coverage is best assessed by service utilization by the key affected population and measured through population surveys. New data on FSWs reached by interventions: “received condoms and had an HIV test” (not collected in year 2010) are not available and few population surveys were carried out among FSWs in the Region during the reporting period. The information collected from population surveys carried out from 2005 to 2010 reveals that only 40% of FSWs were reached across the Region. The highest was in India (86%), followed by Thailand, Nepal, Myanmar (70%) and Indonesia (40%). The available data indicate that a substantial proportion of FSWs are unaware of their HIV status (Figure 42).

Limited data are available on access to care and treatment among FSWs, as disaggregated data by risk populations is not collected at ART or voluntary counselling and testing (VCT) centres.
UNGASS “coverage” indicator data for prevention among key affected populations show that in the majority of countries where data are available, far less than 80% of FSWs have been reached by prevention services, which is the target required to have an impact on the epidemics. In some countries, coverage is even below 40%. It is, however, important to note that UNGASS data should not be read as national averages because the coverage is measured based on those being “reached” under a programme, although these data are generally not triangulated with programme monitoring data to get an accurate picture of programme coverage. The coverage data, moreover, do not include indicators on the quality of services accessed or comprehensive prevention measures or linking with care and treatment services. Programme data include condoms procured and distributed, while the projects report condom utilization and quality of condom use, though these data are limited.

**India’s success in reaching FSWs with interventions**

In India, 26 targeted intervention projects were implemented by CBOs reaching out to 81.5% of the estimated 0.86 million different typologies of FSWs in 2009–2010. The number of STI cases detected increased from 144,331 to 383,685, syphilis screening rose threefold, HIV testing doubled, and the number of FSWs detected to be HIV-positive and linked to pre-ART services also increased twofold as a result of the community-led comprehensive targeted interventions (TIs) in 2009–2010. In addition, 255 million condoms were distributed and condom usage among FSWs has increased from 1.6 billion in 2006–07 to 3.5 billion in 2009–2010 as a result of the condom social marketing programmes with free supply of condoms, increased number of condom outlets and improved accessibility.22

Apart from NACO-supported TIs, the United States Agency for International Development (USAID) and Bill and Melinda Gates Foundation implement over 200 projects targeting key populations in six high-prevalence districts. As a part of a transition plan to integrate the

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Figure 42: Percentage of sex workers who received an HIV test in the last 12 months and who know their results, 2006–2010

![Figure 42: Percentage of sex workers who received an HIV test in the last 12 months and who know their results, 2006–2010](chart.png)

Source: Universal access country reports and UNGASS country reports.
TIs into the health system in a phased manner, 10% of TIs have been already transferred to the State AIDS Control Societies (SACS) in 2009 and 20% will be transitioned in 2011, while the remaining 70% will be taken over in 2012 and aligned with costing guidelines laid down by NACO.

**Funds spent for HIV prevention programmes among FSWs and their clients**

Evidence shows that focus on high-impact programmes for key affected populations can reverse the epidemic and is cost effective. According to estimates made by the report of the Commission on AIDS in Asia, the cost for comprehensive interventions for FSWs is US$ 100/year/FSW.14 According to the UNGASS country progress reports 2008 and 2010, in most countries (except for Myanmar with no data since 2009), funding for sex work programming has continued to decrease since 2007. Despite the evidence that there have been better results for lower investments, the total AIDS spending on sex work programmes has dramatically decreased in most countries.

In Thailand, spending on HIV prevention is only 14% of the total AIDS spending. The proportion of national expenditure on sex work, whether from HIV prevention or total AIDS spending, has not only been less than 1% since 2007 but has decreased over the years. Both in 2007 and 2008, the total spending on FSWs and clients was only around US$ 300 000 out of over US$ 200 million AIDS spending; in 2009, only US$ 100 000 was spent out of US$ 230 million.32

Substantial progress has been made in programme and policy response towards prevention in the Region. Almost all the countries have recognized that addressing key populations is a priority in their national strategic plans. Many countries have received grants in 2010 from Rounds 9, 6 and 8 of the Global Fund (GFATM) to scale up prevention interventions for key populations including FSWs. The planned activities to support implementation of structural interventions for FSWs include advocacy for creating an enabling environment, minimizing harassment of FSWs by law-enforcing authorities in an environment where sex work is illegal, and educating health-care workers to minimize discriminating attitudes towards FSWs and reduce stigma in health-care settings.

In conclusion, despite extensive global and Regional experience of proven effective interventions for FSWs, only a modest impact on HIV transmission dynamics is seen in many countries simply because of the small or insufficient scale of implementation of these interventions. FSWs remain among those most heavily affected by the epidemic. Continued high levels of STIs and HIV among them underline the importance of scaling up access to and uptake of prevention interventions among them and their clients. Structural interventions to mitigate the barriers to prevention are of utmost importance in this regard.

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HIV testing and counselling
To achieve the goal of zero prevalence of HIV and prevent new infections by 2015, early detection of HIV infection among populations and provision of ART is critical. HIV testing and counselling (HTC) ensures knowledge of the HIV status of persons and is the entry point to HIV care and treatment services. It further offers access to HIV prevention information, a link to services for behaviour change communication (BCC) for those at risk to remain negative, and for HIV-infected persons to take measures to prevent further transmission to their discordant partners.

Population-based surveys and programme data at the facility level reveal that both the availability and uptake of HIV testing has substantially increased in the Region during the reporting period, but is still inadequate to achieve universal access for all.

Availability and accessibility of user-friendly services are key factors for increasing the uptake of HTC by the population. While attention is given to scaling up of service delivery points to offer HTC, non-judgemental and non-discriminatory attitudes by health-care providers, especially toward marginalized populations accessing services, supported by favourable policy frameworks and guidelines on appropriate models of HTC, are vital for enhancing HTC. It is increasingly recognized that voluntary counselling and testing (VCT) and provider-initiated testing and counselling (PITC) must be complemented by alternative testing approaches in order to more rapidly expand the availability and uptake of HIV testing, especially for more hidden populations who do not access services. Institutional-based VCT in workplaces or colleges, home-based or mobile VCT clinics are some of the alternative options that can complement stand-alone VCT centres to attract clients for testing.¹

Commitment by national governments has been made through adopting policies on provider-initiated testing that is integrated with other services.

Programmes and policies

In 2010, 90% (nine out of 10) of reporting countries indicated having policies and national guidelines in place for promoting client-initiated testing and counselling (CITC) and PITC. It is noteworthy that the guidelines support implementation of targeted HTC for key affected populations in almost all countries, especially those with low-level or concentrated epidemics. Indonesia is the only country in the Region with a dual epidemic and has guidelines for offering HIV testing at all patient encounters. Despite evidence that testing of the general population is not cost effective in concentrated epidemics, a few countries continue to do voluntary or mandatory testing on subsets of the general population thought to be clients of female sex workers (FSWs), migrants and for pre-employment screening.

Availability and uptake of HIV testing and counselling

The number of facilities providing HIV testing and counselling has increased but the number of clients utilizing the services remains low.
The number of health facilities providing HTC has increased in the Region (see Annex Table A5), from 8133 in 2009 to 10 330 in 2010, both in the public and private sectors, though the majority were in public institutions (85%). One in seven persons received VCT through non-public settings. Poor linkage to services for prevention and treatment is of concern as client attrition following testing is reported to be high globally as well as regionally according to the universal access global report 2011. According to the data reported by SEAR countries in 2010 in India, HTC services were provided by over 7657 health facilities in both public and private settings for general clients and pregnant women, an increase from 5089 in 2009. In Myanmar, ANC clinics have increased both in the private (international nongovernmental organization [INGO]/NGO) and the public sectors, extending to many townships.

The Maldives and Bhutan continue to provide HTC through only government facilities, free of charge, while in Bangladesh almost all HTC is provided by NGOs. Sri Lanka continues to provide HTC through 57 government facilities free of charge. In addition, these services were extended to 39 non-public settings in 2010 to the plantation workers supported by the Global Fund Round 6 grant. Similarly, NGOs provide pre-test counselling services to FSWs and men who have sex with men (MSM) through drop-in centres (DICs) and are linked to government sexually transmitted infection (STI) clinics for testing, free of charge, which has been a positive move to promote testing among key populations at higher risk for HIV.

The percentage of health facilities providing HTC ranged from 100% in Thailand to less than 8% in Sri Lanka, Timor-Leste, Bangladesh and Maldives. This should be interpreted with caution as all health facilities may not be dedicated or targeted to providing HTC, especially in low-prevalence settings where the client load is low.

The number of health facilities providing HTC /100 000 adult population is a better reflection of service availability. A median number of 1.2 /100 000 adults in the Region received HTC in 2010, more than in 2009, but this figure varied widely among countries. The Maldives had the highest number of facilities at 3.5 /100 000 adults, followed by Thailand at 2.35 /100 000 population, an increase from 1.9 /100 000 in 2009 (see Annex Table A5). In contrast, globally more facilities (8.2 /100 000 population) have provided HIV testing in 2010, a 39% increase from 2009.

This increase seems to be due to many reasons: countries reporting all health facilities up to the community level and including private and other facilities in 2010 or an actual increase in health facilities. Notably in India, the number of facilities increased from 10 937 in 2009 to 18 494 in 2010 by the establishment of community centres through assistance from the National Rural Health Mission (NRHM). In Bangladesh, a large increase was reported in the number of facilities providing HTC (from 5161 in 2009 to 22 859 in 2010), as many rural health community centres have been set up by the government sector.

Over 16 million HIV tests were done in 2010, an increase from 6 million in 2007 and 15 million in 2009 (Figure 43). The majority of tests were done in high-burden countries, the highest in Thailand (21 tests/1000 adults) followed by India (17 tests/1000 adults). The median number of tests/1000 population in the Region is 15, compared to the global average of 55.
Increased testing has been reported among women due to campaigns to know their HIV status, policy to introduce PITC and integrating testing into maternal and child health (MCH) as well as reproductive health (RH) services. Women have benefited more from HTC, with a female-to-male ratio of 2:1. Overall, it is evident that more women have been tested in India, Thailand, Myanmar and Nepal, which may reflect the high uptake of testing by pregnant women and FSWs due to the scaling up of prevention of mother-to-child transmission (PMTCT) initiatives and long-standing interventions for promotion of HTC among FSW populations. In 2010, approximately 7,000,000 pregnant women were offered testing, over 6,000,000 in India alone, while Thailand and Myanmar accounted for a substantial number. In countries with epidemics driven by people who inject drugs (PWID) such as Indonesia and Bangladesh, more men were tested in 2010 and a similar trend was seen in 2009 (Figure 44).

India has successfully carried out integrated models of testing and counselling, which has increased the uptake of counselling by pregnant women and general clients through VCT as well as PITC (Figure 45).

Among the reporting countries, few have provided age-disaggregated data on HIV testing. In the reporting countries, the majority of the population tested was over 25 years. In Thailand and Indonesia, the number of youth aged 15–19 years seeking HTC is relatively low compared to the 19–24 years’ age group, highlighting the need to use innovative models such as youth-friendly services, testing in colleges, workplaces and through mobile clinics to reach young people.1

More women are tested in all age categories except in the age group of over 50 years. Thailand has more women while Indonesia has more males seeking HTC.
Coverage of HIV testing and counselling

Only a few countries have conducted population surveys among the general population (demographic and health surveys [DHS], biological and behavioural surveys [BBS]) during the reporting period to estimate the coverage of testing. Myanmar, Timor-Leste and Thailand have reported data on coverage in 2010; barely 19% of the cumulative total population tested in these three countries (3000/569 217) knew their HIV status 12 months prior to...
the survey. Very few young people were surveyed and, of these, very few knew about their HIV status. This signifies that only one in five persons is aware of their HIV status. To achieve the global target of zero transmission of HIV, governments have to intensify campaigns to promote uptake of testing.

**HIV status among key affected populations**

As many countries in the Region have low or concentrated epidemics, community surveys are conducted to assess the uptake of VCT among key affected populations. However, it is observed that in many countries, the programme records on VCT do not have or report data disaggregated by at-risk population. The few behavioural surveys conducted during the reporting period and the data reported between 2009 and 2010 indicate that many of the key populations were not aware of their HIV status. On average, less than 50% knew their status, which is less than the recommended coverage target of 80%. The exceptions were FSWs in Myanmar and Timor-Leste, and PWID in Thailand (Figure 46).

Among 10 000 FSWs tested in the Region, the knowledge of HIV status ranged from a low 25% in Indonesia to a high 71% in Myanmar. In many countries, coverage was below 60%, which is well below the target of 80% universal coverage. Of the four countries that reported data on PWID, only Thailand has reported adequate knowledge of HIV status (89%), while it was below 30% in all the other countries with PWID-driven epidemics – Indonesia, Myanmar and Nepal. Less than 40% of MSM knew their HIV status in the majority of countries; with the highest in Myanmar (48%) as reported in 2010. It is alarming to note from the data reported by member states that very few young MSM, FSWs and PWID knew their HIV status.
It is increasingly recognized that sexually active PWID carry a high risk of infecting their partners through unsafe sex. More attention should be paid to the low testing among female drug users and female partners of male injectors who may engage in unprotected casual or commercial sex. Despite a high HIV prevalence among PWID, the behavioural surveys conducted among this population in the Region have included a negligible fraction of female injectors.

Couples counselling and partner testing is an HTC model used to prevent HIV infection among serodiscordant couples.

The results of the HPTN 052 trial announced in May 2011 have shown that early ART given to an HIV-infected person before the CD4 count reaches 350 cells/mm reduces HIV transmission in the uninfected partner by as much as 96% if the person adheres to the regimen. The world has recognized treatment as a new priority prevention option. It is a greater challenge for national programmes to ensure that serodiscordant couples have the option to choose and use treatment as a prevention measure. Moreover, when couples are tested together, it reduces stigma, problems of disclosure of the HIV status to the partner, and links them to preventive services. They can also support each other to adhere to treatment and make considered contraceptive choices to avoid unplanned pregnancies if found to be HIV-positive. The limited data available (data not shown) confirm that partner testing is inadequate in the Region.

Testing the spouses of HIV-positive pregnant women has not been popular or effective in the Region and women do not disclose their HIV status to their partners for fear of violence, stigma, etc. There is a dearth of information in SEAR countries to arrive at a reliable estimate; however, analysis of the reported data in 2010 reveals that the coverage of male partners of pregnant women tested was 20% in Bangladesh, 2% in Myanmar and 0.1% in Nepal. Patient attrition between testing and treatment is as high as 40% globally and is a growing concern, as it prevents provision of early ART to infected persons. Though data in the Region are scarce, loss to follow up among pregnant women before receiving their test results is common. Poor linkage of such persons to care and prevention programmes, patterns of health-seeking behaviours among those who do not feel sick, stigma and discrimination are some of the causes that have been attributed to patient attrition. Timely remedial action is needed for people to benefit from VCT.

It is often found that key populations are less likely to access fixed-facility VCT centres, mostly due to the timings and distance. Mobile VCT centres or home-based testing that can reach the population are some of the innovative methods of VCT that have been successfully implemented in other Regions.

