HIV/AIDS Data Hub for Asia and The Pacific
EVIDENCE
TO ACTION
Asia-Pacific
regional review
of HIV, 2010
Mongolia
Korea DPR
China
Afghanistan
Pakistan
Nepal
Bhutan
India
Bangladesh
Myanmar
Lao PDR
Vietnam
Thailand
Cambodia
Philippines
Malaysia
Maldives
Indonesia
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Abbreviations

AIDS	Acquired immunodeficiency syndrome
ANC	Antenatal care
ART	Antiretroviral therapy
ARV	Antiretroviral
AZT	Zidovudine
D4T	Stavudine
EAPRO	East Asia and Pacific Regional Office
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
FSW	Female sex worker
HIV	Human immunodeficiency virus
HSV	Herpes simplex virus
IDU	Injecting drug user
MOH	Ministry of Health
MSM	Men having sex with men
MSW	Male sex worker
NGO	Non-governmental organization
NSP	Needle and syringe program
NVP	Nevirapine
NCPI	National Composite Policy Index
OST	Opium Substitution therapy
PDR	People's Democratic Republic
PLHIV	People living with HIV
PMTCT	Prevention of mother-to-child transmission

PNG	Papua New Guinea
SGS	Second Generation Surveillance
STD	Sexually transmitted disease
STI	Sexually transmitted infection
SW	Sex worker
TDF	Tenofovir
3TC	Lamivudine
UNGASS	United Nations General Assembly Special Session
UNAIDS	The Joint United Nations Program on HIV/AIDS
UNICEF	The United Nations Children's Fund
UNODC	United Nations Office on Drugs and Crime
VCT	Voluntary counseling and testing
WHO	World Health Organization

Box 1: Asia-Pacific HIV estimates at a glance

- **Estimated number of people living with HIV- 5 million in 2008**
- **1.27 million of them (25%) are young people aged 15 – 24 years**
- **Estimated new HIV infections- 380,000 in 2008**
- **Estimated people in need on ART- 500,000 in 2008**
- **Fastest growing epidemic- Indonesia**
- **Highest prevalence of HIV - Papua New Guinea**
- **Highest number of HIV infected people - India**
- **Epidemic slowing down - Thailand, Cambodia, India (Six southern states)**
- **Epidemic growing fast - Indonesia, Papua New Guinea, Vietnam**
- **75% of all HIV infections are estimated to be among key populations at higher risk, i.e. injecting drug users, men having sex with men and sex workers & their clients.**

Chapter 1

1.1 Introduction

The first HIV case in the Asia-Pacific region was reported from Thailand in 1984. More than two decades later, HIV continues to spread in this region. The HIV epidemic of the Asia-Pacific is diverse, with different transmission routes predominating in different parts of the region (Fig 1). The epidemics are mainly driven by the behavior of certain key populations at higher risk — injecting drug users (IDUs), female, male and transgender sex workers (SWs) and their clients, and men who have sex with men (MSM).

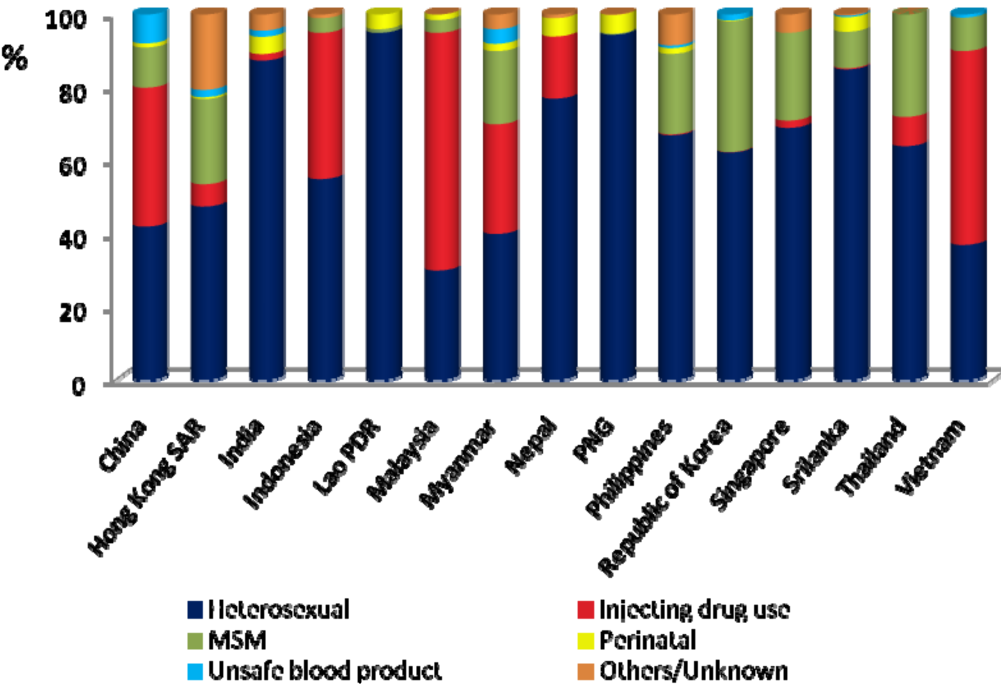

Fig 1: Percent distribution of HIV cases by modes of transmission, 2006-2008
Source[1],[2]

1.2 Epidemiological variation in the region

For our descriptive purpose, the Asia-Pacific region is confined by Afghanistan in the west, Republic of Korea in the east, China and Mongolia in the north and Indonesia and the Pacific islands in the south. This region does

[1] HIV/AIDS in the South-East Asia Region 2009/ WHO (2009), http://www.who.int/hiv/pub/surveillance/searo_2009/en/index.html
[2] UNGASS country reports (2008)

not include high income countries such as Japan, Australia, New Zealand and Central Asia.

A wide variation in epidemiological patterns is evident across the region among the countries and also within the countries. For example, while sexual transmission is driving the HIV epidemic throughout most of India, accounting for nearly 90% of HIV prevalence nationwide, transmission through injecting drug use is the primary mode in the north-eastern part of the country[3]. The epidemic in Indonesia is mainly driven by IDUs, whereas the main mode of HIV transmission specifically in Papua province of Indonesia is heterosexual transmission – similar to the predominant mode of transmission in neighboring PNG. Moreover, HIV prevalence in Papua province is 15 times higher than the national average[4].

Within countries, HIV prevalence is generally higher in urban than in rural areas. A large household survey of six states of India found that HIV prevalence was 40% higher in urban areas compared to rural areas (61% higher in urban than rural areas for women and 28% for men). Of the 96 new HIV cases reported in 2008 in Sri Lanka, 61% were from the capital city Colombo alone. Similarly, in Bangladesh, HIV positive cases are mostly reported in the capital city Dhaka and other commercial or port cities[5]. On the contrary in PNG, HIV is mostly concentrated in rural areas[6] (comprising 87% of the total national estimate). Where these sorts of contrasting figures are conveyed, case reporting may be biased because of lower coverage of health facilities in rural areas. In addition, urban/rural population distribution must be known in order to reflect HIV distribution more accurately.

Ninety-one percent of all estimated HIV infections in the Asia-Pacific region are concentrated in eight countries. India alone accounted for an estimated half (48%) of the region's HIV prevalence (Fig 2).

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[3] National AIDS Control Organization (2008). *UNGASS country progress report 2008: India.* New Delhi, Ministry of Health and Family Welfare.

[4] Report card, Indonesia, HIV prevention for girls and young women http://www.unfpa.org/hiv/docs/report-cards/indonesia_en.pdf

[5] See ref. 1

[6] National AIDS Council Secretariat, 2008

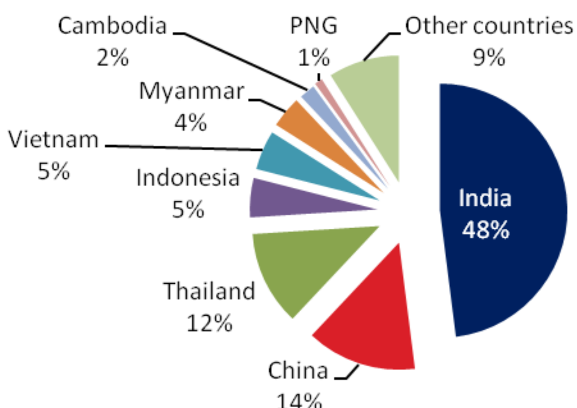

Fig 2: Regional distribution of HIV infections in the Asia-Pacific, 2007
Source[7]

PNG accounts for 95% of all reported HIV infections in the Pacific islands, most of them being heterosexually transmitted (Fig 3). Reported cases from the other pacific islands are extremely low.