In Indonesia, conducting VCT through mobile clinics was apparently successful in providing VCT to pregnant women by Tarakan Hospital. India has set up 84 mobile integrated HTC clinics that consist of a van with a room to conduct counselling and general examination, and a space for collecting and testing blood samples. This van can operate at flexible hours in hard-to-reach areas, reach a large audience, provide multiple services through mobile
clinics and more effective preventive interventions for these populations. India has been successful in reaching a large clientele of over 11 000 000 through combined CITC and PITC (at ANC and at delivery for pregnant women) through stand-alone, facility-integrated and mobile integrated counselling and testing centres (ICTCs).6

In conclusion, while substantial progress has been made in improving the accessibility and availability of HIV testing in the Region, coverage is not adequate to reach universal access targets, especially for key populations. Concerted efforts need to be made by national AIDS programmes to adequately target key populations for testing, adopt locally appropriate innovative HTC models such as mobile clinics, home-based testing, testing in workplaces, colleges and schools, in addition to PITC. National AIDS programmes should invest in gathering evidence that will help to improve programmes and set standards for quality testing. Improved recording and reporting of programme and project data on HTC in this regard, especially on key populations, will help in evaluating testing strategies for scaling up counselling and testing services.

References

Health sector response – care and treatment
Antiretroviral therapy

Overview and global initiatives

Countries were at a crossroads in 2010 when new goals were set for achieving universal access to treatment, care and prevention. All Member States pledged to provide antiretroviral therapy (ART) to 90% of eligible people by 2015. At the United Nations (UN) High-level Meeting held in June 2011, a new goal of providing ART to 15 million people by 2015 was agreed to and felt to be possible.

The recently concluded HPTN 052 trial reported that if a person living with HIV adheres to an effective antiretroviral (ARV) regimen as soon as HIV is diagnosed, the risk of transmitting the virus to a discordant uninfected sexual partner can be reduced by as much as by 96%. This has focused on treatment as a powerful tool for prevention, in addition to reducing HIV-related morbidity and mortality. It demands early detection of HIV status and initiation of treatment. The new WHO guidelines for ART in 2010 recommend initiation of ART at a higher CD4 count for people living with HIV (PLHIV). With this approach, a large number of persons will be eligible for treatment every year. As many counties in Asia depend heavily on foreign funds for provision of ART, this poses a significant challenge for governments to meet the increasing demand for treatment in the current economic context, given the decline in international funding. UNAIDS and partners published a strategy document in 2011 to provide guidance on improving the efficiency and effectiveness of programmes and make a systematic effort to match investments to needs.

Accessibility to ART

About 6.6 million people were receiving ART in low- and middle-income countries globally at the end of 2010, representing an increase of 27% from 2009, a 17-fold increase from 2003 and a nearly 22-fold increase since 2001. A record 1.4 million people started lifesaving treatment in 2010, more than any year before. According to the 2011 WHO progress report on health sector response, at least 420 000 children were receiving ART at the end of 2010, a more than 50% increase since 2008, when 275 000 children were on treatment.

In the Region, all Member countries except DPR Korea provide ART to eligible adults and children. At the end of 2010, available data show that overall, 717 000 people were receiving ART, representing an additional 100 000 people or a 15% increase since 2009, and a dramatic 13-fold increase from 55 000 in 2003 when scaling up of treatment began (Figure 47). The reported number of people newly initiated on treatment was nearly 137 000. India and Thailand have the largest number of adults and children on treatment.

The total estimated number of people in need of ART in the Region, based on a CD4 count of 350 cells/mm³, has increased from 1.8 million in 2009 to 2 million in 2010. Nearly 90% of the need for ART is in just two countries – India and Thailand. Both countries have demonstrated successful scale up of their ART programmes. Thailand has the largest number of health facilities providing ART (943) in the Region. As reported in
In 2010, India has the largest number of people on ART (over 384,000), while in Thailand the corresponding figure is nearly 236,000 persons (see Annex Table A5). India accounts for 6% of the total population receiving ART globally with a national coverage of 27% in 2010, an increase of 22% from 2009. Thailand accounts for 4% of those receiving ART globally with a coverage of 67%, an increase of 10% from the previous year.6,7

Information on the proportion of key affected populations receiving treatment was not reported by the Member States, as disaggregated data were not available at most ART sites. This highlights the poor attention paid to this segment of the population. Investment in reducing transmission among key populations at high risk of HIV exposure through provision of ART should be borne in mind and more efforts made to link them to ART services.

As more patient cohorts are initiated on treatment, programmes need to adapt to cope with the increasing workload using alternative strategies: community involvement in adherence counselling, patient follow up, and home-based care and family support.

**ART coverage**

Despite these achievements, ART coverage remains below 39% across Member countries.

Regional coverage lags behind the global coverage of 49%, ranging from the highest (63%) in the Region of the Americas and the lowest (8%) in the Eastern Mediterranean Region. Using the revised WHO guidelines that recommend starting ART at a CD4 count of 350 cells/mm³, the overall coverage of treatment across countries in SEAR ranged from 14% in the Maldives to 67% in Thailand (see Annex Table A7) (Figure 48 and Figure 49).7
Overall, 42% of all PLHIV receiving treatment in 2010 were women (ranging from 0% in Maldives to 59% in Timor-Leste), in contrast to 40% of women in 2009. In the Maldives, all those receiving treatment are men (see Annex Table A7) (Figure 50).

Of the estimated 87 600 children in need of ART in 2010, nearly 34 000 children (about 39%) received it (Figure 51).
At present, more children in need of treatment have access to ART in the Region. The Region accounts for approximately 8% of all children in need of ART globally. Access to ART for children is higher in the Region (39%) compared with the global average (28%). Two countries – India and Thailand – contribute to the largest number of children receiving ART in the Region (23 000 and 7800, respectively), while coverage is the highest (94%) in Thailand. Improving diagnostic facilities for early detection of paediatric HIV infection
may have contributed to the success in the two countries. In India, while paediatric ART is provided at all ART centres, seven Regional Paediatric Centres serve as centres of excellence for paediatric care. An early infant diagnosis (EID) programme is being rolled out in 118 ART centres and through 766 integrated counselling and testing centres (ICTCs) across the country.8

Availability of facilities for ART

The facilities for providing ART have also been scaled up in the Region, both in the public and the private sectors. By December 2010, ART was being provided at 2200 health facilities, an 18% increase in the number of facilities since 2009. Nearly 91% of facilities were in the government sector. It is noteworthy that the number of private facilities providing ART also has increased. However, the number of facilities per 1000 PLHIV is 10 in the Region and, on average, 326 people receive ART per health facility. This is below the global average of 297 (Figure 52).7

Figure 52: Number of health facilities that offer ART, by country, South-East Asia Region, 2008–2010

Source: Universal access country reports, 2008-2010.
Note: In Sri Lanka, Bhutan and Maldives the number of facilities that offer ART has remained 5, 2, 1 respectively over the period.

To achieve the goal of universal access of reaching 15 million people with ART by 2015, more facilities have to be made available and accessible to people, nearer to the beneficiaries, through adopting new strategies and models. It is necessary to ensure that facilities are adequately equipped with trained staff to cope with the increasing workload without compromising the quality of service delivery (see Annex Table A6).

Outcome of and retention on ART

The implementation and expansion of ART programmes in the Region was accompanied by significant improvements in survival and decrease in morbidity among persons accessing
The long-term success of the ART programmes and the quality of services are monitored by the proportion of people still living and continuing ART (retention on ART) over 12, 24 and 60 months. Analysis of national programme data reported from six countries on retention of PLHIV on ART indicated that the overall 12-month survival rate was high and ranged from 70% in Indonesia to 91% in Sri Lanka, similar to that in 2009. It is observed that the maximum attrition occurs during the first year on treatment and slows down thereafter. Although reported data are limited, the proportion surviving and still continuing treatment after 24 months ranged from 62% to 92%. A few countries were able to provide reasons for discontinuation of ART. Deaths and loss to follow up were the common reasons reported by Sri Lanka, Thailand and Indonesia during the reporting period (Figure 53).

Figure 53: Percentage of adults and children with HIV still alive and known to be on treatment 12 and 24 months after initiation of ART, 2010

Antiretroviral drugs

The preliminary analysis of the WHO survey on the composition and distribution of first-line and second-line ART regimens used in all the WHO Regions in 2010 revealed that the majority of patients are on first-line ART regimens globally. Most countries are in the process of adopting WHO’s revised recommendations on ART eligibility criteria and regimen choice for adults and adolescents. The use of stavudine-based regimens is noted to be decreasing while zidovudine or tenofovir-based regimens are increasingly being used, according to the report.

In the South-East Asia Region (SEAR), it is observed that more choices for first-line regimens are now available than before. These ranged from a single regimen in the Maldives to two regimens in Bhutan, four regimens in Sri Lanka and Timor-Leste, to over 15 regimens in Nepal, Thailand, Indonesia and Myanmar. Zidovudine- and lamivudine-based regimens with either nevirapine or efavirenz are available in almost all countries (in all 10 and 9 out
of 10 countries reporting, respectively). Seven out of 10 countries have stavudine-based regimens, except Bangladesh, Bhutan and Timor-Leste, while tenofovir-, lamivudine- and efavirenz- or nevirapine-based regimens are available less frequently. However, a vast number of other combinations or regimens are available in Indonesia, Thailand, Nepal and Myanmar. The results of the analysis on the actual use of these regimens in Member countries of the Region are not available yet. India is gradually phasing out stavudine-based regimens as recommended by WHO due to the high toxicity of the drug (Figure 54).

Second-line ART has now been rolled out in several countries of the Region. It is observed from the reported data that Thailand continued to have the largest number of people on second-line ART (11 700) followed by India (1900), an increase from the previous year. The new initiative on universal access to second-line ART for adults and adolescents was rolled out in India in a phased manner from three centres in 2009 and four centres in 2010. This was supported by a Supreme Court decision to make available second-line ART to all those in need, irrespective of whether first-line ART had been provided by the government or private sector.

This has programmatic and strategic implications due to the high cost of second-line drugs in the Region. Treatment failure, ineffectiveness of the combination used for the first-line regimen, drug resistance, side-effects of the drugs, quality of treatment and follow up, poor patient compliance and adherence are possible reasons for switching patients to second-line drugs. Monitoring early warning indicators recommended by WHO will not only prevent the development of drug resistance to first-line ART drugs but also will allow national programmes to identify programmatic gaps in the delivery of care services. Timely action to improve these patient and institutional gaps will ensure better patient adherence and quality of treatment in the long term. This may somewhat reduce the burden of second-line therapy (see early warning indicators in Chapter 7, page 118).
Laboratory support

Except in Nepal (at 37% of sites) and Indonesia (at 50% of sites), all the facilities that dispense ART to patients in the Region regularly monitor treatment based on CD4 tests. However, the number of ART facilities with CD4 testing (on-site or blood collected and sent to a reference laboratory) to initiate and monitor treatment is inadequate in the Region, ranging from a single site in the Maldives or a few (five in Sri Lanka and Bhutan) to 943 in Thailand. ART centres with facilities to conduct viral load assays for detecting treatment failure to second-line drugs and diagnose paediatric HIV are severely lacking across the Region, except in Thailand and India.

Co-trimoxazole prophylaxis

Co-trimoxazole prophylaxis therapy (CPT) to prevent opportunistic infection (OI) and pneumonia among PLHIV is a life-saving measure. Reported data from nine countries indicated that a total of 150,150 patients in HIV care were on CPT in 2010, the majority being adults (94.6%). Overall coverage of CPT for those eligible was 84% in the Region. India and Sri Lanka have provided CPT to almost all those in need (100% and 94%, respectively). Coverage is low in Indonesia (76%), Myanmar (64%) and Thailand (72%). Coverage among children was better than among adults and ranged from 100% in India, Sri Lanka and Thailand, to 59% in Indonesia. Very few pregnant women received CPT in the Region (Figure 55).

Figure 55: Percentage of adults and children currently receiving co-trimoxazole prophylaxis, South-East Asia Region, 2010

Source: Universal access country reports, 2010.

New Treatment 2.0 initiative

The success of the ART programmes in the Region has largely been a result of strong collaborative efforts by national programmes, with commitment from the government, civil society and advocacy groups, NGOs and donor agencies, as well as the global momentum to provide life-saving therapies to those in need.
In June 2010, the UNAIDS and WHO launched the Treatment 2.0 initiative,\textsuperscript{10} setting goals and activities in five priority areas designed to improve the efficiency and impact of HIV care and treatment in resource-poor settings. These priority areas are: (i) optimizing drug regimens; (ii) providing access to point-of-care and other simplified diagnostics; (iii) reducing drug costs; (iv) adapting delivery systems; and (v) mobilizing the community.\textsuperscript{10} Several initiatives were taken by countries towards these goals.

**Policy and programme response**

All the countries now have national HIV strategic plans. National ART guidelines were updated in 2010 in India, Thailand, Timor-Leste and the Maldives. However, a delay in the use of the new CD4 criteria for initiation of ART is seen at some ART sites. Guidelines on provision of CPT were in place in almost all the countries. National policies on nutritional support to PLHIV and their families are in place in Indonesia, Thailand, Sri Lanka and Timor-Leste. Almost all countries in the Region dispense ART through their ministries of health free of charge.

**Scaling up services through an integrated approach**

Decentralization of HIV care services, combining services or integrating them with maternal and child health (MCH), reproductive or sexually transmitted infection (STI) services and tuberculosis (TB) programmes, and training alternative health caregivers to provide treatment are some of the adapted delivery systems piloted in India, Thailand, Indonesia and Myanmar. India has scaled up treatment services through setting up 550 Link ART centres at district- and subdistrict-level hospitals, which are linked to a nodal ART centre within accessible distance, and linking community care centres with ART settings in the nongovernmental sector. These community care centres provide psychosocial support to ensure drug adherence and home-based care.\textsuperscript{8}

For an early diagnosis of HIV, a simple point-of-care testing with dried blood spots (DBS) and scaling up of CD4 testing facilities are being done in India, Thailand and Indonesia. Currently, in India, there are seven laboratories that perform viral load testing, thereby supporting clinical decision-making at 10 second-line centres and ART-plus centres for patients estimated to transit to second-line therapy. Existing testing laboratories equipped to perform viral load testing have been identified and have given their consent for participation in the national programme. Technicians have been trained to perform viral load assays in Bangkok to build their skills in carrying out the tests.\textsuperscript{8}

Indonesia’s response has been to reduce drug prices and is the only country in the Region that provides ART in prisons. Kimia Farma, a local pharmaceutical company, has started to develop its capacity to produce ARV drugs. However, strong political support and advocacy will be needed, particularly to seek and obtain pre-qualification from WHO. By June 2011, a cumulative 21 347 people were on ART and 70% of the funds for providing medication was from Indonesian resources or domestic funds.\textsuperscript{11}
The Government of Thailand has demonstrated a strong political commitment to make domestic funds available for ART and promote production of superior pills such as efficient fixed-dose combination drugs.

Sri Lanka’s response has been in terms of patient support schemes – providing additional funds for emergency drugs and tests with the support of professional bodies and NGOs, and granting travel expenses to patients to ART centres through NGOs which are Global Fund grant recipients. Other alternative strategies that are being successfully piloted include the involvement of self-help HIV-positive groups for provision of adherence counselling for treatment preparedness, provision of nutrition counselling and linkages to ART services.

In conclusion, many people are still unaware that they are infected with HIV due to the low uptake of HTC. Coverage with ART is not enough to have a visible impact on reducing mortality and HIV transmission in the Region. Much has to be done to improve utilization of services by PLHIV. Some measures that should be put in place to improve the situation include strengthening health systems, laboratories and diagnostics, building the capacity of health-care givers, and using novel models of testing to reach the people, especially those who are marginalized. Adherence to the Treatment 2.0 initiative is a way forward to achieve the goals of universal access by 2015. The Global health sector strategy on HIV/AIDS, 2011–2015 published by UNAIDS /WHO in 2011 will further guide governments in implementing an effective response.

**HIV/TB collaboration**

HIV-related TB remains a challenge for the health sector response and threatens the survival of PLHIV. Of the estimated 34 million with HIV worldwide, one third is estimated to have concomitant latent TB infection. In 2010, of the nearly 8.8 million incident TB cases worldwide, 1.1 million were among PLHIV, with an estimated 320 000–390 000 deaths. The estimated Regional burden of TB/HIV accounts for 15% of the global burden. Five countries of the Region are among the 22 high TB burden countries in the world: Bangladesh, India, Indonesia, Myanmar and Thailand. Among these, four countries – India, Indonesia, Myanmar and Thailand – have high burdens of TB and HIV. Collaborative HIV/TB activities between national TB and HIV programmes are vital to prevent, diagnose and treat TB among PLHIV, and HIV among those with TB.

WHO has provided clear recommendations about the interventions needed to prevent, diagnose and treat TB among PLHIV since 2004, collectively known as collaborative TB/HIV activities. They include: establishing mechanisms for collaboration between HIV and TB programmes (joint planning, coordinating bodies, surveillance, and monitoring and evaluation); reducing the HIV burden among TB patients (HIV testing and counselling [HTC], provision of ART and CPT to TB patients living with HIV, and HIV prevention, care and support services for TB patients); reducing the burden of TB among PLHIV with the “Three I’s for HIV/ TB” (intensified TB case-finding among PLHIV, isoniazid preventive therapy [IPT] for PLHIV who do not have active TB, and infection control in health-care and congregate settings). Variable progress has been made towards these goals in countries of the South-East Asia Region.
HIV counselling and testing

HTC is recommended for everyone presenting with signs and symptoms of TB and people with confirmed TB. Testing TB patients for HIV is the responsibility of national TB control programmes. There has been progress in expanding HTC for TB patients over the past years. Globally, the number of TB patients who knew their HIV status reached 2.1 million in 2010, equivalent to 34% of notified cases, up from 28% in 2009, and a tenfold improvement over 2003 figures (3.7%). The highest HIV testing rates among TB cases were in the WHO European Region (80%), followed by the WHO African Region (59%) and WHO Region of the Americas (46%). In SEAR, 23% of the notified TB cases were tested for HIV, which is low against a global average of 34% and 39% in high TB/HIV burden countries. However, the coverage has improved from 14% in 2009.

In SEAR, less than 10% of TB patients tested for HIV were positive, according to the global TB report 2011. Of the incident cases of TB that tested positive for HIV, 110 000 were in India, 18 000 in Indonesia, 37 000 in Myanmar and 15 000 in Thailand (Table 1). TB incidence rates are declining in all WHO Regions. Though SEAR has the highest burden of TB in the world, TB/HIV coinfection is declining in all the high-burden countries in the Region except in Indonesia, where a rise in the incidence of TB/HIV coinfection is observed with a concomitant increase in HIV incidence. Provider-initiated HIV testing and counselling (PITC) should be offered to all TB patients in high-prevalence settings, as TB is the most common OI among PLHIV in the majority of countries, and is often an entry point for the detection and treatment of HIV.

Reducing the burden of HIV among people with TB

Collaborative activities to ensure provision of CPT and ART to those with HIV/TB coinfection are improving in the Region. To get the maximum benefit, it is recommended that all HIV-positive TB patients should be given CPT as soon as possible after the diagnosis of HIV infection to prevent morbidity and mortality. Of the identified HIV/TB coinfected patients, 87% and 57% were enrolled on CPT and ART, respectively, in Member countries of SEAR. This compares favourably with the global average of 77% on CPT and 46% enrolled on ART. Some countries have almost reached the target of the global Stop TB plan of 100% CPT coverage by 2015. Countries that reached the highest rates of coverage with CPT in the SEAR Region were India (90%), Myanmar (100%), Sri Lanka (94%) and Bangladesh (100%). CPT coverage in Indonesia and Thailand was less than 75% as reported in 2010 (Figure 56).

ART is a priority life-saving intervention for PLHIV and can reduce TB incidence by up to 90%. The number of TB patients identified to be HIV-positive and enrolled on ART has grown steadily in the Region as well as globally. The WHO policy guidelines recommend provision of ART to all TB patients living with HIV, irrespective of the immunological status (CD4 count). According to the data reported by Member countries, coverage with ART of HIV-positive TB patients reached an average of 57%, though it varied widely across the Region: 57% in India, 100% in Indonesia, 94% in Myanmar and 53% in Thailand. While the responsibility for provision of ART to HIV-infected TB patients often lies with national
HIV/AIDS programmes, the feasibility of providing ART directly to coinfected patients by national TB programmes is being considered for better adherence to treatment and follow up. Substantial improvement in ART provision is needed, especially in high-burden countries with low ART coverage (for example, India and Thailand), to reach the global plan target of providing ART for all TB patients living with HIV in 2015. Figure 57 describes the coverage of CPT, ART and HIV testing among newly diagnosed TB patients.

**Figure 57: Coverage of HIV/TB collaborative activities in selected SEAR high-burden countries where data are available, 2010**

Reducing the burden of TB among people with HIV

National HIV programmes are generally responsible for initiating intensified case-finding for TB among PLHIV and providing IPT to those without active TB. These activities are weaker compared to the provision of ART and CPT in Member countries. The limited data available from the five reporting countries – India, Myanmar, Thailand, Bangladesh and Indonesia – indicate that in 2010, 230,000 PLHIV in the Region were assessed for TB during their last visit, of whom the largest number was in India. Of the five reporting countries, India and Myanmar assessed and recorded the TB status at the last visit of almost all HIV patients (100%) enrolled for HIV care; however, this needs careful interpretation, along with the number of cross-references from ART to TB facilities. Thailand, Bangladesh and Indonesia reported that TB status was assessed at the last visit in 94.9%, 31.6% and 21.1% of patients, respectively. The Maldives, Sri Lanka and Bhutan did not report on this indicator. The number of PLHIV screened for TB almost quadrupled, from 600,000 in 2007 to 2.3 million globally in 2010. In the Region, intensified TB case-finding among newly diagnosed PLHIV increased from 81% in 2006 to over 94% in 2010. However, this represents less than 6% of the 3.5 million people estimated to be living with HIV in the Region compared to global average of less than 7% PLHIV screened for TB.

A review of the reported data from six countries in the Region (Bangladesh, India, Indonesia, Myanmar, Sri Lanka and Thailand) shows that nearly 41,700 PLHIV on ART were newly started on TB treatment during 2010. This accounts for less than 30% of the estimated number of PLHIV with incident TB who need combination therapy with ART and anti-TB regimens for HIV/TB coinfection in the Region. While the largest number of people on ART and anti-TB treatment was in India, followed by Thailand, Indonesia and Myanmar, the estimated proportion of people with incident TB cases who received treatment for TB and HIV remained low and varied among the countries; 25.8% in India, 10.5% in Myanmar and 26% in Thailand according to the data reported in 2010. This may reflect gaps in reporting or low coverage due to poor linkages between the TB and HIV programmes, lack of diagnostics, etc., which need priority attention.

Barely 0.6% of PLHIV (5,620) benefited from IPT in the Region compared with 12% globally, although this has improved since 2009, when only 1,000 PLHIV received IPT. Very few countries have reported information on the provision of IPT. Approximately 2.7% and 9.3% of adults and children newly enrolled in HIV care in Sri Lanka and Myanmar, respectively, received IPT for latent TB infection. Difficulty in excluding active TB among HIV-positive patients is cited as the reason for the low coverage. Adopting the new WHO guidelines issued in 2010 (Guidelines on intensified case-finding and isoniazid preventive therapy for people living with HIV in resource-constrained settings), which recommend a symptom-based approach (cough, weight loss, nocturnal fever) to diagnosing active TB has increased IPT coverage in other Regions, particularly the African Region, and could be considered as an option in SEAR. Intensified efforts are needed to reach the global targets of providing TB screening for all patients enrolled in HIV care and providing IPT to eligible patients.

Overall, good progress has been made in collaborative activities to prevent and treat HIV/TB coinfection in the Region. HIV programmes are beginning to implement the
intensified case-finding approach of TB programmes, exploring the use of IPT for those without active TB and recognizing that infection control in HIV-care settings is urgent. Similarly, TB programmes view interventions for HIV/TB as core activities and are linking known HIV-positive TB patients to HIV care and ART.17

Guidelines for the management of HIV/TB coinfection have been updated in the majority of the countries13,17 and both the programmes are now building HIV/TB interventions into funding proposals, routine activities, and monitoring and evaluation. National HIV/TB coordinating committees have been set up in 10 of the 11 Member countries. HIV/TB collaborative activities are widely available in Thailand, which continues to lead the Region in implementing HIV/TB activities. Services are being further expanded in India, Myanmar, Nepal, and in 10 provinces in Indonesia. The present population access to a comprehensive package of HIV/TB services is estimated to be over 700 million. Cross-referrals between the HIV and TB programmes have been strengthened, and the TB recording and reporting systems in countries revised to include information on HIV/TB coinfection.

There is also an urgent need to scale up respiratory infection control measures in health facilities to prevent the nosocomial transmission of TB among PLHIV and others. Ensuring infection control in health-care settings is strongly recommended to prevent nosocomial transmission of TB and emerging multidrug-resistant (MDR) TB among PLHIV. No proper evaluation studies have been conducted in the Region; hence, it is difficult to accurately measure the contribution of infection control practices in preventing nosocomial infection in ART facilities. Recognizing the importance of proper infection control measures, policy and programme guidelines exist in eight out of 10 countries (DPR Korea did not report on this indicator). Regular training of staff on infection control measures has been conducted in almost all countries.

Nepal is the only country that has guidelines for the provision of IPT and includes IPT as an essential approach to HIV care. Four out of 10 reporting countries reported having guidelines for IPT, and eight out of 10 countries indicated providing TB screening for PLHIV. Despite this, screening of TB cases for HIV infection and vice versa, the proportion of PLHIV offered IPT, and TB cases coinfected with HIV receiving ART remain insufficient.

India and Thailand have fully integrated nationwide implementation of TB/HIV collaborative activities, while collaborative pilot projects have been scaled up in Indonesia, Myanmar and Nepal. In Bangladesh, Bhutan, Sri Lanka and Timor-Leste, national HIV and TB programmes are preparing for collaborative interventions. The Maldives has committed to case-by-case management of TB/HIV coinfection.

The Global Fund grants implemented by Member countries have addressed either TB or HIV in isolation. Joint TB/HIV activities were limited in the past; however, TB/HIV strategic activities are no longer optional in current HIV and TB grant proposals, and require collaboration and joint activities by HIV/AIDS and national TB programmes, and private–public partnerships to meet the common goal of curbing the co-epidemic.17 A summary of grants received by countries from the Global Fund for prevention and control of HIV including HIV/TB coinfection over the years is given in Chapter 8.
Programme and policy environment

The WHO policy on a Regional strategy for TB control in 2011 is aimed at overcoming the challenges of early detection and management of HIV/TB coinfection and promoting multisectoral collaboration. Addition of integrated case management (provision of both TB treatment and ART in the same settings) as the fourth “I” to the Three I’s in the Regional TB strategy will benefit patients. The proposed inclusion of “health systems strengthening” as an additional component in the strategy will ensure joint resource mobilization and shared human resource capacity building, establish communication and enhance community involvement. This will benefit both TB and HIV national programmes.

It is known that the current TB drugs and diagnostics have been historical in use and emerging MDR-TB is a challenge in the management of HIV/TB coinfected patients. Ongoing research on newer drugs, diagnostics and a possible vaccine by 2020 will have a greater impact on TB/HIV management and increase the survival of PLHIV. Notwithstanding the impressive improvement in recent years, much more needs to be done to realize the goal of reducing TB/HIV coinfection.

References

5
Prevention of HIV transmission from mother to child
Key message: Less than one out of five pregnant women has access to HIV testing and counselling; two out of three HIV-infected pregnant women do not receive antiretroviral prophylaxis to prevent mother-to-child transmission of HIV.

In 2010, an estimated 17.3 million women aged 15 years and above were living with HIV globally and, of these, nearly 1.6 million were living in the South-East Asia Region (SEAR). Worldwide, in 2010, 1,465,000 (1,307,000–1,628,000) pregnant women were living with HIV, of whom an estimated 57,000 were in SEAR. In countries with a high burden of mother-to-child transmission (MTCT) – India, Thailand, Myanmar, Indonesia – HIV incidence among pregnant women has remained stable during the past five years. The number of children less than 15 years of age living with HIV in 2010 was 87,000, with an estimated 48,000 children below 15 years becoming newly infected in the Region.

More than 90% of the children living with HIV are infected through MTCT during pregnancy, delivery or through breastfeeding, while a small fraction of children may get infected through unsafe injections and blood, sexual abuse and early sexual debut. If no intervention is provided, an estimated 30%–35% of infants born to HIV-infected women will acquire HIV. The risk of transmission is 15%–30% in the non-breastfeeding population, while breastfeeding by an infected mother adds an additional 5%–20% risk. Transmission rates are higher from women with more advanced clinical disease, low CD4 count and high viral load. ARV drugs and optimal infant-feeding practices are necessary to reduce HIV transmission to the infant and promote child survival.

Research carried out over the years has led to the development of new treatment strategies, through which it is now possible to reduce HIV transmission from mother to child to less than 5% or even lower in breastfeeding populations from a risk of 35%, and to less than 2% in non-breastfeeding populations from a background risk of 25%. The new evidence on the use of ARV prophylaxis to prevent MTCT including during breastfeeding, on the optimal time to initiate ART in individuals who need treatment, and on safe feeding practices for HIV-exposed infants led WHO to revise the 2006 guidelines and replace them with new recommendations in 2010. Elimination of MTCT (E-MTCT) is for the first time thought to be a realistic public health goal and efforts are being made in the Region towards achieving this.