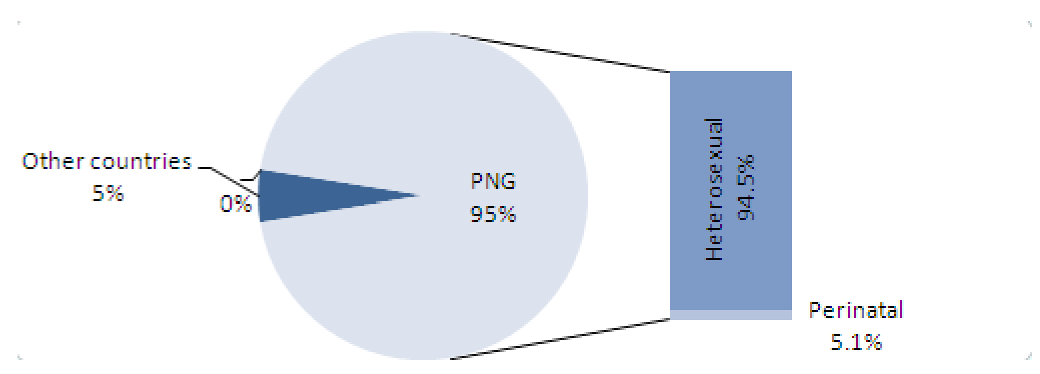

Fig 3: Distribution of HIV infections in the Pacific islands, 2007

The prevalence of HIV among the adult population ranges from below 0.1% in Bangladesh to 1.6% in PNG (Table 1).

[7] Report on global AIDS epidemic (2008), UNAIDS http://www.unaids.org/en/KnowledgeCentre/HIVData/GlobalReport/2008/2008_Global_report.asp

Table 1: Selected Asia-Pacific countries by HIV prevalence and estimated cases (in thousands) in adults

Prevalence >1.0%			1%> Prevalence >0.1%			Prevalence <0.1%	
Country	*N*	*Prevalence*	*Country*	*N*	*Prevalence*	*Country*	*N*
PNG	54	1.61	Cambodia	67	0.90	Pakistan	85
Thailand	547	1.40	Myanmar	240	0.70	Bangladesh	5
			Vietnam	293	0.53	Sri Lanka	4
			Nepal	70	0.48	Singapore	3.2
			Malaysia	82	0.40	Philippines	4
			India	2,470	0.36	Bhutan	<1
			Indonesia	270	0.17	Timor-Leste	<1
			China	700	0.05	Mongolia	<1
			Lao PDR	6			

N= Total number of estimated HIV adult cases (age 15+) in thousands.

The overall HIV prevalence in the Region is slowly decreasing[8]. However, country-specific differences in HIV epidemic trends continue to exist (Table 2).

Table 2: Trends in national HIV epidemics

Epidemic ↑	Epidemic ↓	Epidemic stable or undetermined ↕
Indonesia	India (6 States)	Sri Lanka
Papua New Guinea	Cambodia	Maldives
Pakistan	Thailand	Nepal*
Bangladesh		Myanmar*
Vietnam		
China[9]		
Lao PDR		
Philippines		

***Recent increase in at least one population at higher risk**

1.3 Magnitude and Trends in HIV infection

The overall adult HIV prevalence in south and south-east Asia (0.3%) is much lower than that in sub-Saharan Africa (4.9%). However, owing to the

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[8] ibid

[9] UNGASS country report (2008) - China (The AIDS situation in China, page i), and UNAIDS/WHO, 2008 Report on the global AIDS epidemic, July 2008

region's large population, even a comparatively low HIV prevalence translates into a substantial portion of the global HIV burden[10].

The Asia-Pacific region was home to 5 million HIV infected people in 2008[11]. The region has the second-highest estimated HIV burden in the world after sub-Saharan Africa (22.4 million). Although effective condom promotion for SWs and their clients contributed to a decline in the number of new infections in south and south-east Asian countries, certain East Asian (e.g. China) and pacific (e.g. PNG) countries continue to experience increasing trends (Fig 4).

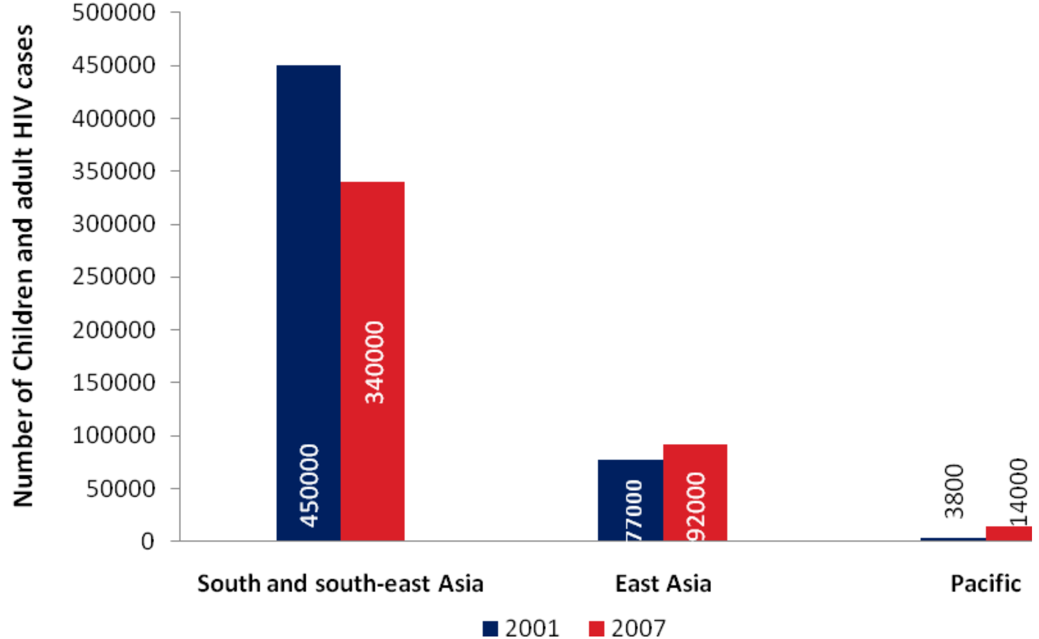

Fig 4: Comparison of estimated new HIV infections in the Asia-Pacific region among children and adults between 2001 and 2007
Source[12]

Bangladesh, Bhutan, Maldives, Sri Lanka and Timor-Leste together represent less than 1% of the total HIV burden in the region. No cases had been reported in DPR Korea as of 2008.

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[10] 2009 - AIDS Epidemic Update/ UNAIDS, WHO (November 2009) http://data.unaids.org/pub/Report/2009/JC1700_Epi_Update_2009_en.pdf

[11] See ref. 7

[12] UNAIDS and WHO, AIDS epidemic update: December 2007

Chapter 2

Injecting drug use

2.1 HIV prevalence

Sharing of injection equipment during injecting drug use is the primary source of HIV infection in the Asia-Pacific region. HIV prevalence among IDUs is already very high in some countries (Fig 5 & 6). HIV prevalence – once present among IDUs – increases rapidly within this group, whereas its decline is very slow. In fact, it can take several years of intensive and wide-scale prevention efforts to bring down infection rates[13].

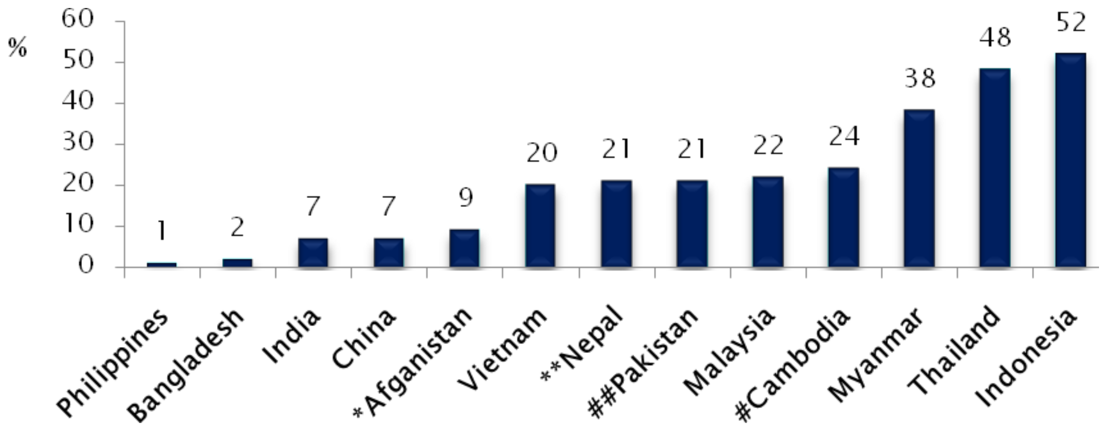

Fig 5: Prevalence of HIV among IDUs, 2007-2009

Sources[14],[15]

*Data from only two reporting sites, 2008 #Data from four districts, 2007

**Data from Kathmandu valley, 2009 ##Data from eight cities, 2008

Note: Most of the data come from the surveys whose methods & sample size can be highly heterogeneous. In addition, many surveys were conducted in a few large urban areas & it might not necessarily reflect prevailing conditions at the national level.

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[13] 31C.D. Des Jarlais, *et al.* (2000), 'Behavioral risk reduction in a declining HIV epidemic: injection drug users in New York City, 1990–1997', *American Journal of Public Health*,90(7), pp. 1112–16

[14] See ref 2

[15] Towards Universal Access: Scaling Up Priority HIV/AIDS Interventions in the Health Sector, http://www.who.int/hiv/pub/2009progressreport/en/index.html

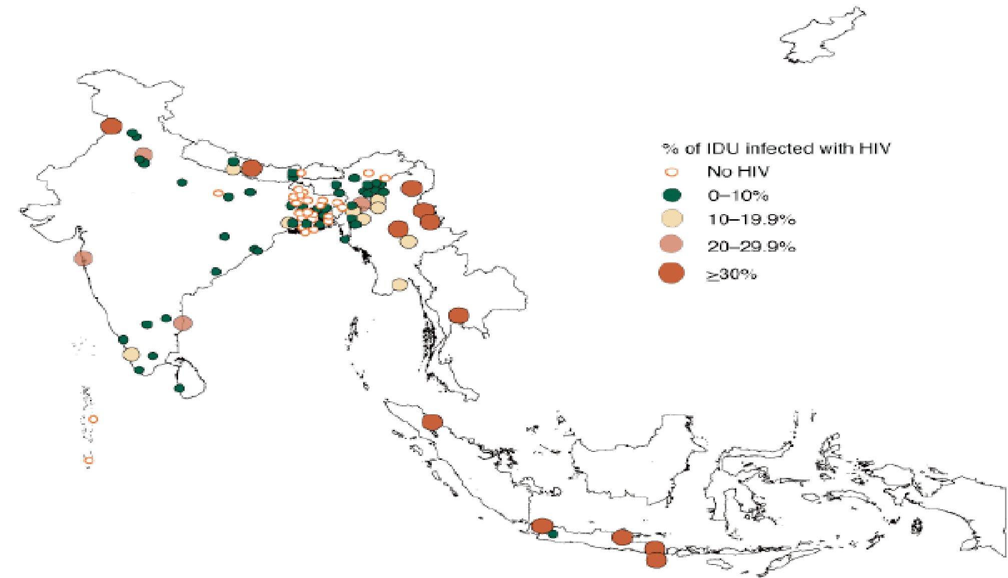

Fig 6: Percentage of IDUs who are living with HIV in different locations in South-East Asia, 2006-2008, Source[16]

Data from nine cities in the Asia-Pacific show the varying trends in HIV prevalence being experienced throughout the region. For instance, HIV prevalence is rising in Jakarta, Karachi and Dhaka, whereas it is declining in other cities (Figure 7).

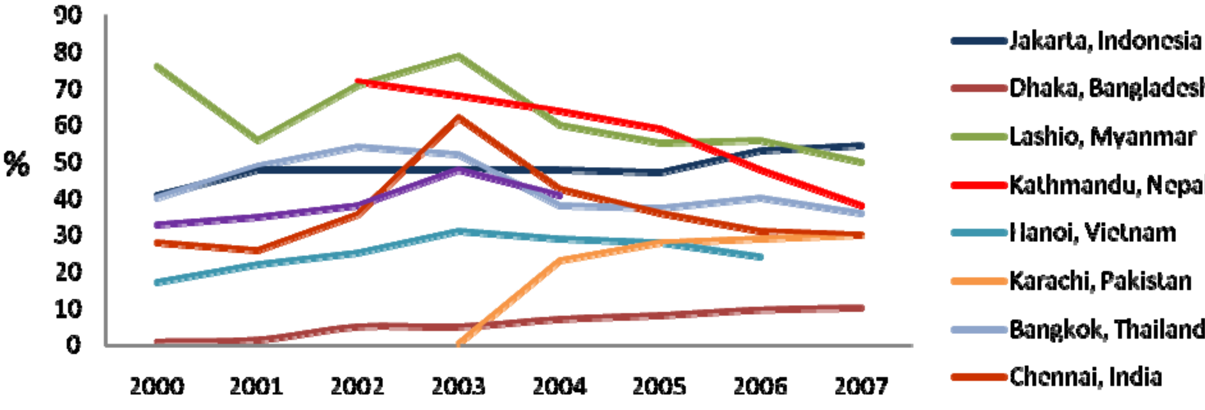

Fig 7: Trend of HIV prevalence among IDUs in selected cities, 2000-2007
Source[17,18,19,20,21,22,23,24,25]

[16] See ref. 1
[17] Data from sentinel surveillance data, Ministries of Health, 2007
[18] Ministry of Health, Thailand. HIV sentinel surveillance. Bangkok: Ministry of Health; 2007

Table 3: Trends in the prevalence of HIV among IDUs

Epidemic ⇧	Epidemic ⇩	Epidemic stable or undetermined ⇕
Indonesia	**India**	**Nepal***
Pakistan	**Cambodia**	**Philippines***
Bangladesh	**Thailand**	**Myanmar***
	Vietnam	
	China	
	Malaysia[26]	

* Recent increases in HIV prevalence

2.2 Risk behaviours

The main risk factor for HIV infection among IDUs is the sharing of contaminated injection equipment.

HIV positive IDUs also spread HIV into the sex trade when acting as or engaging with sex workers – as well as to other non-injecting intimate partners – as a result of low or inconsistent condom use[27].

In Indonesia, for example, the epidemic that began among IDUs has spread through the sexual networks of IDUs to sex workers and their clients[28]. In China about half (47%) of female IDUs from some parts of the country

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[19] National AIDS Control Organization (NACO). HIV sentinel surveillance. New Delhi: NACO, Ministry of Health and Family Welfare; 2007

[20] Ministry of Health, Indonesia. HIV sentinel surveillance. Jakarta: Ministry of Health; 2007

[21] Ministry of Health, Myanmar. HIV sentinel surveillance. Yangon: Ministry of Health; 2007

[22] (Integrated Biological and Behavioral Survey (IBBS), FHI/Ministry of Health, Nepal, 2007) Family Health International, Ministry of Health, New Era and SACTS. Integrated biological and behavioural survey (IBBS) among injection drug users, 2002–2007. Kathmandu: FHI; 2008

[23] (HIV serological Survey, Ministry of health, Bangladesh, 2007) Ministry of Health, Bangladesh. HIV sentinel surveillance, Bangladesh. Dhaka: National AIDS/STD program, Ministry of Health and Family Welfare; 2006

[24] See ref. 18

[25] UNAIDS, Redefining AIDS in Asia, Crafting an Effective Response – Report of the Commission on AIDS in Asia, 2008, http://data.unaids.org/pub/Report/2008/20080326_report_Commission_aids_en.pdf

[26] Ministry of Health (2008), Malaysia

[27] GARY REID et al. (2008), Harm reduction programs in the Asia –Pacific Region, Drug and Alcohol Review, 27, 95 – 98

[28] See Ref. 1

reported that they sold sex and were significantly less likely to use condoms with clients than were sex workers who did not inject[29]. Data from behavioural surveillance also show that, despite the fact that a fair number of IDUs use sterile injecting equipment in countries including Indonesia, Malaysia, Philippines, Thailand, Pakistan and Vietnam, condom use remains low (Fig 8).

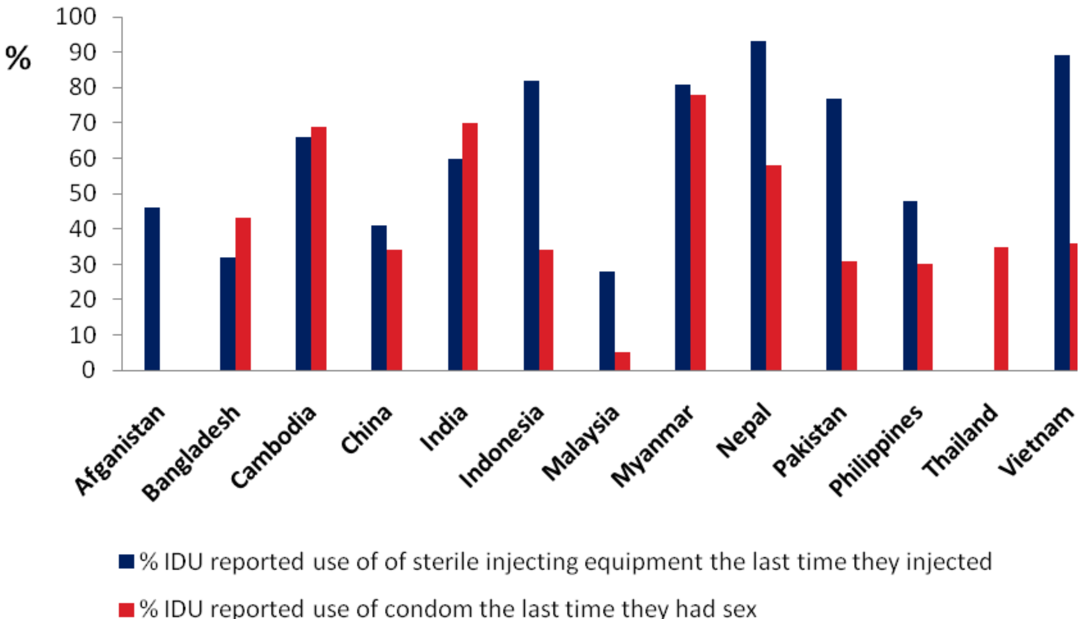

Fig 8: Behavioral characteristics of IDUs in the Asia-Pacific, 2006-2008
Sources[30],[31],[32]

2.3 National Responses

The Asia-Pacific region is the world's largest heroin-producing region, with production mainly based in Afghanistan, Myanmar, Lao PDR, Vietnam and Pakistan[33]. China, given its geographical location, suffers the major burden of negative health outcomes associated with drug trafficking routes in

[29] See Ref. 25
[30] See Ref. 2
[31] See Ref. 15
[32] Mathers et al. (2008), Global epidemiology of injecting drug use and HIV among people who inject drugs: a systematic review, Lancet; 372: 1733–45
[33] World Drug Report 2009, http://www.unodc.org/documents/wdr/WDR_2009/WDR2009_Opium_Heroin_Market.pdf

this region[34]. With an estimated 2.4 million IDUs, China is estimated to have the world's largest population of IDUs. Indeed, in China, 38% of estimated HIV cases in 2007 were attributable to IDU[35] (Fig 1).