Policy environment and commitment of the international community and governments to reducing the risk of MTCT

At the United Nations General Assembly held in 2010, there was global consensus on achieving zero transmission of HIV and new paediatric infections by 2015, and political commitment to reach Millennium Development Goals (MDGs) 4 and 5 on improving maternal and child health. Several initiatives were taken by international partners to have an HIV-free future generation in 2010. In July 2010, WHO released updated guidelines for the treatment of pregnant women, infants and children, and infant-feeding practices.

In June 2010, United Nations (UN) partners UNAIDS, UNICEF and WHO developed a global plan entitled “Global plan towards the elimination of new HIV infections among
children by 2015 and keeping their mothers alive to eliminate MTCT by 2015". This was launched at the historic UN General Assembly High-level Meeting on “Political Declaration on HIV/AIDS: intensifying our efforts to eliminate HIV/AIDS in June 2011”.

In the Asia–Pacific region, in response to the global plan, a “Regional strategy for elimination of paediatric HIV infections and congenital syphilis monitoring guide” was developed to achieve the universal access targets (Figure 58). The Regional plan supports a common systematic approach to dual elimination, and outlines a strategy that HIV, sexually transmitted infection (STI), and maternal, newborn and child health (MNCH) programmes in the Region can adapt to develop country-specific operational plans. As more efficacious antiretroviral (ARV)-based PMTCT interventions and rapid syphilis testing strategies are now available, elimination of new paediatric HIV and congenital syphilis infections is, for the first time, being considered a realistic public health goal. The target audiences for this framework are national health programmes and programme managers, donors, implementing partners, positive networks, health-care providers and civil society groups.

Dramatic reductions in new HIV infections among children can be achieved through the implementation of a comprehensive approach to prevention and treatment. This includes four prongs or strategies. These are: (i) primary prevention of HIV infection among women of childbearing age; (ii) prevention of unintended pregnancies among women living with HIV; (iii) prevention of HIV transmission from women living with HIV to their infants; and (iv) appropriate treatment, care and support for mothers living with HIV and for their
Given the similarities in the mode of transmission of HIV and syphilis, this approach is also applicable to the prevention of congenital syphilis.

This chapter discusses the progress made in prongs three and four of the strategy. However, the importance of dealing with the first two prongs cannot be overemphasized. Improved and comprehensive knowledge of HIV among young men and women, delayed sexual debut and marriage, promotion of sexual health and safer sexual practices including condom use, couples counselling to know the HIV status and remain HIV-negative, behaviour change communication, screening and treatment of STIs are some of the interventions to prevent HIV among women of childbearing age. The available data indicate that sexual debut is early and comprehensive knowledge of HIV remains low among young people in most countries of the Region, and condom use among young women is generally lower than that among men. The recent findings on the use of vaginal microbicides and ARVs for pre-exposure prophylaxis to reduce HIV transmission are encouraging. These empower women to practise safe sex, as it is evident that the majority of women in the Region have acquired HIV through their marital or stable partners.

HIV prevention interventions should promote contraception, especially among HIV-positive young women and female sex workers (FSWs) to avoid unintended pregnancies. Integrating HIV treatment and care services with HIV prevention interventions including family planning services is vital for averting HIV-positive births.

Progress towards prong 3: Prevention of HIV transmission from women living with HIV to their infants

Most countries in the Region have made limited progress in scaling up HIV testing and counselling (HTC) services for pregnant women. Progress has also been limited in providing ARV prophylaxis or antiretroviral therapy (ART) to women who require it for their own health, safer deliveries and clear guidelines on infant feeding.

Accessibility and availability of HIV testing and counselling

HIV-positive pregnant women need to be identified and provided ARV prophylaxis at an early stage, as early as 14 weeks of pregnancy for PMTCT as per the new revised treatment guidelines. HTC is an entry point to PMTCT, but progress in providing access to PMTCT services has been limited in the Region. While some countries have aimed to introduce nationwide antenatal care (ANC), others have chosen to prioritize districts with a high HIV prevalence. In low-prevalence countries, a limited number of centres of excellence offer PMTCT services.

The number of facilities providing HTC services per 100,000 pregnant women varies widely, from less than one in Bangladesh to 415 in Myanmar. On average, in 2010, 37 million pregnant women were enrolled for ANC at the first visit. In countries with a high HIV burden, 60% to more than 90% of pregnant women access ANC at least once during their pregnancy. However, except in Thailand, less than 7% of health facilities that provide ANC
also provide PMTCT services according to the data reported by the countries for universal access reporting in 2010 (see Annex 1, Table 9). Eliminating MTCT would not be a realistic goal unless all pregnant women have access to ANC and MNCH services have a bigger role to play in increasing ANC attendance by all pregnant women.

Reported data from the SEAR countries show that “on-site” HIV tests were offered to pregnant women or blood samples taken and specimens transported to laboratories in only 7% of all the health facilities; the majority were referred to other testing facilities. Varying opening hours and days of working of these facilities, fear of stigma and discrimination from health-care workers, and additional costs are likely to prevent pregnant women from visiting these. This highlights the need for a strong, integrated approach to link pregnant women to testing facilities and related services to prevent patient attrition.

However, these national figures need to be interpreted with caution, as most of the high-burden countries have prioritized high-prevalence states/areas for the implementation of PMTCT programmes in a phased manner due to limited resources. Some countries, despite having high rates of institutional deliveries, have failed to integrate HIV testing with maternal and child health (MCH) programmes. Thailand has successfully achieved universal coverage through integration of HTC into the existing MCH programme.10

As reported, of the 37 million pregnant women who accessed ANC in 2010, only 7 000 000 were tested for HIV after counselling, highlighting the fact that the coverage of HTC among pregnant women is low. The available reported data show that coverage of HTC has doubled since 2004; however, only 20% of the estimated number of pregnant women had access to HTC (range <5% to >90%) in 2010, a slight increase from 18% in 2009. Among the high-burden countries, coverage was highest in Thailand at over 95%, and ranged from 21% in India, 18% in Myanmar, 11% in Nepal to a low 0.2% in Indonesia. Poor access to ANC services has been commonly cited as the reason for the low HIV testing of pregnant women, which may be linked to low institutional deliveries in the Region. For example, in India, only 41% of deliveries take place in institutions in the public sector, while 27 million pregnancies are estimated to occur annually.11 This shows the missed opportunities by high-burden countries in providing HTC for pregnant women.

Thailand is the only country in the Region to have achieved near elimination of MTCT with universal HTC of pregnant women.10 The reported data show that almost all pregnant women are registered in ANC and provided with HIV testing and ARVs on site through a large number of health-care facilities. Perinatal HIV transmission in Thailand was almost negligible among women who were put on treatment early and received triple ART (Figure 59).10

Testing of the spouse or male partner of the pregnant woman is promoted and referred to as prevention of parent-to-child transmission (PPTCT) in ANC settings, a move to involve male partners of pregnant women in the intervention. This is done in order to promote testing of the couple together, help disclosure of HIV status to the partner, plan future pregnancies and support treatment adherence of the partner, if found positive. However, the available data from countries show that the uptake of PPTCT is very low — 2% in Myanmar.
and 0.01 % in Nepal. The Maldives has not yet detected HIV infection in pregnant women (Figure 60).

Figure 60: Status of ANC coverage with HIV testing and ART coverage among pregnant women in high burden countries in SEAR, 2010

Source: Universal access country reports, 2010.
Note: Thailand - estimated number of infected pregnant women is the country reported estimate, and lower than the estimate as reported in the global report; India – estimated infected pregnant women as reported by NACO, India

Of the 7 million pregnant women who reported receiving an HIV test in the Region in 2010, 25 300 (0.31%) were found to be HIV-positive, the majority of them in India. This
accounts for about half of the estimated 57 500 pregnant mothers who need ART. Many pregnant women who need treatment for their health and to prevent MTCT are thus unaware of their HIV status.

**Coverage of PMTCT services through provision of ART**

Based on the data reported by countries in SEAR, from 2009 to 2010, the proportion of HIV-positive pregnant women receiving ARVs dropped slightly from 34% to 32% (range >8%–95%). Thailand had the highest coverage (95%) based on the reported data, followed by Myanmar (64.5%), India (27.8%) and Nepal (13%). Of the high-burden countries, Indonesia had the lowest coverage, and provided ART for only 8% of the estimated number of HIV-infected pregnant women. According to the data provided by the country for the universal access report, the perinatal HIV intervention monitoring system in Thailand shows a declining trend in HIV prevalence among pregnant women, from 0.68% in 2009 to 0.62% in 2010, and the birth statistics also show a decreasing trend in the number of pregnancies. The estimated number of HIV-positive pregnant women was approximately 4900 in Thailand in 2010 (Figure 61).

Despite increased access to HTC, the lack of CD4 testing facilities to initiate ART, poor linkage to ART facilities and loss to follow up between HIV testing and obtaining the results may account for the low coverage of ART in the majority of countries in the Region. More than 75% of those in need of PMTCT services in the Region are in India. Reaching Regional targets for universal access will depend on increasing coverage in India. However, as reported

*Note: The PMTCT coverage (95%) reported in Thailand differs from the coverage (75%) reported in the global report as the denominator – estimated number of HIV-positive pregnant women in Thailand – used was 4900 as per official communication with the Bureau of Epidemiology, Ministry of Health, Thailand. Thus, the Regional PMTCT coverage is around 33%, slightly higher than the 32% reported in the global report, and is reported as 32% in the Regional report.
in 2010, only 10 800 of the estimated HIV-positive pregnant women received ARV prophylaxis in India; which accounted for 27% of those in need and was well below the 90% target of universal coverage for preventing new infections among babies (Figure 62).

Figure 62: Percentage of HIV-infected pregnant women receiving antiretroviral prophylaxis, South-East Asia Region, 2010

![Bar chart showing percentage of HIV-infected pregnant women receiving antiretroviral prophylaxis in different countries in 2010.](chart.png)

Source: Universal access country reports, 2010.

**Prong 4: Appropriate treatment, care and support for mothers living with HIV and for their children and families**

Ideally, HIV-positive pregnant women should undergo immunological (CD4 testing) and clinical assessment to determine their eligibility for ART. Initiation of ART is now recommended for all HIV-infected pregnant women with CD4 counts at or below 350 cells/mm³, irrespective of WHO clinical staging, and in all pregnant women in WHO clinical stage 3 or 4, irrespective of CD4 cell count. Early treatment, beginning during or before pregnancy in treatment-eligible women, will help improve the mother’s health and provide optimal prevention of transmission during the perinatal period and while breastfeeding. For those who do not need ART for their own health, initiation of ART to prevent MTCT is recommended at 14 weeks.²

A review of reported data shows that, overall, a mere 10 700 infected pregnant women were evaluated with CD4 counts in the Region, the majority in India. Data were not available from Thailand and Indonesia, while very few HIV-positive pregnant women were assessed either through clinical staging or CD4 testing in Myanmar, Sri Lanka and Nepal.

In the Region, the majority of HIV-positive pregnant women were detected through ANC screening and received ARV prophylaxis, while a small fraction (1067) were started on lifelong therapy for their own health, once assessed through either CD4 testing or clinical staging, as recommended by the 2010 WHO guidelines.² In some countries, pregnant women are assessed only after delivery for provision of life-saving ART; the reasons for this include lack of trained staff and back-up laboratory facilities, and detecting infected women late in labour or during the postpartum period.
Providing point-of-care tests for diagnosis of HIV and measuring CD4 counts to assess eligibility for starting ART at health-care/ANC facilities will improve ART coverage. A review of the testing facilities available in ANC settings in the Region showed that CD4 tests were available on-site or through a system for collecting and transporting blood samples to a reference laboratory for testing in a few (5%) of the health facilities providing ANC, mostly in the high-burden countries (India, Myanmar, Nepal, Thailand and Bhutan). Overall, 7% of ANC facilities offered testing HTC services, while 5% were able to provide both HIV testing and ART to HIV-positive women in the same facility. Providing all PMTCT services at “one stop” or a single facility is a challenge for most countries of the Region due to limited resources for diagnostics and lack of skilled human resources. Adaptation of the new WHO Regional PMTCT strategy for integrating PMTCT into MCH services is expected to overcome these challenges.5

All infants born to HIV-positive mothers need ARV prophylaxis to prevent acquisition of HIV from their mothers.2 Loss to follow up of the mother and baby pair should be prevented by a strong and closely monitored follow-up system to ensure continuum of care, including provision of ART. The use of co-trimoxazole prophylaxis therapy (CPT) increases the chances of survival of HIV-infected or -exposed infants until ART can be initiated, especially in resource-limited settings where there is insufficient access to infant diagnosis services and ART. The WHO 2010 guidelines recommend that all HIV-exposed children born to HIV-positive mothers should be started on CPT between four and six weeks of age, which should be continued until breastfeeding has ceased and the HIV serostatus is known to be negative. Nearly 18 000 babies born to HIV-infected women received ARV prophylaxis for PMTCT in 2010 (range 99% in Thailand to 29% in India). From the reported data in 2010, only 2500 babies born to HIV-infected women were started on CPT within two months of birth; this varied widely from 3% in India to 5% in Nepal (Figure 63). These data need to be interpreted with caution as the comprehensive package is provided in a few centres as per the national targets or there may be underreporting due to a lack of reliable records.

Figure 63: Number of mother and infant pairs with access to antiretroviral prophylaxis, India, 2005–2010

![Figure 63](image-url)

Low coverage with ARVs and CPT in the Region may account for the poor survival of infants born to HIV-positive pregnant women and highlight the need for effective follow up of the mother and baby pair to initiate treatment in resource-limited settings where facilities for early diagnosis of paediatric infection is limited.

**Infant diagnosis**

Early infant diagnosis is critical for providing treatment as infants can survive to adulthood if diagnosed and commenced on treatment early. WHO’s revised treatment guidelines (2010) recommend that HIV-exposed infants should be tested by four to six weeks of age using virological assays. A review of the reported data indicates that facilities for providing virological assays for paediatric diagnosis are limited in the Region. The number of facilities providing virological assays was 912 in Thailand, 947 in India and 161 in Myanmar. Many countries have begun to establish accredited reference laboratories with polymerase chain reaction (PCR) testing, while Maldives and Sri Lanka plan to send the samples overseas for testing. In 2010, 5500 infants born to HIV-infected women received a virological test for HIV within two months of birth in the Region; the percentage varied from a low 1% in Nepal to a high 76% in Thailand.

**Treatment options for PMTCT**

The revised WHO guidelines recommend two efficacious options (A and B) for PMTCT, with highly effective drug combinations for individual countries to select from. Each of these has several options of effective combination drugs.

Of the recommended maternal ART regimens, single-dose nevirapine (NVP), maternal zidovudine (AZT)-based regimens, triple therapy and other categories were the regimens reviewed for the Regional universal access progress report. A review of the available data shows that maternal triple therapy (option B) was used in Sri Lanka and Bangladesh for the treatment of HIV-positive pregnant women for PMTCT in 2010, monotherapy with NVP to the mother–baby pair was the option reported from India, while Nepal reported using NVP as well as other categories of regimens. More efficient maternal AZT-based regimens as per the 2006 WHO guidelines were the options used in Myanmar and Thailand for PMTCT (option A). Both countries are in the process of phasing out these since last year and shift to the regimens recommended by the WHO new guidelines released in 2010.

Thailand and Nepal considered option B for treating infected mothers with low CD4 counts for their own health. Use of other categories in different combinations also was reported by Nepal, Sri Lanka and Myanmar for a few pregnant women. The choice of the regimen depends on the availability of resources, prices of drugs, policies and mechanisms for procurement, and supply management of the country, as well as the availability of trained staff to use the regimens, and monitor treatment and follow up. It is observed that despite the recommendation in 2006 by WHO to phase out single-dose NVP for PMTCT due to its low efficacy and development of drug resistance, the regimen is still being used in the Region. India is phasing out the use of NVP in favour of more efficacious combinations.
Nevertheless, countries where institutional deliveries are low and HIV-positive pregnant women are detected for the first time in labour, use of single-dose NVP may be still be an option.

To reach the universal access targets of elimination of new paediatric infections by 2015, an integrated approach is critical. Substantial progress has been made by the governments of Member countries in developing policies and guidelines to implement PMTCT programmes. At the end of 2010, Thailand, Timor-Leste, Nepal, Myanmar and Bhutan had updated PMTCT guidelines on ART to conform to those recommended by the WHO 2010 guidelines. Sri Lanka updated its guidelines in 2011.

The new 2010 WHO guidelines now recommend ARV prophylaxis during breastfeeding in settings where breastfeeding is judged as the safest infant-feeding option. The majority of countries reporting on the infant-feeding policy in the context of HIV mentioned that exclusive breastfeeding for six months is a viable option in the context of limited resources. Bhutan recommends formula feeding for one year and the government provides formula for feeding. Maldives has no policy as yet on the preferred mode of infant feeding. Five out of the 10 countries (except DPR Korea) have national policies or guidelines on provider-initiated testing and counselling (PITC); however, integration with other settings is limited and PITC is available mainly in ART settings. Thailand and Nepal provide PITC in TB clinics while Nepal has integrated PITC with other services, nutritional clinics and drop-in centres (DICs). The Maldives records HIV information in the mother and child card when a pregnant mother is tested.

**Integrated approach**

The National AIDS Control Programme of India (NACO) has taken new initiatives to increase PMTCT coverage and strengthen existing models of integration. These include community-based HIV screening by auxiliary nurse midwives to identify HIV-positive cases among pregnant women who do not visit health facilities for antenatal check-ups, and extending HTC services to primary health centres under the “facility-integrated model” in high-prevalence districts, in collaboration with the National Rural Health Mission (NRHM) to improve access to populations living in hard-to-reach areas. Since 2010, the outreach component of the PPTCT programme is implemented under the Global Fund grant covering 23 states of India to minimize loss to follow up of HIV-positive pregnant women and follow up of babies till the age of 18 months through outreach workers who are preferably HIV-positive persons. The “ASHAS” initiative of the NRHM for demand generation for PMTCT services through incentive-based schemes is in progress and has a wider coverage. While testing of emergency labour room patients with the user-friendly “whole blood” finger-prick test continues, the capacity of laboratories for CD4 testing has been strengthened by installing 211 CD4 machines to serve 292 ART centres to identify eligible mothers for ART and monitor treatment outcomes (Figure 64).

As PPTCT and ART components were scaled up, the missing link identified was diagnosing HIV infection in HIV-exposed children. Early infant diagnosis was launched in February 2010.
and thereafter guidelines and an operational plan were developed. As a result, in Phase I, 181 ART centres and 766 ICTCs in 27 states were covered. Further expansion is proposed to cover 1028 ICTCs and 210 ART centres in 2011. By early 2012 9448 ICTC and 255 ART centres had been set up. Infant diagnosis has been further improved with the scaling up of regional paediatric centres from the current seven as centres of excellence for paediatric care, providing technical support and training of staff.11

The reason for Thailand’s success in the near elimination of MTCT is the nationwide integration of the PMTCT programme with the existing MCH system, with universal testing, promotion of couples testing for “staying negative”, and choice of affordable and appropriate ART prophylaxis regimens based on research.13

In conclusion, though much has been achieved in recent years, PMTCT in the Region is far from being at the desired level required to reach universal access targets and is the lowest among the WHO Regions. Much more has to be done. It is clear that MCH programmes have to take a leading role in safeguarding mothers and offspring from HIV and congenital syphilis, and support national AIDS programmes to achieve the dual goals of elimination of both infections among babies.

The recent WHO Regional strategy for elimination of paediatric infections (HIV and congenital syphilis) has recommended an integrated approach to PMTCT, as described earlier, comprising linkages with other related services for an effective response. This can be adapted by countries to get all partners such as MNCH and family planning services and the community together to support AIDS programmes to reach young women and pregnant mothers with preventive services to keep them HIV-negative, and to detect infected women early to provide services, especially those who do not attend institutions, and make E-MTCT in the Region a reality.
References

Prevention and control of sexually transmitted infections
Overview of STIs

Investment in the prevention and control of sexually transmitted infections (STIs) will not only reduce related morbidity (acute symptoms or chronic infections) and delayed serious consequences such as infertility but also mortality (deaths from cervical cancers and HIV). Women and children will benefit more as measures that are taken to prevent and control STIs reduce adverse pregnancy outcomes such as stillbirths or perinatal and congenital infections in babies. Untreated early syphilis in pregnancy will result in a stillbirth rate of 25% and neonatal death rate of 14%, an overall perinatal mortality of 40%.¹

It is estimated that worldwide, nearly a million people acquire an STI including HIV in a day.¹ The STI burden in the South-East Asia Region (SEAR) is also high. The rates of rectal gonorrhoea among men who have sex with men (MSM) are increasing and there is emerging resistance to third-generation cephalosporins, which is the last option for treatment of gonorrhoea and thus a cause for concern.²

Early diagnosis and effective treatment of STIs is a key strategy for control of HIV, as other STIs act as co-factors for HIV transmission. This interaction could account for 40% or more of HIV transmission.¹ In addition, the large economic burden and loss of productivity to individuals and the nation, and the psychosocial impact of STIs on individuals make STI control a public health priority in its own right.

An effective and an efficient public health programme needs a tool that is accurate, rapid, inexpensive, simple, and can be implemented on a large scale by health-care providers with diverse levels of expertise and training.

Management of STIs

WHO SEAR has developed new Regional guidelines on the management of STIs in 2011, which can be adopted by Member countries to suit the local context.³

The responsibility for prevention and control of STI lies with governments through national AIDS control programmes. A fundamental goal of STI control programmes is early detection and treatment of infections, preferably at the point of the patient’s first contact with the health system. Delays in treatment result in loss of follow up of a significant proportion of clients and in continued transmission of the infection.

National guidelines for the management of STIs are in place in all countries and are made available to ensure provision of standard treatment for STIs by all health providers, in the private and public sectors. However, these guidelines are not updated regularly except in a few countries. Sri Lanka has updated its national STI guidelines in 2010. The commonly used antimicrobial drugs for the treatment of STIs in the Region are penicillin, cefixime, erythromycin, azithromycin, doxycycline, metronidazole and acyclovir.

In SEAR, the majority of STI patients seek care in private settings due to fear of stigma and discrimination as well as the issue of confidentiality in public sector facilities. A substantial
proportion resort to self-treatment with over-the-counter drugs purchased from pharmacies that do not request a valid prescription. This means that patients are getting ineffective or substandard treatment, which promotes continued transmission and may lead to the development of drug resistance to the commonly used antibiotics.

The asymptomatic nature of STIs, lack of laboratory facilities for specific diagnostic tests, lack of skilled staff, poor infrastructure and high cost of diagnostics are challenges to the diagnosis of STIs. Use of recently developed point-of-care simple and rapid diagnostics will overcome some of these barriers (Table 2).

Management of STIs in the Region is based on either syndromic or etiological management, or both. Syndromic management is the most common method used in resource-limited settings in SEAR. Nine out of 11 countries follow syndromic management, while Sri Lanka and Thailand follow etiological management.

The reported number of STI syndromes indicate that STIs are still high in the Region as shown in Figure 65. However the observed trends need to be interpreted with caution as underreporting of the data especially from private settings is common and very often the reported data is found to be inconsistent and incomplete both in public and private settings.

**Figure 65: Urethral discharge syndrome in men and genital ulcer syndrome in men and women reported by SEAR countries in 2010**

![Chart showing reported STI syndromes in SEAR countries in 2010](chart.png)

Source: Regional Workshop on Surveillance of Sexually Transmitted Infections, October 2011.

**Interventions for the control of STIs in SEAR**

Although STI control varies across the Region, India, Myanmar, Sri Lanka and Thailand have implemented successful control programmes. Sri Lanka has one of the best STI control programmes in the Region.
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<td>No</td>
<td>–</td>
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<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Only ELISA, WB done in Australia</td>
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<tr>
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<td>No</td>
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</tr>
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<td>–</td>
<td>–</td>
<td>No</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td>HBSAg</td>
</tr>
</tbody>
</table>

Table 2: STI diagnostics available in the South-East Asia Region, 2010

Tests commonly ordered at referral laboratories:
- TB, culture of cervicitis specimen
- Culture
- Culture & sensitivity
- –
- No
- –
- NA
- –

Serology test (VDRL, HIV, HBSAg), Gram stain, wet preparation, KOH, GC Culture, Full blood count, Liver function.
Various interventions for controlling STIs have proven effective, including syndromic management of genital ulcer disease and urethral discharge, syphilis testing of pregnant women and individuals diagnosed with other STIs, counselling on HIV and STI risk reduction, treating partners of patients with gonococcal, chlamydial and syphilis infections, treating male partners of patients with trichomoniasis, and periodic presumptive treatment (PPT) of STIs for key populations.

These interventions have resulted in a decline in the prevalence of bacterial STIs such as chancroid, syphilis, chlamydia and gonorrhoea in many countries of the Region, for example, in India, Nepal, Bangladesh, Sri Lanka, Myanmar and Thailand. The control of STIs may have also contributed to the gradual decline in HIV prevalence in these countries, particularly Sri Lanka, Thailand, Myanmar and India. Unfortunately, however, the Regional burden of STI remains high.

PPT has reduced STIs and HIV among FSWs attending mobile voluntary counselling and testing (VCT) clinics in Indonesia, but programme data show that STI rates are still high, irrespective of the provision of PPT in many districts (Figure 66).

Figure 66: STIs among key populations in Indonesia, 2011


In Sri Lanka, screening for syphilis of accessible populations such as antenatal clinic (ANC) attendees and those seeking employment (pre-employment screening of government employees) has been implemented for decades. The 28 designated STI clinics distributed islandwide (at least one clinic in each district) provide STI services and etiological management. All symptomatic patients attending these clinics receive a standard package of services, which includes treatment, health education and counselling for HIV testing, promotion and provision of condoms and contact management. Defaulter tracing is also an important function carried out by the public health staff at each clinic, mainly through the patient referred method. A total of 11 377 episodes of STIs were treated in the sexually transmitted disease (STD) clinics in 2010.4
Many steps have been taken to ensure the quality of STI services in Sri Lanka. Training of all staff prior to appointment to the district and central clinics, annual in-service training and postgraduate courses in venereology to train specialists conducted by the Postgraduate Institute of Medicine for medical officers have improved service delivery and quality of care. Quality assurance of laboratory services includes an internal quality assessment programme for STD clinics and an external quality assessment programme for the national reference laboratory. Syndromic management has been the preferred approach in the plantation sector and in prisons (Figure 67).4

In Thailand, the 100% condom use programme enabled FSWs to demand condom use and access STI care, resulting in drastic reductions in STI rates. In recent years, however, STI cases have been detected with increasing frequency among MSM and young heterosexual populations. Recently, efforts have been made to improve the quality of services at STI clinics in provincial hospitals. Ensuring access to STI services for marginalized populations, including migrant workers, remains a challenge for the public health sector.

Enhanced syndromic case management with minimal laboratory tests is the cornerstone of STI/reproductive tract infection (RTI) management of the Indian National AIDS Control Programme. Services for the control of STIs are being delivered through a network of public health facilities, ranging from primary health centres to district hospitals to medical colleges. Presently, the National AIDS Control Organization (NACO) is supporting 1033 designated STI/RTI clinics which are providing STI/RTI services based on the enhanced syndromic case management. Ninety new clinics have been set up in 2010–11.

The infrastructure and facilities in designated STI/RTI clinics have been strengthened by appointing counsellors, ensuring audiovisual privacy for consultation and examination, and providing one computer to each of these clinics for data management. About 9.15 million STI episodes were treated in 2010 with a coverage of 84.9% of the targeted 10 million, an increase from 82.4% in 2009.5

Figure 67: Trends of bacterial STIs in Sri Lanka, 2010

![Figure 67: Trends of bacterial STIs in Sri Lanka, 2010](source: National STD/AIDS Control Programme Sri Lanka.)
NACO has also strengthened seven Regional STI training, reference and research centres to improve etiological diagnosis of STI cases, monitor drug resistance to gonococci, and implement external quality assurance systems for syphilis. Safdarjung Hospital acts as the apex centre in the country.

In addition, NACO is strengthening STI/RTI service delivery through targeted intervention programmes for key populations. The “preferred-provider partnership” scheme was launched in 2009 to improve service utilization of STI clinics by key populations. Under this approach, providers preferred by key populations have been selected. All persons from key populations receive free STI/RTI treatment and the providers receive a token fee of Rs 50 for each consultation. All members of key populations receive a package of services including free consultation and treatment for their symptomatic STI complaints, quarterly medical check-up, treatment for asymptomatic STIs and bi-annual syphilis screening.

An innovative method to dispense drugs to STI patients is through the provision of pre-packed colour-coded STI/RTI kits. These have been provided for free supply at all government STI/RTI clinics, community health centres and primary health-care centres and targeted intervention (TI) sites run by nongovernmental organizations (NGOs). Service delivery has started in all states and a total of about 1 million persons from key populations have accessed services in 2010–2011 under this scheme.

Research on the development of point-of-care tests for the diagnosis of gonorrhoea by the All India Institute of Medical Sciences (AIIMS) in India will further strengthen the diagnosis of STIs in community settings. The ongoing etio-epidemiological study of ulcerative STIs in a tertiary care hospital in Delhi will also provide valuable information on syndromic management of genital ulcer diseases in India.5

In Myanmar, in addition to the 46 AIDS and STD teams of the Department of Health, many NGOs play an important role in implementing programmes for the prevention and control of STIs. It is important to check the etiologies of syndromes in countries that have been using syndromic management to update and standardize treatment protocols. Presently, a facility-based survey is being carried out with the support of WHO and the Three Diseases Fund in Myanmar to assess the prevalence of STIs, validate the syndromic flowcharts among MSM and FSWs, as well as identify the etiological agents of the genital ulcer, urethral discharge and vaginal discharge syndromes. The results will be used to evaluate the drug regimens currently in use to treat the syndromes and revise the syndromic guidelines accordingly.