WHO, UNODC and UNAIDS recommend a comprehensive package of nine interventions for HIV prevention, treatment and care among IDUs[36]. Harm reduction is an important public health intervention that addresses many facets of the complex relationship between drug use and adverse health consequences and is acknowledged to be the most effective approach to preventing the transmission of HIV[37,38].

Several countries have taken steps to introduce harm reduction programs to prevent new infections among IDUs. For example, Indonesia revised its national AIDS strategy in 2007 to include harm reduction and a court ruling called for the prioritization of drug rehabilitation over imprisonment for drug users[39]. In terms of specific harm reduction programs targeting drug users, China and Malaysia have greatly increased the number of OST sites while China, Indonesia and Malaysia have experienced the most market increases in the number of NSP sites.

Thailand is the only country that has been explicitly opposed to harm reduction policies[40]. Meanwhile, the most widespread and accelerated implementation of harm reduction appears to be taking place in China[41].

2.4 Harm reduction programmes

Harm reduction interventions comprise multiple strategies. For example, needle and syringe programs (NSPs), outreach and peer education (safe sex and condom distribution), primary health care (STI treatment) and opioid (OST) and other substitution therapies are the mainstay of harm reduction interventions.

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[34] Sheena G. Sullivan a,b, Zunyou Wu (2007), Rapid scale up of harm reduction in China, International Journal of Drug Policy 18 (2007) 118–128
[35] See Ref. 9
[36] See Ref. 25
[37] World Health Organization. Biregional strategy for harm reduction 2005 – 2009: HIV and injecting drug use, New Delhi/Manila: World Health Organization, Regional Office for South-East Asia and Regional Office for the Western Pacific, 2005.
[38] Hunt N, Trace M, Bewley-Taylor D., (2004), Reducing drug related harms to health: an overview of the global evidence, report 4. London: The Berkley Foundation Drug Policy Program.
[39] See Ref. 10
[40] Asian Harm Reduction Network (2007) Global State – data collection response
[41] See Ref. 27

In combination, they can greatly reduce IDUs' risk of contracting HIV while radically slowing the spread of HIV as well as Hepatitis B and C.

Needle and syringe exchange programs that provide clean and safe injection equipment for drug users are essential. Also, substitution therapy – in which synthetic substitutes such as methadone and buprenorphine (which can be taken orally) are provided – can reduce the frequency of injection while reducing cravings[42].

One study including 103 cities found that HIV incidence declined in 36 cities with NSPs by an annual rate of 18.6%, whereas 67 cities lacking such programs experienced an increased incidence of 8.1% annually[43]. Another study in Manipur, India, has shown that needle sharing among IDUs has sharply decreased over the period of six years following the implementation of NSPs and a resultant decrease in HIV prevalence among that group (Fig 9).

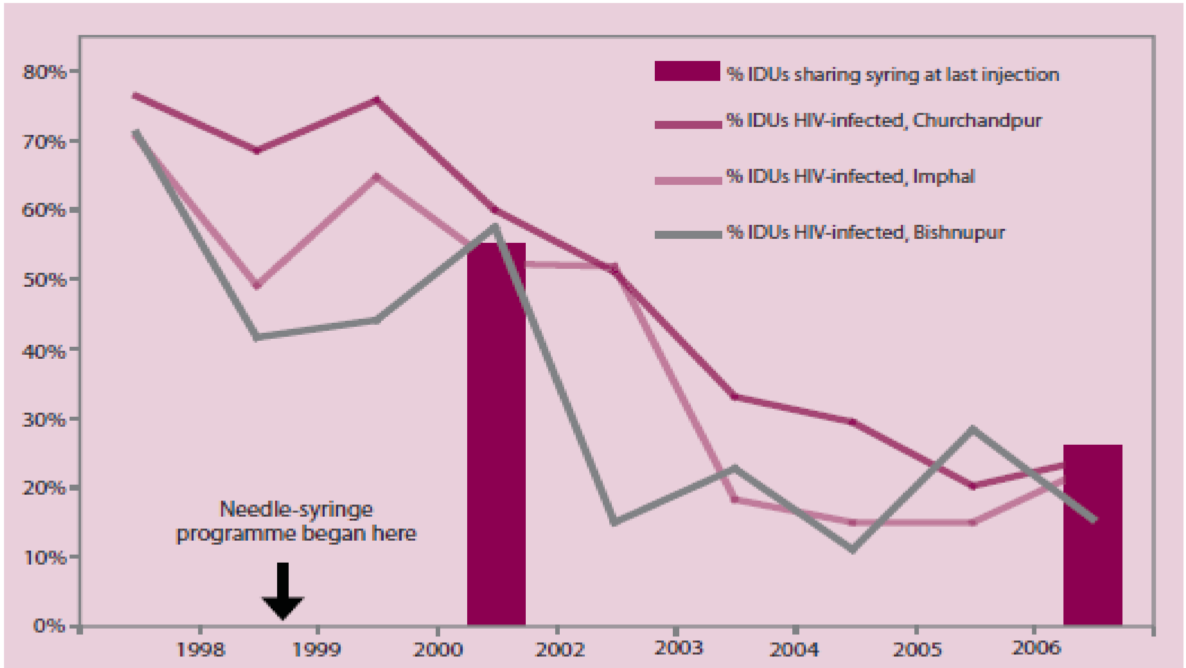

Fig 9: Scale up of harm reduction and a decreasing HIV prevalence among IDUs in Manipur, India Source[44]

[42] Z. Wu and Z. Chengzheng (2007), 'Update of Harm Reduction in China', presented at the International Conference on Harm Reduction, Warsaw.
[43] Health Outcomes International, Return on investment in needle and syringe programs in Australia: A final report. Canberra, Australia: Department of Health and Ageing. 2002, as cited by WHO, Policy Brief: Provision of Sterile Injecting Equipment to Reduce HIV Transmission. Geneva, 2004
[44] National AIDS Control Organization, Ministry of Health, India, in "HIV, TB and Malaria situation in SEAR and Priorities for their Prevention and Control", a presentation by WHO-SEARO at the GFATM R8 preparation meeting, Jakarta, March 2008

Recent results of methadone treatment in China demonstrate lower incidence of HIV (0%) among those accessing the treatment as compared to non-treatment groups (3–9%) as well as reduced needle sharing (in 90 versus 2 injections per month, respectively)[45].

Coverage of these harm reduction programs in the region remains extremely low, with only one in 50 IDUs being reached[46]. In 2007, only 3% of IDUs had access to harm reduction programs and only 8% had access in East Asia (the vast majority of whom were in China)[47]. The median number of syringes distributed by NSPs per IDU per year (2007) was about 27 in East, South and South-East Asia, with important variation among countries (Table 4). These coverage levels are far below the internationally recommended target of 200 syringes provided per IDU per year[48].

Outreach and peer education is crucial to bring IDUs to NSP or substitution clinics, especially since drug users are often 'hidden' and hard-to-reach because of the often-illegal nature of their behavior[49].

Finally, these interventions only succeed in the context of an enabling environment with supportive Government policies and with the cooperation of local authorities and police.

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[45] See Ref. 25

[46] ibid

[47] Prasada Rao, J.V.R., Director, UNAIDS Regional Support Team, Asia-Pacific (2008). Speech given at the opening ceremony of the 1st Asian Consultation on the Prevention of HIV Related to Drug Use, Goa, India, 28 January.