Nepal is revitalizing its STI programmes. The guidelines for syndromic management of STIs were updated in 2009. As recommended by a review of STI programme in 2006, integration of STI services into the primary health-care system was a major step taken to ensure the sustainability of STI service delivery without being donor dependent. These services were delivered through 34 sites with the support of an international NGO, Family Health International (FHI), to over 28 000 clients attending the clinics. Of these, 13 177 persons were diagnosed and treated for STIs (unpublished data – source: country reports, WHO SEARO Regional workshop on STI surveillance, October 2011 in Sri Lanka).
Elimination of congenital syphilis

According to the most recent estimates, about 1.9 million pregnant women had active syphilis globally. Assuming moderate coverage of syphilis testing and treatment in pregnancy in 2008 there were an estimated 300 000 stillbirths or early fetal losses, 140 000 neonatal deaths and 380 000 infants preterm, of low birth weight or had congenital syphilis. An estimated 600 000 pregnant women in Asia Pacific countries become infected with syphilis every year. According to the 2008 estimates, there were 118 000 stillbirths or early fetal losses, 36 000 preterm or low birth-weight infants and 79 000 infants with congenital infection associated with syphilis in SEAR. It is shown that detection and effective treatment of syphilis early in pregnancy is a cost-effective strategy to reduce the incidence of congenital syphilis, even in a low-prevalence setting. In 2009, WHO SEARO developed a Regional strategy for the elimination of congenital syphilis (ECS) built on the 2007 Global elimination of congenital syphilis: rationale and strategy for action. It outlines the guiding principles, and key strategies and interventions to achieve the goal of eliminating congenital syphilis. Member States are committed to achieving this goal to decrease the incidence of congenital syphilis to below 0.5 per 1000 live births in countries where more than 90% pregnant women are screened for syphilis.

Considerable progress has been made to achieve the goal of ECS in the Region. The reported data in 2010 show that the number of pregnant women attending ANC has increased and ANC syphilis screening (range 42%–100%) has improved over the years. In particular, screening of pregnant women for syphilis infection at the first antenatal visit has increased in the Region (Figure 68).

Figure 68: Prevalence of syphilis among pregnant women attending antenatal clinics in selected countries in SEAR where data is available, 2008–2010

Seven Member States reported on syphilis prevalence among pregnant women in 2010. Syphilis rates among pregnant women in the Region are below 1%, and ranged from
0% in Maldives to 1% in Bhutan. The syphilis prevalence among the other countries varied from (0.01%) Sri Lanka, (0.1%) India, (0.65%) Myanmar, (0.6%) Bangladesh and (0.1%) Thailand. A declining trend is observed in India, Sri Lanka, Thailand and Myanmar due to the intensive collaborative efforts and commitment of the MCH and national STI/AIDS programmes (see chapter 1).

Only three countries reported data on the treatment coverage of syphilis in pregnancy. The limited data available have shown that this varied widely from 66% in Sri Lanka to 100% in Myanmar (Figure 69).

Figure 69: Percentage of pregnant women accessing antenatal care (ANC) services who were tested for syphilis at first ANC visit and received treatment 2008–2010

Sri Lanka has already reached the ECS target for 2015 of testing at least 90% of ANC attendees at the first visit for syphilis, since the launch of the national programme for ECS in 2009. In 2010, almost 98% of pregnant women were screened for syphilis at the first antenatal visit, an increase from 85% in 2009. The strong MCH programme with nearly 100% ANC attendance by pregnant women, collaboration between the MCH and national STD/AIDS programmes, training of primary health-care staff, cooperation of specialists in both the public and the private sectors, a campaign to create awareness among pregnant women and their spouses through specific information, education and communication (IEC) materials, and the use of rapid treponemal tests for syphilis screening at the district level are some of the activities that have helped to reach the ECS coverage target. In 2009, national guidelines for ECS were developed, monitoring and evaluation of the joint initiative (MCH and STI/HIV programme) was strengthened and more attention was paid to harmonize the recording and reporting of data at each level. The syphilis prevalence rate among pregnant women was below 0.02% but, according to the reported data, only 66% of seropositive pregnant women received treatment for syphilis in 2010. This highlights the fact that there is much room for improvement in the linked services, and in cross-referrals for treatment and follow up of seropositive pregnant women and their babies to achieve the targets of ECS.
In India, screening of pregnant women for syphilis increased from 40%–52% in 2008 to the current 65%. The syphilis prevalence declined from 0.4% in 2009 to 0.3% (0.1% according to a recent presentation by NACO) in 2010, and 86% of the diagnosed seropositive syphilis women were treated. The challenge of the MCH programme in India is to improve ANC attendance. According to the coverage evaluation survey conducted in 2009, of the estimated pregnant women, 90% have at least one ANC contact with the health system but only 26% get full ANC care. A gap of 63.5% who do not receive ANC remains to be bridged urgently to achieve the PMTCT of HIV and congenital syphilis targets. Steps are being taken to increase ANC attendance through the support of community workers and by expanding the ICTCs to perform ANC testing for HIV and syphilis. Strengthening ANC surveillance and promoting institutional deliveries from the current 41% are some of the initiatives taken by the government in a phased manner to eliminate congenital syphilis and paediatric HIV.5

In Indonesia, 3072 pregnant women were screened in seven provinces in 2010, while in 2009 the figure was 4104 covering six provinces. Despite the scaling up of services, ANC coverage for syphilis screening is still very low (0.06%) according to the data reported by the country in 2010.

Elimination of new paediatric HIV infections and congenital syphilis in Asia Pacific

Given the similarities in the mode of transmission and prevention strategies, a “Conceptual framework for the elimination of new paediatric HIV infections and congenital syphilis in Asia Pacific 2011–2015” was developed in 2011 by the Asia Pacific PPTCT Task Force.10 This outlines a combined approach to the delivery and implementation of PMTCT and ECS.

The framework is a joint activity of the MCH and HIV/STI sectors and it re-emphasizes the fact that improving the coverage and quality of the MCNH services is essential to achieve the dual goals of: (i) elimination of new paediatric HIV infections and congenital syphilis; and (ii) improving MCH and survival in the context of HIV/STI and the overall targets. The framework outlines a common systematic approach, and three overall and eight key programmatic targets, which correlate with one of the four prongs of the comprehensive approach to PMTCT (see chapter 5). This Regional initiative was further supported by the development of a “monitoring and evaluation guide” which outlines methods and a set of indicators to track progress towards the elimination of MTCT of HIV and congenital syphilis.

The initiative will strengthen MCNH services, scale up screening of pregnant women for syphilis in the Region, and increase the availability of new rapid syphilis diagnostic tests. This will also facilitate testing in any setting where facilities are not available to carry out the traditional diagnostic Venereal Disease Research Laboratory/rapid plasma reagin (VDRL/RPR) tests.
Gonococcal Antimicrobial Resistance Programme

Available data show that there is increasing antimicrobial resistance to gonococcal infection and treatment failure with drugs currently used for the treatment of gonorrhoea in the Region. Antimicrobial resistance testing is routinely carried out in some states in India, Sri Lanka and Thailand. Ciprofloxacin resistance ranges from 86% to 96% (Figure 70), and penicillin resistance continues to be high. According to the reported data, norfloxacin resistance is increasing over the past three years in Thailand and was more than 97% in 2010 (unpublished data, source: country reports, WHO SEARO Regional workshop on STI surveillance, October 2011, Sri Lanka).

Most countries now do not recommend the use of ciprofloxacin to treat gonorrhoea in their national guidelines. Despite this, some countries continue to use ciprofloxacin, especially in the nongovernmental/private sector due to absence of reliable antimicrobial resistance data.

Sri Lanka has limited treatment options for gonorrhoea as the antimicrobial resistance patterns of gonococcal isolates shows that resistance to penicillin and quinolones are very high. The third generation cephalosporins and spectinomycin are the available treatment options for gonorrhoea. (Figure 71).

The Government of Myanmar has taken the initiative to establish antimicrobial resistance testing and presently the national health laboratories of the Ministry of Health in Yangon and Mandalay are conducting a pilot study with the participation of selected government and NGO STD clinics. The results will help the national programme to design cost-effective treatment regimens for gonococcal infection.
Figure 71: Antibiotic resistance pattern of *Neisseria gonorrhoeae* isolates in Sri Lanka, 2001–2009

Note: Value of Ceftriaxone is zero change line colours.

References

7 Strategic information
**Surveillance**

Each country has a unique HIV epidemic, usually with multiple sub-epidemics in different parts of the country. To respond to the diverse epidemics in the Region, it is critical for each country to “know their epidemic”. Surveillance data provide the information that allows programme managers to better know their epidemics, and essentially identify the key drivers of the epidemic. In a concentrated epidemic, the most important pieces of surveillance information for knowing the epidemic are the geographical areas and subpopulations where new infections are likely to emerge, whether the risk markers (behaviours) for HIV are changing or stable, the number of people living with HIV (PLHIV) and their profile, as well as the size of the subpopulations of interest.

Data produced by HIV surveillance systems and thoroughly analysed in conjunction with data from programme monitoring on access to and coverage of prevention, care and treatment interventions are essential to assess the impact of the epidemic, monitor intervention efforts, estimate epidemiological trends and improve HIV programming.

Over the years, national governments have continued to invest in developing and strengthening national surveillance systems, which have yielded valuable results. Attention is given to include appropriate population groups in surveillance, perform detailed analyses of surveillance data and data use for decision-making.

Measuring the quality of surveillance systems takes into account (i) the frequency and timeliness of data, (ii) adequacy of the population under surveillance, (iii) consistency of the location and groups measured over time, and (iv) the representativeness of the groups actually surveyed.

Significant progress has been made in surveillance activities in the Region (Table 3). As appropriate for concentrated epidemics, almost all countries have conducted serological and/or behavioral surveillance among populations with high-risk behaviours, except Bhutan and DPR Korea. The high-burden countries – India, Nepal, Thailand and Myanmar – continued to conduct facility-based sentinel surveillance among antenatal clinic (ANC) attendees as a proxy for the general population. In Thailand, Myanmar and Sri Lanka, serosurveys among young military recruits is well established and provide trends of HIV in the general male population.

More geographical areas and population groups were included in the HIV surveillance surveys carried out in 2010–2011. During 2010–11, NACO in India conducted the 12th round of HIV sentinel surveillance (HSS) among ANC attendees, sexually transmitted infection (STI) clinic patients, female sex workers (FSWs), men who have sex with men (MSM), people who inject drugs (PWID), transgender persons (TG), single male migrants and long-distance truckers at 1361 sentinel sites across the country, with significant expansion of sites for key populations. One hundred ninety-four new sites were added, including 154 sites for MSM (from 67 in 2008 to 98), PWID (from 61 in 2008 to 79) and migrants (from eight to 20) in response to the emerging evidence of uncontrolled epidemics among PWID and MSM, and the potential for migrants to contribute to the epidemics in border areas. In addition, rural composite ANC sites were introduced to capture the effect of migration in heavy outmigration districts. Moreover, 53 poor-performing sites were deleted including 30 STI sites.
<table>
<thead>
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<th>Country</th>
<th>ANC attendees: systematic surveillance</th>
<th>ANC: Periodicity (years)</th>
<th>SW: systematic surveillance</th>
<th>SW: Periodicity (years)</th>
<th>IDU: systematic surveillance</th>
<th>IDU: Periodicity (years)</th>
<th>MSM: systematic surveillance</th>
<th>MSM: Periodicity (years)</th>
<th>Others: systematic surveillance</th>
<th>Others: Periodicity (years)</th>
<th>Does the country carry out surveys with HIV testing</th>
<th>Periodicity</th>
<th>Have sexual and drug use behaviour surveys been conducted in the country?</th>
<th>Year</th>
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Source: Universal access country reports, 2010.
In Thailand, the 2010 integrated biological and behavioural survey (IBBS) among MSM was extended to cover 12 provinces among MSM sites from three large urban tourist sites in 2009 and two rural sites in 2008. The site selection was related to the Global Fund-supported intervention areas and in response to the high prevalence of HIV among MSM observed in previous rounds. The same three categories of MSM (general MSM, male sex workers [MSWs] and TG) were included.

In Myanmar, in 2010, HSS was conducted in the same sites for MSM (two sites). A few PWID sites were discontinued due to poor performance. The observed high HIV prevalence among both MSM and PWID populations demanded an increase in the number of the sites in order to be more representative for generalizing the findings to obtain national prevalence.

Bangladesh expanded surveillance sites to include border areas. Sri Lanka continued to survey the same populations at the same locations in the 2010 HSS; however, the geographical coverage of PWID and MSM was limited to a few urban cities and inadequate for representing national prevalence. The proposed round of IBBS is an opportunity to expand surveillance to cover more districts where interventions for key populations are ongoing in the Global Fund project areas. Similarly, in Nepal, the 2011 IBBS among FSWs and PWID was conducted in consistent sites in two locations, Kathmandu and Pokhara, which gave valuable information on the success of intensified targeted interventions (TIs) for FSWs/PWID in reducing HIV prevalence over the years.

Most elements of second generation surveillance (SGS) systems are in place in the majority of Member countries of the Region. Progress has been made in surveillance activities such as regularly conducting integrated biobehavioral surveillance, including HIV and STI testing, in addition to checking the risk behaviours.

In 2007 a comprehensive IBBS was undertaken by Indonesia among 13 populations including key populations, bridge populations and high school youth to collect behavioural and prevalence data on HIV and STIs (chlamydial infection, gonorrhoea and syphilis). In the recent 2010–2011 IBBS, prisoners were added as a new sentinel group. Consistent sites in 11 provinces were covered as in 2007, while two new sites were added in this round.

Even though countries have increased the number of surveys, the lack of consistency in utilization of surveillance methods and tools are among the major factors that negatively affect the quality of the surveillance and comparability. Greater consistency must be ensured in methods and tools. The progress of the surveillance system in Thailand over the years and the methods and tools used is shown on the next page.

Periodic review is needed to ensure that the surveillance system reflects the distinct needs of the epidemiological dynamics of countries. The current surveillance systems were reviewed and a surveillance guide is currently being drafted by the Nepal government with international research bodies, donors and civil society. Indeed, this exercise is aimed at strengthening surveillance activities and special research studies to fill the data gaps, strengthen routine monitoring systems to collect routine data on project and programme response, particularly morbidity and/or mortality data on TB/HIV and STIs, availability and coverage of prevention and care services, etc.
Recent external reviews conducted in Sri Lanka (2010) and Indonesia (2011) had reviewed surveillance systems in the countries. The recommendations will help national governments to build up more robust surveillance systems.

Prevalence rates are not the optimal measure for assessing trends as they are likely to increase due to a drop in mortality (with roll-out of antiretroviral therapy [ART]); hence, incidence estimates need to be improved.

Information on HIV incidence is very limited in the Region, as mentioned above. Thailand is the only country that conducts regular incidence surveys among FSWs and ANC attendees. Alternatively, HIV prevalence among young populations is considered as a proxy for HIV incidence. However, age-disaggregated data are generally incomplete, especially among key populations.

Routine reporting of HIV/AIDS and STI cases remain incomplete in most countries, except Sri Lanka and Thailand. Steps are being taken by countries to improve HIV/AIDS case reporting, as in Indonesia and India.

**STI surveillance**

A recent review of STI surveillance systems in the Region by WHO highlighted that routine STI surveillance is generally weak. Low priority for HIV and lack of commitment by governments are major issues, while low budgets, poor technical skills of health staff, lack of laboratory support and infrastructure, unavailability of low-cost simple tests, lack of collaboration between partners are some of the reasons for the underdevelopment of the STI surveillance systems.
Case reporting

Case reporting is the backbone of STI surveillance. A majority of countries in the Region rely on syndromic case management and consequently have case reporting systems that report on syndromes. All countries with syndromic case reporting include genital ulcer disease and urethral discharge, the two syndromes recommended for STI surveillance. Many countries also include vaginal discharge and lower abdominal pain among women, and acute scrotal swelling among men in their syndromic case reporting systems. When countries report STIs based on syndromes, underreporting is common as the data reported are mainly from public settings. Reporting from the private sector and nongovernmental organizations (NGOs) is generally inconsistent and incomplete.

Sri Lanka and Thailand both rely primarily on etiological case definitions, due to the availability of laboratory infrastructure at most public STI clinics. All countries in the Region offer syphilis testing at many public sector STI clinics and include syphilis diagnosed etiologically as part of the case reporting system. Many countries are unable to report cases of gonorrhoea and chlamydial infection due to lack of laboratory facilities for the diagnosis.

Due to the challenges in maintaining complete STI case reporting, global guidance recommends that countries focus on strengthening the reporting coming from purposefully selected sentinel sites for STI surveillance case reporting. Most countries maintain a form of universal case reporting, which has variable levels of reporting and quality of data. Case reports often come from many different levels of facilities, including dedicated STI clinics, district hospitals, primary health centres and NGO clinics.

Prevalence assessments

Eight of the 10 countries conducting HSS include syphilis testing among participants. These populations include ANC and FSW populations, with slightly fewer countries including MSM
populations in their HSS systems. Although the Maldives does not conduct HSS, data from universal testing of ANC attendees serve as a source of syphilis prevalence data.

A majority of countries have conducted some type of probability-based or community-based IBBS surveys in the past 10 years, both among the general population and among FSWs and MSM. Most surveys include syphilis testing using the same blood specimen as that used to test for HIV. Only a small number of countries include testing for gonococci and Chlamydia trachomatis (GC/CT) (Indonesia and Thailand) in the IBBS surveys. This is largely due to the costs associated with doing polymerase chain reaction (PCR) testing from urine specimens, a more acceptable type of specimen to obtain from respondents. A facility-based STI prevalence survey to assess GC/CT and syphilis among MSM and FSWs is ongoing in both public and NGO-run STI clinic settings in Mandalay and Yangon in Myanmar. Hepatitis B screening was carried out for the first time among PWID in the recent sentinel survey (2010) in a few sites in Myanmar.

One of the key challenges in analysing STI prevalence data from probability surveys includes how to aggregate the data from multiple sites and to interpret these data in terms of the broader epidemiology of STIs in a country.

**Etiological studies to assess the pathology of common STI syndromes**

Of the eight countries that rely heavily on syndromic case management, only three have conducted some type of etiological study of syndromes to ensure that current diagnosis and treatment algorithms are appropriate. Basic etiological studies to assess the pathogens associated with common syndromes are an important part of good STI control programmes. Assessing the aetiological agents of syndromes is one of the objectives of the ongoing STI prevalence survey in Myanmar. Over time, the development of better laboratory infrastructure will lend itself to the ability for countries to conduct appropriate and value-added etiological studies.

**Antimicrobial resistance testing**

Despite very high levels of gonococcal antimicrobial resistance in the Region, only six out of the 10 participating countries participate in gonococcal antimicrobial resistance testing. One of the constraints may be the lack of a high-level laboratory (reference) capacity to conduct resistance testing. Similarly, countries with poor laboratory capacity at regular STI clinic sites may have difficulty in diagnosing gonococcal specimens from patients and then send these for further resistance testing. Developing greater laboratory capacity can contribute not only to better patient management but also to stronger STI surveillance systems.

Thailand and Sri Lanka have strong STI surveillance systems and have developed computerized patient management information systems.

**Estimations**

More information on the size of key populations is available in many countries as a result of mapping exercises carried out between 2008 and 2010 to update national size estimations. These include India, Indonesia, Myanmar, Nepal, Timor-Leste, Sri Lanka and the Maldives.
Plans are being made to update the size of the PWID population in Myanmar, and FSW, MSM, beach boy (MSW) and PWID populations in Sri Lanka in 2011. In Sri Lanka, the protocols have been developed and necessary funds secured through Global Fund, and work is ongoing to complete the activity by early 2012. The estimations of the number of PLHIV have remarkably improved in recent years, with more reliable and multiple sources of information. In addition, much capacity has been built at the national level in using HIV estimates and projections tools. In 2009–2010, Bangladesh, India, Myanmar, Nepal and Sri Lanka conducted national-level exercises to make HIV projections using the Estimation and Projection Package\textsuperscript{1} and Spectrum model,\textsuperscript{2} while Indonesia and Thailand used the Asian Epidemic Model.\textsuperscript{3} In India, more realistic estimations and projections of PLHIV were possible with the rich multiple sources of data from surveillance, size estimation of key populations from 20 states, more refined assumptions made with inputs from a large resource pool of technical experts using national population figures from the Indian Census, and including coverage data from PMTCT and ART programmes.

**Implementation of HIV drug resistance surveillance and prevention**

In the past five years, national HIV drug resistance activities have been initiated with WHO support in high HIV burden countries. HIV Working Groups have been established in India, Indonesia, Myanmar and Thailand. As reported in the 2010 progress report, surveys to assess transmitted HIV drug resistance and acquired HIV drug resistance were completed in India, Indonesia and Thailand. The population surveyed was attendees at VCT centres and ANC clinics to assess HIV transmitted drug resistance in Mumbai and Kakinada, respectively; blood banks, testing and counselling centre clients, and FSWs in sentinel sites in Thailand, and PWID at five clinics in Indonesia. Surveys to assess acquired drug resistance were conducted in ART centres in Chennai and Mumbai in India, and ART patients at a large infectious disease hospital in Indonesia.

The completed results indicate that transmitted drug resistance in the Region is low, at <5% in these populations. However, since all the surveys were conducted before 2007 the situation should be closely monitored and surveys should be repeated to observe the trends.

**Early warning indicators for HIV drug resistance**

WHO recommends monitoring of early warning indicators for HIV drug resistance by all national ART programmes. Most countries collect these indicators based on routinely collected data. A good recording system is vital to extract data from patient management information systems (PMIS) or patient records but this is weak in some countries. India and Indonesia have piloted the collection of these indicators while Thailand analyses data from its HIV patient care database. The eight indicators with associated targets measure ART delivery at distinct levels: from standard prescribing practices, uninterrupted drug supply to patients, compliance such as maintaining appointments, picking up drugs on time and finally, monitoring the viral load to assess treatment outcomes. The information can be used to improve the management of patients at sites (i.e. strengthen mechanisms to track those lost to follow up) as well as at the programme level (improve procurement processes...
to avoid drug stock-outs) so that patients will benefit from a continuous supply of first-line drugs in addition to preventing the emergence of drug resistance.

India has managed to keep the loss to follow up at a low level (6%) and only 1% of patients on ART have stopped treatment. The electronic chip-based smart card for PLHIV on ART developed with a unique identity (a portable medical record) will help the affected population who are mobile in accessing care and support services in all parts of the country, and also monitor adherence to treatment when this is implemented in 2012.

Programme monitoring and evaluation

The essential elements of a comprehensive monitoring and evaluation (M&E) system are: a national M&E plan, an M&E unit, key performance indicators, establishment of a technical working group, an adequate budget, dedicated staff, adequate infrastructure, standard data collection forms, channels for data flow, data analyses, data use and dissemination, and quality assurance. While most countries reported having a national M&E framework for health sector interventions, all essential elements of the framework have not been implemented. In countries where the M&E systems were assessed, all the elements were not found to be in place.

While systems collect adequate data, analysis and timely dissemination are weak in terms of publishing or uploading the reports on the relevant websites (annual reports, surveillance and survey reports, etc.). Strengthening M&E systems to include all essential elements is a challenge due to lack of commitment by national programmes, and lack of dedicated regular staff, identified budget, technical skills, infrastructure, etc. National AIDS programmes are making efforts to strengthen systems for M&E by mobilizing resources through the Global Fund and other sources such as UN partners, as in Sri Lanka, the Maldives and Myanmar.

Research

Research is still a low priority in the Region and unfortunately the available research is not disseminated in a timely manner for use in decision-making or to improve local programmes and policies. A few countries have set national research priorities. Thailand, India and Indonesia have been at the forefront of AIDS research in the Region. While Thailand’s focus had been more in the area of vaccine trials, care and treatment,

NACO in India is the lead agency for promoting research. It has set up a strong technical resource group to guide research and a network of Indian institutions for AIDS research with a current membership of 42 institutions to carry out AIDS research. The Ethics Committee set up by NACO conducted a three-day capacity building workshop in November 2010 on “Ethics in HIV/AIDS research” for young researchers using a learning-by-doing approach with emphasis on group work. A national consultation on “Operational research in PPTCT and paediatric HIV care and treatment” was held during April 2010 to identify priority areas for research. Around 150 experts from India and abroad participated in the three-day consultation. Research fellowships were awarded to young researchers reading for the PhD, MPhil, MD, degrees for clinical, biomedical, social or epidemiological research.
Similarly, Indonesia has a strong technical research group at the national level which guides policy development.

In Sri Lanka, the National STD/AIDS Control Programme (NSACP) has developed a national research priority list. Research grants supported by the Global Fund are awarded to researchers doing their MD for epidemiological, clinical or operational research.

The key issues in strategic information in the Region are as follows:

- Underreporting of HIV and AIDS cases
- Weak AIDS mortality surveillance
- Underreporting of TB/HIV coinfec/tion
- Low priority given to routine surveillance of STIs
- Limited HIV incidence surveillance, conducted only in Thailand and India (ongoing cohort study on MSM)
- Not enough attention to data quality and analyses
- Fragmentation of M&E systems in some countries, leading to inefficiency in collecting and reporting information

Box 2: Regional workshop on surveillance of STIs (WHO/NSACP)

A five-day Regional workshop was held from 17 to 21 October 2011 in Sri Lanka to train STI focal points from SEAR Member countries on STI surveillance, with resources from the national AIDS programme of Sri Lanka, external experts and WHO. Except DPR Korea, all Member countries participated in the training. Participants were from national programmes and research institutes including programme managers, STI focal points, epidemiologists, statisticians and research experts. The workshop material was based on draft global guidance for “Strategies and laboratory methods for strengthening surveillance of sexually transmitted infections” drafted in 2011, combining didactic sessions, practical exercises, field visits, and country-planning sessions to identify priority areas for strengthening STI surveillance systems.

The training used a “learning by doing” approach with mostly group work under the guidance of a facilitator. A self-assessment by the countries and review of the current STI surveillance systems identified many gaps and constraints. The elements of the training were overview and components of STI surveillance, elimination of congenital syphilis (ECS), antimicrobial surveillance, case reporting and maintaining records, planning and strengthening STI surveillance systems, conducting community prevalence surveys, M&E, analysis, interpreting and disseminating STI data, including use of data. During the field visits to the Strategic Management Information Unit of the National STD Centre and reference laboratory, the participants were able to gather hands-on experience on the comprehensive computerized PMIS, how to conduct STI tests and attend a demonstration of the antimicrobial resistance monitoring system. A road map was developed for follow-up actions at the end of the workshop.

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- Limited HIV incidence surveillance, conducted only in Thailand and India (ongoing cohort study on MSM)
- Not enough attention to data quality and analyses
- Fragmentation of M&E systems in some countries, leading to inefficiency in collecting and reporting information
- Inadequate linkages across interventions and among departments
- Weak health systems with limited infrastructure and skilled staff
- Low priority and poor resource allocation for research.

References
The past 20 years have seen unprecedented commitments to global, regional and national responses to HIV/AIDS. Despite the challenges, significant progress has been made and achieving universal access has proven to be feasible, even in resource-constrained settings. Today, almost every country in the South-East Asia Region (SEAR) has a success story to tell of lives saved through preventing new infections and AIDS-related deaths, and reaching key populations at higher risk for HIV more than ever before, resulting in safer sexual and injecting behaviours. Despite the remarkable progress in the response by Member countries of the Region, much more has to be done to realize the visionary new goals adopted at the United Nations General Assembly in 2011.1

An estimated 210 000 individuals were newly infected with HIV in SEAR in 2010. Although the overall adult HIV prevalence in the Region is below 1%, the total burden in terms of absolute numbers of affected people is huge; an estimated 3.5 million people are living with HIV in SEAR. Unacceptably high transmission of HIV still occurs among key populations such as female sex workers (FSWs), people who inject drugs (PWID) and men who have sex with men (MSM), who practise high-risk behaviours. An emerging HIV epidemic among MSM is evident in many countries of the Region. The majority of HIV-infected people are unaware of their HIV status and more than half the adults who require antiretroviral therapy (ART) still do not have access to it. A substantial number of children are born with HIV each year. As many as two out of three infected pregnant women do not receive prophylactic antiretrovirals (ARVs) for prevention of mother-to-child transmission (PMTCT). The mortality due to TB among people living with TB and HIV is unacceptably high as a result of delayed diagnosis of HIV/TB co-infection and inadequate provision of prophylaxis. Poor access to prevention and care services for migrants has become an issue in many countries of the Region with cross-border migration. Young people continue to be vulnerable as there are barriers to accessing information due to age limits.

Overcoming these issues is a challenge with declining donor funds and limited national funds. A review of the Global Fund grants received by the countries for HIV prevention and control shows that the funds have declined over the years (Figure 72).2

From 2002 to the end of 2010, US$ 2.4 billion was approved by the Global Fund (GFATM) for HIV grants in the Asia Region, including 10 SEAR Member States (including for HIV/TB collaborative activities). The new Global Fund grant architecture introduced in 2009 (Round 9) aims at reducing the cost and improving efficiency in grant management. Dual-track financing has encouraged more than one type of principal recipient for each grant. There is now a single stream of funding per principal recipient per disease in each country (consolidation of multiple grants for the same disease) aimed at reducing the reporting burden, resulting in a single grant agreement, a single performance framework, and a single timeline for reporting.