[48] See Ref. 15

[49] Law, Policy & HIV in Asia and the Pacific: Implications on the Vulnerability of MSM, FSWs and IDU/ Data Hub (December 2009)

Table 4: Availability and coverage of harm reduction programmes for IDUs in the Asia-Pacific, 2006–2008

Country	Estimated Number of IDUs	Number of NSP sites per 1000 IDU	Number of OST sites per 1000 IDU	Syringes and needles distributed by programs per IDU per year	% IDU with HIV prevention programs in last 12 months	% IDU received HIV testing in last 12 months
Afghanistan	6,900	0.9				6
Bangladesh	30,000	2.3	0.0	102	2	3
Cambodia	1,900	1.0		59	56	54
China	2,400,000	0.3	0.2	110	41	42
India	165,000	1.1	0.4	63	10–83	3-70
Indonesia	220,000	2.7	0.4	7	45	36
Malaysia	205,000	1.0	0.6	16		100*
Myanmar	75,000	0.2	0.1	47	53	27
Nepal	28,000	1.3	0.1	24	31	21
Pakistan	130,500	0.1	0.0	22	51	12
Philippines	14,500	0.1		3	4	4
Thailand	40,000	0.3	3.7	1		
Viet Nam	135,300	10.5	0.0	181	43	11

Sources[50], [51], [52]
* Denominator or numerator is not the standard UNGASS definition.
Source[53] OST: Opium Substitution therapy; NSP: Needles and syringes distribution programs

[50] See Ref. 2
[51] See Ref. 15
[52] See Ref. 32
[53] Ministry of Health, Malaysia, 2007

Chapter 3

Heterosexual transmission among female sex workers and their clients

Sex work can be defined as the provision of sexual services in exchange for money, goods or other benefits. In the Asia-Pacific region, sex work is usually classified as either "direct" (open, formal) or "indirect" (hidden, informal). Direct female sex workers (FSWs) have little or no source of income outside of sex work. Indirect FSWs may have another source of income or do not engage in sex work full time – such as those who work in massage parlors, bars, karaoke bars, restaurants or other unrelated occupations. Being intermittent or casual sex workers, indirect FSWs are often the hardest to reach and thus at relatively higher risk of HIV infection compared in spite of having fewer contacts. FSWs are at a high risk of both acquiring HIV and sexually transmitted infections from their clients and for transmitting them to their clients and non-paying partners.

More detailed information on the country situation about sex workers and HIV can be found on the HIV and AIDS Data Hub website in the country capsules under regional review.

During the past two decades, heterosexual transmission between FSWs and their clients has been a primary mode by which HIV is spread throughout populations. In China, heterosexual contact between FSWs and their clients (recorded among reported HIV and AIDS cases) has surpassed injection drug use as the predominant mode of HIV transmission, increasing each year between 2004 and 2007[54,55] (Fig 10).

[54] Lu L et al. (2008). The changing face of HIV in China. *Nature*, 455:609–611

[55] HIV and AIDS in Asia and the Pacific: A review of progress towards universal access http://www.unescap.org/esid/hds/pubs/2528/2528_HIV_DP.pdf

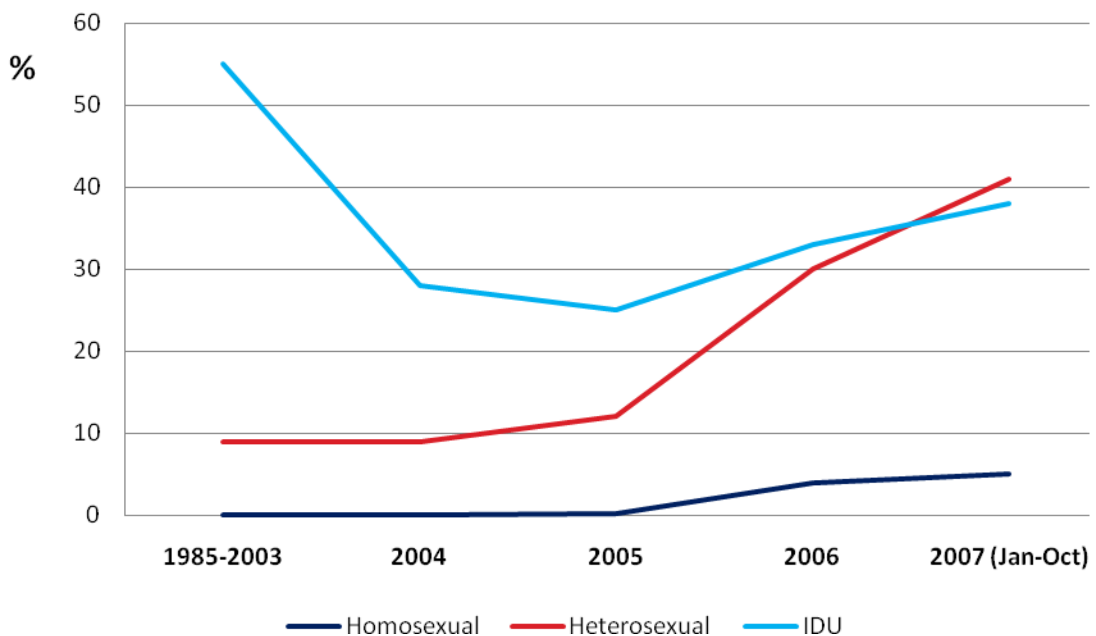

Fig 10: Trends in HIV modes of transmission in China
Source[56]

Heterosexual transmission accounts for 87% of estimated HIV cases in India, 64% in Thailand, 55% in Indonesia, 40% in Myanmar and 95% in PNG (Fig 1).

In north-east India, the epidemic started primarily among IDUs in the 1990s. It has now evolved into a mixed epidemic involving other high-risk populations and has also spread to the general population[57]. In India and Thailand, women are increasingly being infected by heterosexual contact via their regular male partners who themselves engage in high-risk behaviors including injecting drug use and visiting FSWs. Male clients of FSWs are an important "bridge population", transmitting HIV and other STDs between high-risk groups and the general population. The issue of heterosexual transmission to women, in general, is described in further depth in Chapter 7.

3.1 HIV prevalence

Sex workers (males or females) are at high risk of HIV infection. For example, 18% of FSWs in Myanmar and 13% of FSWs in Cambodia are infected with HIV (Fig 11). In four states of southern India, surveys found HIV

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[56] See Ref. 9

[57] Panda S, Chatterjee A (2000), *Transmission of HIV from injecting drug users to their wives in India*, International Journal of STD & AIDS, 11:468-473

prevalence to be 15% among FSWs[58]. HIV prevalence among male sex workers is much higher than among female sex workers.

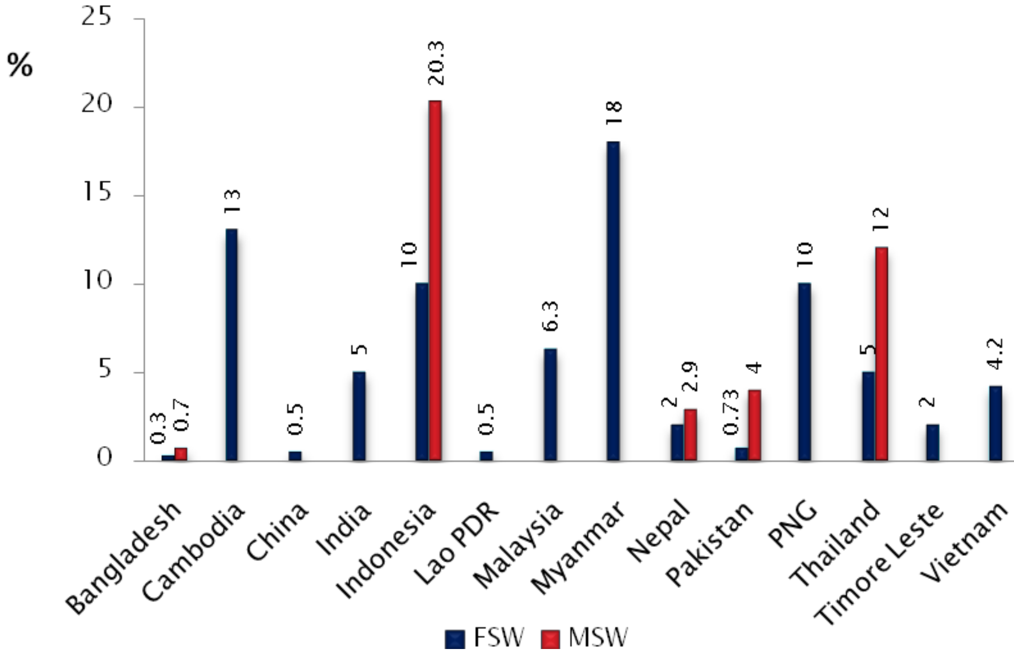

Fig 11: HIV prevalence among male and female sex workers, 2006-2008
Source[59],[60]

As shown for South-East Asia, FSWs are mainly concentrated in geographic areas having a high demand for sex work, such as major urban areas, port cities, mining sites and border areas[61] (Fig 12).