New directions and opportunities for reaching the goal continue to emerge. These include more efficient and effective HIV approaches and technologies, the crucial contribution of civil society to service delivery and decentralization, integration of services and synergizing health systems.
Challenges

Key challenges in achieving universal access to HIV prevention, care and treatment services include: (i) continuing stigma and discrimination faced by PLHIV and key populations; (ii) limited capacity of health systems; (iii) continuing high prices of ARVs; and (iv) lack of sustained finances.

Stigma and discrimination

The guiding principle of universal access with equity is still a challenge in the Region. While almost all governments have committed to targeting key affected populations, an enabling environment, which is critical for progress, is lacking. Continuing HIV-associated stigma in communities and discrimination in health-care settings impede HIV prevention and control efforts as PLHIV and key populations are unlikely to seek services. Punitive laws, policies or practices obstructing the rights of PLHIV exist in the Region, some restricting their movement. Sex work and drug use are still illegal in many countries, and harassment of FSWs while carrying condoms and prohibiting distribution of needles and syringes to PWID hinder the delivery of risk reduction interventions to these populations. Sex with a same-sex partner is criminalized in the majority of Member countries and continues to drive these populations underground, which makes it more difficult for prevention programmes to reach them. Law reforms or repealing punitive discriminative laws against FSWs and drug users and decriminalization of same-sex behaviours are challenges in the majority of Member countries. Recognizing same-sex behaviour as normal in some states of India has been a great achievement in 2010–2011.

Stigma and discrimination of PLHIV at public health-care institutions should be overcome by increasing awareness among health-care workers and providing health-care worker rights,
standard precautions, post-exposure prophylaxis for accidental injuries and exposures in health-care settings, services for families and compensation, among other measures.

**Limited capacity of health systems and lack of workforce**

Many gaps exist in health systems resulting in poor programme coverage, which is well below the desired level to make an impact. This is largely due to investing at the central level and not providing adequate equipment, commodities and infrastructure at district and subdistrict facilities. While governments have acknowledged that health systems strengthening is a key area that needs attention, few countries have committed to taking comprehensive actions to address the gaps and secure much-needed funds. Linkages between prevention and care services are highly inadequate to provide a continuum of care to those in need.

Scaling up of treatment and prevention demands a large health workforce of skilled staff. Recruiting skilled staff, continuing training and retaining those on the job are big challenges in the public sector. Poor wages and lack of incentives demotivate the staff and a rapid turnover of the health workforce is common due to frequent transfers. Moreover, frequent changes in leadership, either at the political or policy level, affect not only the implementation of the national response but also planning, prioritizing and monitoring the response due to poor managerial skills.

**Gaps in strategic information**

Prioritizing interventions for investing limited resources needs supporting evidence. The information systems in the Region have expanded over the years but continue to lack data on key populations and other vulnerable populations, migrants, prisoners, etc. Data on service coverage are limited, untimely or incomplete. Though many countries have moved to second generation surveillance, the systems do not capture the evolving epidemics adequately due to low coverage in numbers as well as geographical sites. Investments in research as well as monitoring and evaluation (M&E) are still not optimal. Generally, the information systems are underfunded and the few staff dedicated to the positions lack training in surveillance, research and M&E. As a result, there is a gap in data analysis, triangulation and data use for programme planning and policy reforms.

**Sustainable financing**

For the first time in 2010, donor funds declined in the decade of AIDS funding, and has been one of the factors that prevented low- and middle-income countries from reaching the goals set in 2001. In a scenario of drying up of funds, sustaining the achievements made in the past is a big challenge.

Most countries in the Region rely on international funding for scaling up the response or even providing essential services in some. Except in Thailand, provision of ART is donor driven in almost all the Member States. Moreover, donor funds generally support a few priority areas in the national strategic plans and are not sustainable. The new grant architecture of the Global Fund encourages national strategic plan applications by countries. It is realized
that more allocation by governments as well as donors is needed to expand services to achieve universal access targets and the Millennium Development Goals (MDGs). Lack of good governance and poor resource management, and lack of commitment by all partners are often seen as barriers and key challenges for governments to sustain an effective response in this scenario.

**High prices of antiretroviral drugs**

ARVs continue to be unaffordable for governments although drug prices have dropped considerably over the years. Moreover, there are large variations in drug prices in the Region among countries. The provision of first-line drugs to the large number of ART-eligible persons with the implementation of the new ART guidelines is a big challenge to governments. In addition, more people have moved on to second-line drugs, which are more costly for governments. Reduction in prices of other supplies such as drugs for the treatment of opportunistic infections, diagnostics, etc. is also needed to reduce the burden as more people are put on ART. The Trade-Related Intellectual Property Rights (TRIPS) agreement and WHO drug prequalification schemes have controlled the prices of generic drugs to a certain extent, but much more needs to be done.

**The way forward**

Efforts must be accelerated to prevent HIV transmission, particularly among key populations. The most vulnerable populations must be reached with proven and effective low-cost, high-impact prevention interventions, preferably through community participation.

Services for HIV testing and counselling (HTC), PMTCT of HIV and ART must be urgently scaled up. The quality of first-line ART programmes must be strengthened while expanding coverage.

Health systems and human resource capacity must be strengthened to deliver the required health services.

The UN resolutions adopted by Member countries should be implemented to reduce barriers and promote delivery of comprehensive prevention interventions to marginalized populations. UN Resolution 66/10 in 2010 calls for the removal of legal and political barriers to universal access, and pledges to promote dialogue between health and other sectors, including justice, law enforcement and drug control. Resolution 67/9 adopted at the Asia and Pacific Regional Consultation on Universal Access (March 2011), committed Member States to increasing access to prevention and treatment services for key populations at higher risk, including TG, through nationally owned and funded strategic plans.

The limited resources should be invested wisely in order to maximize returns.

The new UNAIDS framework for a global HIV response, a systematic effort to match investment to needs, provides an approach that ties investments to concrete results. It aims to maximize the benefits of the HIV response, using country-specific epidemiology to
ensure rational resource allocation, effective programmes based on the local context, and increasing efficiency in HIV prevention and care. It promotes adequate investment, in the right places and with the right strategies: invest to reduce costs and invest in innovative approaches as well as service delivery models.

The WHO Regional strategy for the health sector response to HIV/AIDS developed in 2011 will also guide countries in planning their national strategies to align with local situations with maximum investment.5

References


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<thead>
<tr>
<th>Country</th>
<th>Total Population</th>
<th>Male Population &lt;15 yrs</th>
<th>Female Population &lt;15 yrs</th>
<th>Total Population 15 yrs and above</th>
<th>Male Population 15 yrs and above</th>
<th>Female Population 15 yrs and above</th>
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Table A2
Selected Socioeconomic indicators, South-East Asia Region, 2011

<table>
<thead>
<tr>
<th>Country</th>
<th>Population in urban areas</th>
<th>Adult literacy rate (% aged 15 and above), 2007</th>
<th>Gross national income per capita (US$)</th>
<th>Human Development Index (rank)</th>
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Source:  
* % of population in urban areas: UN Population Division 2009 (The State of World Population Report, 2009)  
* Human Development Report, 2009  
* Gross national income per capita (2008), World Health Statistics, 2010
Table A3
Selected Health Infrastructure Indicators, South-East Asia Region, 2011

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of administrative units</th>
<th>Number of health facilities</th>
<th>Per capita expenditure on health (2008) (USD)</th>
<th>Government expenditure on health as % of total (2008)</th>
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* World Health Statistics 2011, WHO
Source: Universal access country reports, 2010
NA = not available
### Table A4
Status of harm reduction interventions, South-East Asia Region, 2011

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<tr>
<th></th>
<th>Estimated number of PWID</th>
<th>Number of needle–syringe programme sites per</th>
<th>Number of syringes/needles distributed</th>
<th>Number of syringes/needles per PWID per year</th>
<th>Number of PWID currently enrolled on OST</th>
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<td>Timor-Leste</td>
<td>NA</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Source: Universal access country reports, 2010

PWID = people who inject drugs; OST = opioid substitution therapy; NA = not available.
### Table A5
**Availability of testing and counselling services, South-East Asia Region, 2011**

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of tests</th>
<th>Population (15 years plus)</th>
<th>Number of tests per 1000 adult population</th>
<th>Total number of facilities for C&amp;T</th>
<th>Number of facilities per 100 000 ult population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>33 190</td>
<td>103 172 000</td>
<td>0.3</td>
<td>105</td>
<td>0.10</td>
</tr>
<tr>
<td>Bhutan</td>
<td>517 000</td>
<td>–</td>
<td>–</td>
<td>46</td>
<td>8.90</td>
</tr>
<tr>
<td>DPR Korea</td>
<td>19 034 000</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>0.00</td>
</tr>
<tr>
<td>India</td>
<td>14 125 701</td>
<td>858 183 000</td>
<td>16.5</td>
<td>7657</td>
<td>0.89</td>
</tr>
<tr>
<td>Indonesia</td>
<td>189 729</td>
<td>176 735 000</td>
<td>1.1</td>
<td>388</td>
<td>0.22</td>
</tr>
<tr>
<td>Maldives</td>
<td>352</td>
<td>234 000</td>
<td>1.5</td>
<td>8</td>
<td>3.42</td>
</tr>
<tr>
<td>Myanmar</td>
<td>365 677</td>
<td>36 027 000</td>
<td>10.2</td>
<td>470</td>
<td>1.30</td>
</tr>
<tr>
<td>Nepal</td>
<td>198 045</td>
<td>19 257 000</td>
<td>10.3</td>
<td>227</td>
<td>1.18</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>16 767</td>
<td>15 977 000</td>
<td>1.0</td>
<td>96</td>
<td>0.60</td>
</tr>
<tr>
<td>Thailand</td>
<td>1 164 656</td>
<td>56 083 000</td>
<td>20.8</td>
<td>1316</td>
<td>2.35</td>
</tr>
<tr>
<td>Timor-Leste</td>
<td>1241</td>
<td>608 000</td>
<td>2.0</td>
<td>17</td>
<td>2.80</td>
</tr>
</tbody>
</table>
### Table A6: Interventions to reduce the risk of HIV transmission from mother to child, South-East Asia Region, 2011

<table>
<thead>
<tr>
<th>Country</th>
<th>Facilities providing ANC services</th>
<th>Facilities providing ANC services that also provide HIV testing and counselling for pregnant women</th>
<th>Number of pregnant women tested for HIV</th>
<th>Percentage of pregnant women tested for HIV</th>
<th>Estimated number of HIV-infected pregnant women</th>
<th>Number of HIV-infected pregnant women receiving ART</th>
<th>% of HIV-infected pregnant women who received ART</th>
<th>Number of health facilities that offer paediatric ART</th>
<th>Number of pregnant women who were tested and received results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>19,898</td>
<td>116</td>
<td>12,116</td>
<td>12.4</td>
<td>15,121</td>
<td>12,418</td>
<td>95.7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Bhutan</td>
<td>2,122</td>
<td>46</td>
<td>4,310</td>
<td>2.8</td>
<td>5,922</td>
<td>1,818</td>
<td>28.8</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DPR Korea</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>India</td>
<td>175,128</td>
<td>7,657</td>
<td>6,118,967</td>
<td>21%</td>
<td>6,239,965</td>
<td>12,598</td>
<td>0.25%</td>
<td>46</td>
<td>5,638</td>
</tr>
<tr>
<td>Indonesia</td>
<td>10,438</td>
<td>76</td>
<td>13,140</td>
<td>12.5</td>
<td>12,598</td>
<td>0.25%</td>
<td>46</td>
<td>5,638</td>
<td></td>
</tr>
<tr>
<td>Maldives</td>
<td>196</td>
<td>8</td>
<td>5,633</td>
<td>0.25%</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Myanmar</td>
<td>10,332</td>
<td>598</td>
<td>59,014</td>
<td>21%</td>
<td>24,704</td>
<td>65,150</td>
<td>13.2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Nepal</td>
<td>42,220</td>
<td>50</td>
<td>94,111</td>
<td>12%</td>
<td>85,248</td>
<td>96</td>
<td>13.2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>3,680</td>
<td>0</td>
<td>13,479</td>
<td>3%</td>
<td>3,479</td>
<td>2</td>
<td>3%</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Thailand*</td>
<td>1,316</td>
<td>136</td>
<td>787,337</td>
<td>100%</td>
<td>787,337</td>
<td>4,931</td>
<td>94.9</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Timor-Leste</td>
<td>71</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Estimated numbers of HIV-positive pregnant women reported in universal access report 2010. Discrepancy with global data.
Table A7

Reported number of people receiving antiretroviral treatment, South-East Asia Region, 2011

<table>
<thead>
<tr>
<th>Country</th>
<th>Reported number of people receiving antiretroviral therapy, 2010 (Male + Female)</th>
<th>Male</th>
<th>Female</th>
<th>&lt;15 years</th>
<th>Percentage of people on ART based on CD4 350</th>
<th>Total</th>
<th>Low estimate</th>
<th>High estimate</th>
<th>Low estimate</th>
<th>High estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>465</td>
<td>302</td>
<td>163</td>
<td>23</td>
<td>33%</td>
<td>100</td>
<td>100</td>
<td>200</td>
<td>12%</td>
<td>23%</td>
</tr>
<tr>
<td>Bhutan</td>
<td>57</td>
<td>30</td>
<td>27</td>
<td>3</td>
<td>27%</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>23%</td>
<td>23%</td>
</tr>
<tr>
<td>DPR Korea</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>India</td>
<td>424 802</td>
<td>223 725</td>
<td>162 261</td>
<td>22 896</td>
<td>31%</td>
<td>66 136</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Indonesia</td>
<td>19 572</td>
<td>14 956</td>
<td>4616</td>
<td>759</td>
<td>24%</td>
<td>4200</td>
<td>2500</td>
<td>6600</td>
<td>12%</td>
<td>30%</td>
</tr>
<tr>
<td>Maldives</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>14%</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Myanmar</td>
<td>29 825</td>
<td>16 768</td>
<td>13 057</td>
<td>2 110</td>
<td>24%</td>
<td>3902</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Nepal</td>
<td>4867</td>
<td>2816</td>
<td>2051</td>
<td>288</td>
<td>18%</td>
<td>1200</td>
<td>1000</td>
<td>3100</td>
<td>9%</td>
<td>29%</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>256</td>
<td>151</td>
<td>105</td>
<td>14</td>
<td>25%</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td>Thailand</td>
<td>236 808*</td>
<td>104 297</td>
<td>7 859</td>
<td>67%</td>
<td>9300</td>
<td>7800</td>
<td>11 000</td>
<td>71%</td>
<td>101%</td>
<td></td>
</tr>
<tr>
<td>Timor-Leste</td>
<td>39</td>
<td>16</td>
<td>23</td>
<td>3</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

* Includes private sector
This progress report presents the current status of HIV/AIDS in the South-East Asia Region based on latest surveillance and programme data reported by Member countries. Data is complemented by research findings as appropriate. The report highlights the progress made in prevention and control of HIV in the Region, with an overview of strategic information systems, and lists challenges and future priorities.

The information in this report would be useful to a wide audience including HIV programme managers in the Region and around the world, policy makers and other stakeholders as well as researchers in the field of HIV/AIDS.