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[58] Ramesh BM et al (2008). Determinants of HIV prevalence among female sex workers in four south Indian states: analysis of cross-sectional surveys in twenty-three districts. *AIDS*, 22 (Supp. 5):S35–S44.
[59] See Ref. 2
[60] See Ref. 15
[61] See Ref. 1

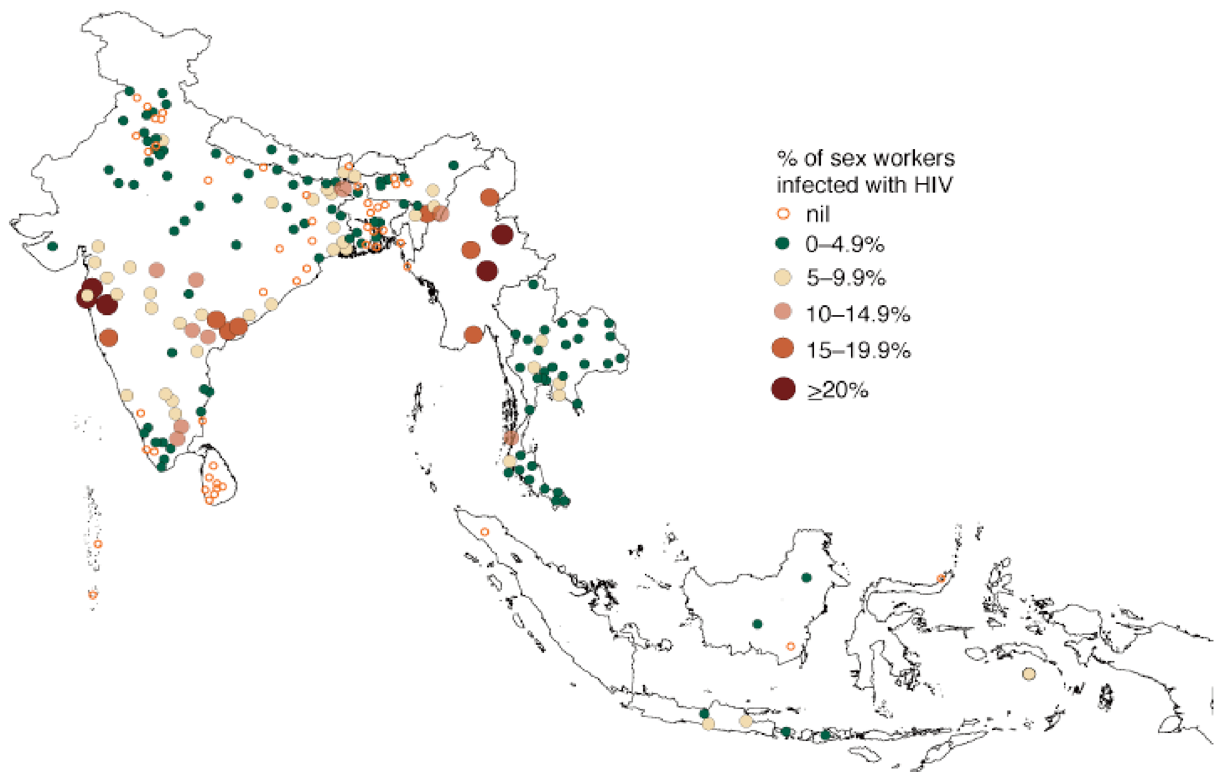

Fig 12: Prevalence of HIV among FSWs in different locations of South East Asia
Source[62]

3.2 Risk Behaviors

Modeling suggests that three key factors can explain why HIV prevalence can rise rapidly among sex workers and their clients. First, the proportion of men who visit SWs; secondly, client turnover of the SWs; and thirdly, levels of condom use during paid sex.

Number of men who act as clients: The Commission on AIDS estimates that up to 10 million Asian women sell sex and at least 75 million men buy it regularly[63]. It is estimated that up to 37 million men in China buy sex regularly[64,65] as do about 30 million in India[66]. Moreover, it is estimated that more than three million men buy sex each month in Indonesia[67]. A high

[62] See Ref. 1
[63] See Ref. 25
[64] F. Lu, *et al.* (2006), 'Estimating the number of people at risk for and living with HIV in China in 2005: methods and results', Sexually Transmitted Infections, 82 (supplement 3), pp. iii 87–iii 91
[65] Wang L et al. (2009). The 2007 estimates for people at risk for and living with HIV in China: progress and challenges. *Journal of Acquired Immune Deficiency Syndromes*, 50:414–418
[66] See Ref. 25
[67] Behavioral Surveillance Survey (BSS) result in Indonesia 2004–5, Jakarta, BPS Indonesia, Central Bureau of

number of men visiting FSWs can create a critical mass of infections that can spark the rapid spread of HIV within the sex trade[68] (Fig 13). The percentage of the FSWs was estimated to range from 0.2% to 2.6% among countries in this region[69].

Fig 13: In the absence of large-scale interventions, levels of HIV prevalence largely depend on the number of men who buy sex

Source[70]

Male client turn over: The turnover of clients varies according to many factors such as the price, the season, the number of brothels, and other structural factors (Box 2)

Box 2: Client turnover of direct FSWs

Average number of brothel based clients

Bangladesh- 20/week	**India**- 9.7/week	**Myanmar**-5-10/week
Nepal- 5.8/week	**Indonesia**- 5/week	**Vietnam-** 5/week
Sri Lanka- 2-3.4 (Last working day)		**Thailand**- 2 (Last working day)

Source[71]

Statistics and Ministry of Health, 2005.

[68] See Ref. 25

[69] J Vandepitte et al. (2006), Estimates of the number of female sex workers in different regions of the world, Sexually Transmitted Infections, 82:iii18-iii25 doi:10.1136/sti.2006.020081

[70] See Ref. 25

[71] See Ref. 1

*No data is available for indirect FSWs

Condom use: Eighty percent or more of FSWs reported using condoms with paying partners at last sex in Cambodia, Thailand, India, Myanmar and Thailand (Fig 14).

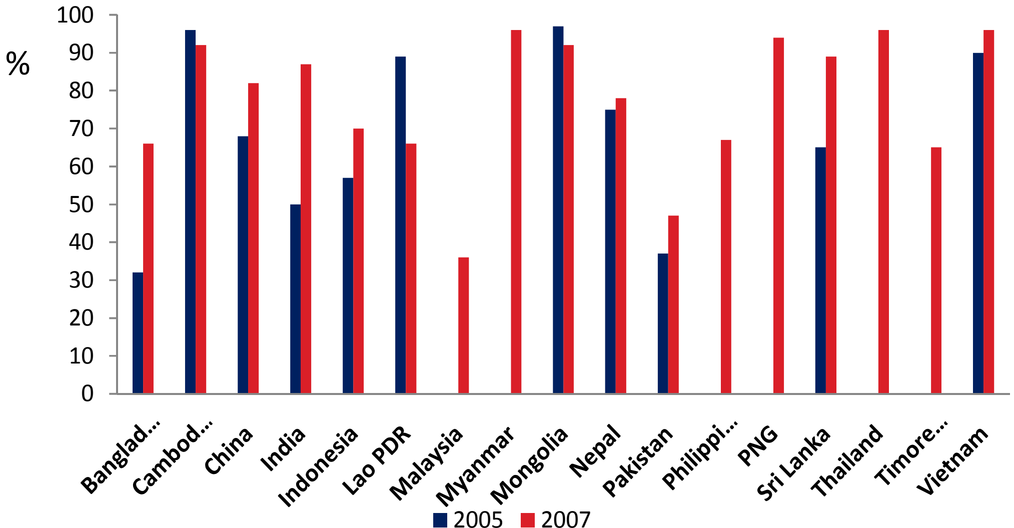

Fig 14: Percentage FSWs reporting the use of a condom with most recent client
Source[72],[73],[74]

Although condom use with the last client reached the universal target level of 80% in some countries (Fig 14), consistent condom use was lower. For example, in India, 88% of FSWs reported using a condom at last sex, but 73% used it consistently in the past month in 2005-2006[75]. Moreover, in all countries, condom use with regular partners is substantially lower than with commercial partners (Table 5).

Table 5: Comparison of consistent condom use among FSWs with commercial versus regular partners

Country	*Commercial partner (%)*	*Regular partner (%)*
Thailand, 2007	**96**	**41**
India, 2005-2006	**87**	**37**
Nepal, 2008	**78**	**9**

Source[76],[77],[78].

[72] See Ref. 55
[73] See Ref. 2
[74] UNGASS country reports (2005)
[75] National AIDS Control Organization. *National behavioural surveillance survey (BSS for sex workers and clients)*. Ministry of Health and Family Welfare, India, 2006
[76] *Behavior surveillance survey*. Ministry of Public Health, Thailand, 2008
[77] National AIDS Control Organization. *National behavioural surveillance survey (BSS for sex workers and clients)*. Ministry of Health and Family Welfare, India, 2006

In Bangladesh, Indonesia and Timor-Leste, rates of condom use still fall short of the desired 80% target.

Data on female condom use is available only from Bangladesh. While 20–73% of surveyed FSWs could recognize a female condom, only 4–25% had ever used one, half of whom did not like it[79].

3.3 National response

Although sex work is considered illegal in the region (except in Singapore and Philippines), most countries recognize commercial sex as a key driver of the epidemic and have developed targeted interventions for sex workers. Key components of interventions for sex worker include: (i) condom supply and promotion; (ii) peer outreach to promote condoms; (iii) an enabling environment through advocacy at local and national levels; and iv) STI services and referrals.

There are abundant evidence-informed policies targeting SWs and their clients that have proven to be very effective tools in lessening the HIV burden. Despite gross reductions in the HIV prevalence among SWs in certain countries in the region, there is still lack of prevention programs among SWs in many countries including Bangladesh, Pakistan, Philippines and PNG (Fig 15).

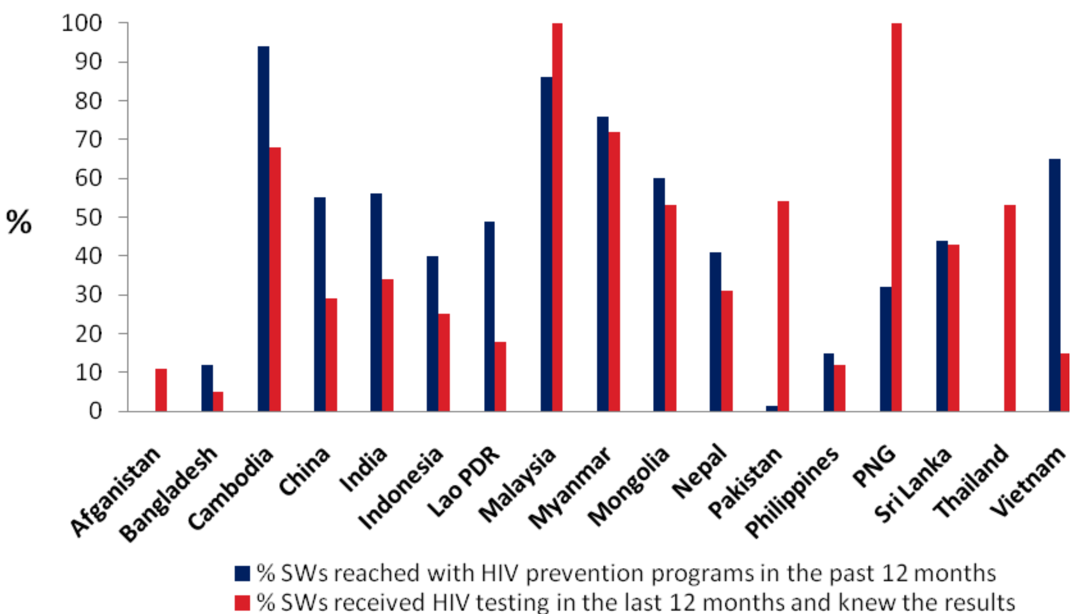

Fig 15: Coverage of prevention programs and HIV testing among SWs in the last 12 months, 2006-2008

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[78] *Integrated biological and behavioral surveillance survey (IBBS) among female sex workers in 22 Terai highway districts of Nepal*. Family Health International, Nepal, 2009

[79] National AIDS/STD Programme. *Behavioural surveillance survey: technical report 2006–2007.* Directorate General of Health Services, Ministry of Health and Family Welfare, Bangladesh, 2008

Sources[80],[81]
Malaysia, PNG: the denominator or numerator does not follow standard UNGASS definition, Source[82]; India: the data is the mean value from different surveys

Enforcement of the '100 Percent Condom Program' in brothels – an initiative that advocates for condom use at all times in sex work – brought down HIV prevalence among FSWs in Thailand from 33% in 1994 to 5% in 2007[83]. The primary responsibility of enforcing condom use was on the establishments, which would be closed down if they were non-compliant. The program helped to empower SWs to negotiate aggressively with clients to use condoms. Similar results were also evident in Cambodia and southern regions of India.

A number of large programs – for example, Sonagachi in Kolkata, India; the Avahan project in India's six highest HIV-prevalence states, including the Ashodaya project; and the Shakti project in Dhaka, Bangladesh – promote SWs' rights, run literacy and vocational programs, and provide micro loans, thereby increasing sex worker empowerment. Savings and credit schemes have also helped reduce dependency on sex work[84].

Most of the successful prevention programs include outreach activities by SWs, involving peer educators in the provision of condoms and in the management and treatment of STIs. In order to reach clients of FSWs, HIV education and services including treatment for STIs and condom promotion have been shown to be successful when provided in settings that tend to be associated with sex work.

Due to the often illegal nature of sex work, advocacy is required to create an enabling environment for sex work interventions. Local advocacy support should be gained from establishment owners, pimps and local police in order to support intervention services.

In general, it is easier for direct FSWs – based in brothels and other establishments with services – to organize themselves as compared to the much harder-to-reach indirect FSWs who are street-based, home-based or operate through the internet or mobile phones and work individually. In order

[80] See Ref. 2
[81] See Ref. 15
[82] See Ref. 26
[83] National AIDS Prevention and Alleviation Committee, 2008, http://www.aidsthai.org/download/dlaids_d/pdf/nap10_eng.pdf
[84] Swendeman D, et al. (2009) Empowering sex workers in India to reduce vulnerability to HIV and sexually transmitted diseases. *Social Science and Medicine,* 69(8):1157-66.

plan for services and monitoring of the impact of programs, updated location mapping and size estimates of FSWs are essential.

Chapter 4

Men who have Sex with Men and Transgenders

The term "men who have sex with men" includes self-identified gay and bisexual men, as well as men who engage in male-to-male sex but who identify as heterosexual. "Transgender" is an umbrella term used to describe a wide range of identities, including transsexuals, male and female cross-dressers or transvestites. Many transgender persons, because of their marginalization from mainstream society, have few options for employment and operate as SWs. In general, the risk of HIV transmission through anal sex is greater than the risk of transmission through vaginal sex putting MSM and transgender persons at higher risk of HIV infection. MSM accounts for an increasing share of new infections in the Asian-Pacific region.

4.1 HIV Prevalence

HIV prevalence is 5-10 times higher among MSM than men in the general population in Asia. In some countries like Thailand and Myanmar, HIV prevalence among MSM or transgender is very high (Fig 16). Only 5 out of 15 countries reviewed have a HIV prevalence among MSM that is less than 5%.

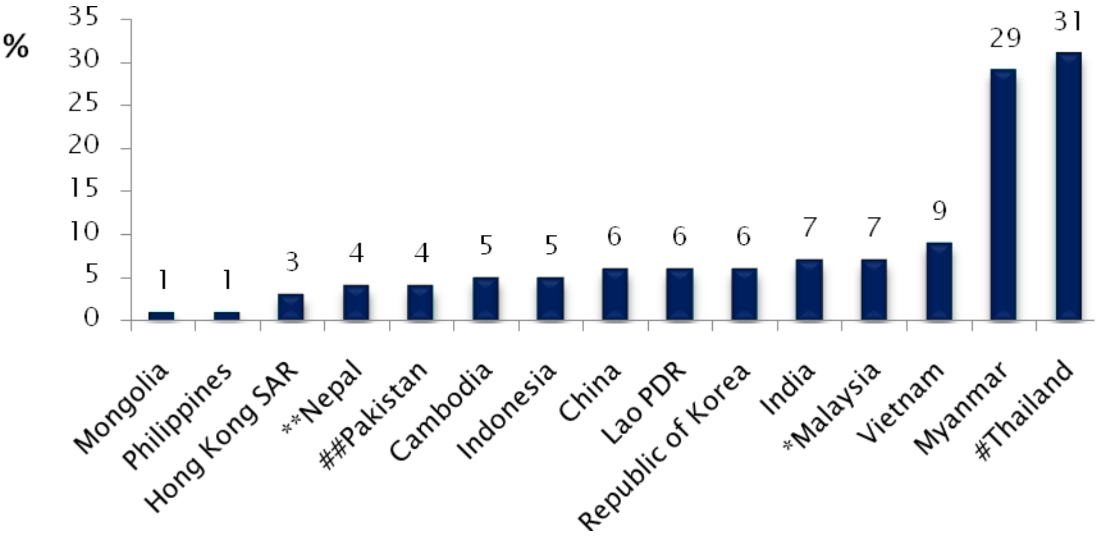

Fig 16: Prevalence of HIV among MSM and Transgenders, 2007-2009
Source[85],[86]

[85] See Ref. 15

*VCT site survey, Kuala Lumpur; #Bangkok **Kathmandu valley; ## Karachi

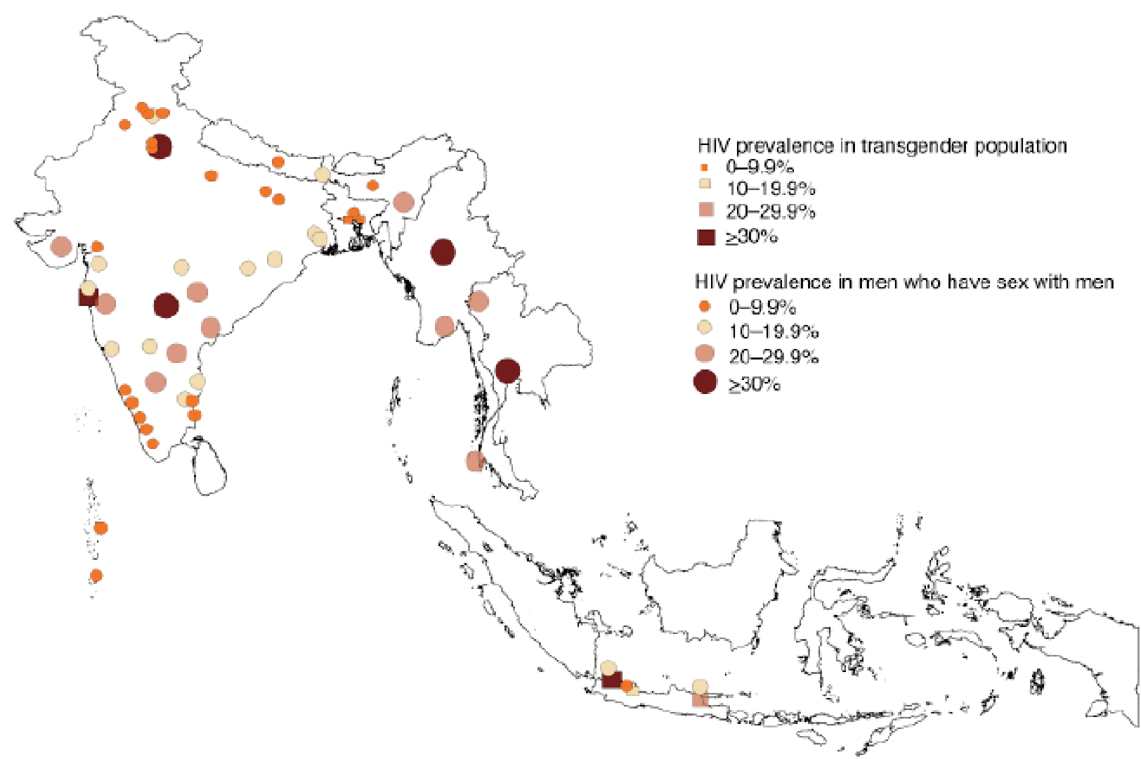

Fig 17: HIV prevalence among men who have sex with men and transgender populations in different locations of South-East Asia Region, 2007–2009
Source[87]

Despite the overall rising trend in HIV prevalence among MSM throughout most of the region, available data indicate that HIV infection has remained low among MSM in certain other countries. For example, in Nepal, HIV prevalence among MSM has remained below 5% in the last five years. Similarly, it has remained below 1% in Bangladesh, Maldives and Timor-Leste as of 2008[88].

HIV prevalence is usually higher among the transgender population than among MSM (Fig 18).

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[86] See Ref. 2
[87] See Ref. 1
[88] ibid

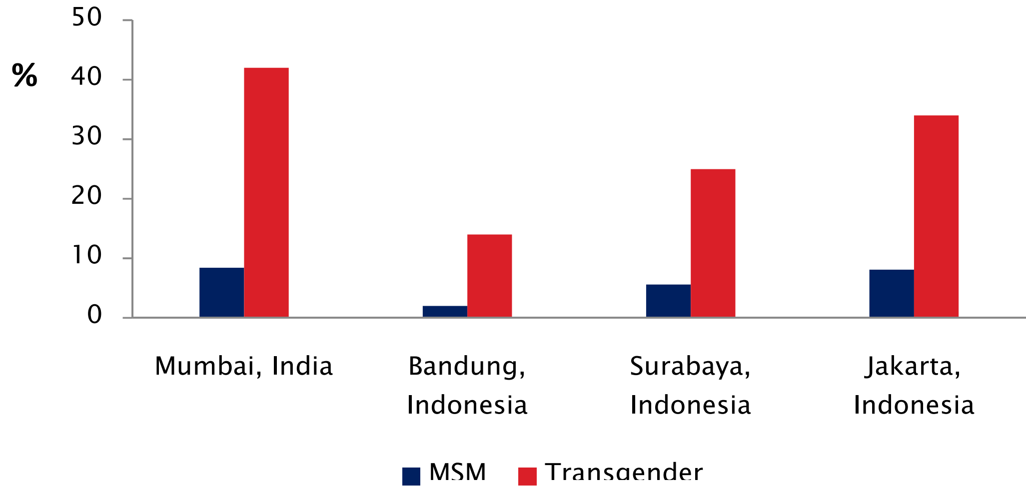

Fig 18: Comparison of HIV prevalence between transgenders and MSM in four cities of Indonesia and India, 2007.

Source[89,90]

In India and Thailand, while overall the HIV epidemic has declined, HIV prevalence among MSM has increased in some urban locations (Fig 19).

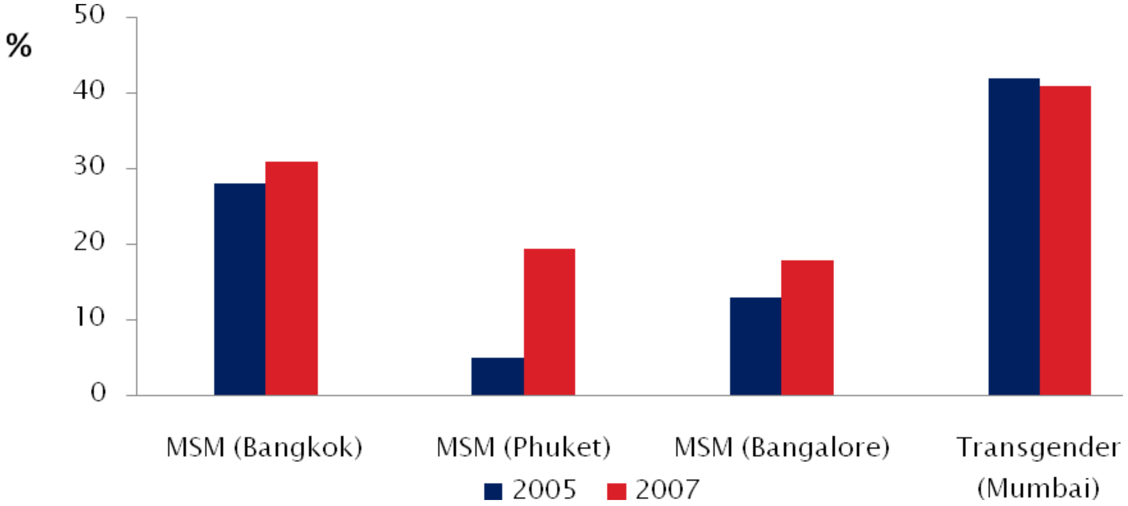

Fig 19: Trends in HIV prevalence among MSM and transgenders in selected cities of Thailand and India, 2005–2007

Source[91,92]

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[89] Setia MS et al. (2006), Men who have sex with men and the transgender population in Mumbai, India: An emerging risk group for STIs and HIV. *Indian Journal of Epidemiology, venereology & Leprology*, 72(6), 425-431

[90] Integrated biological/behavioral surveillance, Ministry of Health, Indonesia.

[91] UNGASS country report (2008) - Thailand

[92] *HIV sentinel surveillance report*. Ministry of Health and Family Welfare, India, 2008

Male sex workers (MSWs) are at a particularly heightened risk of infection. For instance:

- in Thailand, HIV prevalence among MSWs is more than twice as high as among their female counterparts and this trend is increasing[93];
- in Indonesia, HIV prevalence is twice as high among MSWs (20%) than among FSWs (10%)[94];
- in Pakistan, 4% of MSWs are infected with HIV[95] as compared to 0.73% of FSWs (Fig 11);
- sex work is common among transgender sex workers in India (known as "Hijra"), Bangladesh and Indonesia (known as "Waria")[96].

4.2 Risk behaviors

Condom use: Reported condom use by MSWs at last sex has been shown to be above 50% in the majority of countries (Fig 20). As shown by recent behavioral surveys, condom use was generally higher with commercial partners than with non-commercial and regular partners. A similar picture has been noted in the case of FSWs (Table 5). In Kathmandu, Nepal, 77% and 65% of MSM used condoms consistently in the last month with their paying and non-paying male partners, respectively[97]. In Sri Lanka, consistent condom use in the past 12 months was 47% and 26% with non-regular and regular partners, respectively[98].

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[93] National AIDS Prevention and Alleviation Committee, 2008, http://docs.google.com/viewer?a=v&q=cache:URtDM0KY42kJ:www.aidsthai.org/download/dlaids_d/pdf/nap10_eng.pdf+National+AIDS+Prevention+and+Alleviation+Committee,+2008&hl=en&gl=th&sig=AHIEtbTHwsXmNyhZlC-GIgql0kf9YVVOOw&pli=1

[94] National AIDS Commission, 2008.

[95] Bokhari A et al. (2007). HIV risk in Karachi and Lahore, Pakistan: an emerging epidemic in injecting and commercial sex networks. International Journal of STD & AIDS, 18(7):486–492

[96] Khan AA et al. (2008). Correlates and prevalence of HIV and sexually transmitted infections among hijras (male transgenders) in Pakistan. *International Journal of STD & AIDS*, 19:817–820

[97] Family Health International, Ministry of Health, New Era and SACTS. *Integrated biological and behavioural survey (IBBS) among men who have sex with men 2009*. Family Health International, Nepal, 2008

[98] National STD/AIDS Control programme. *Sri Lanka behavioral surveillance survey. First round survey results. 2006–2007*. Ministry of Healthcare and Nutrition, Sri Lanka, 2007

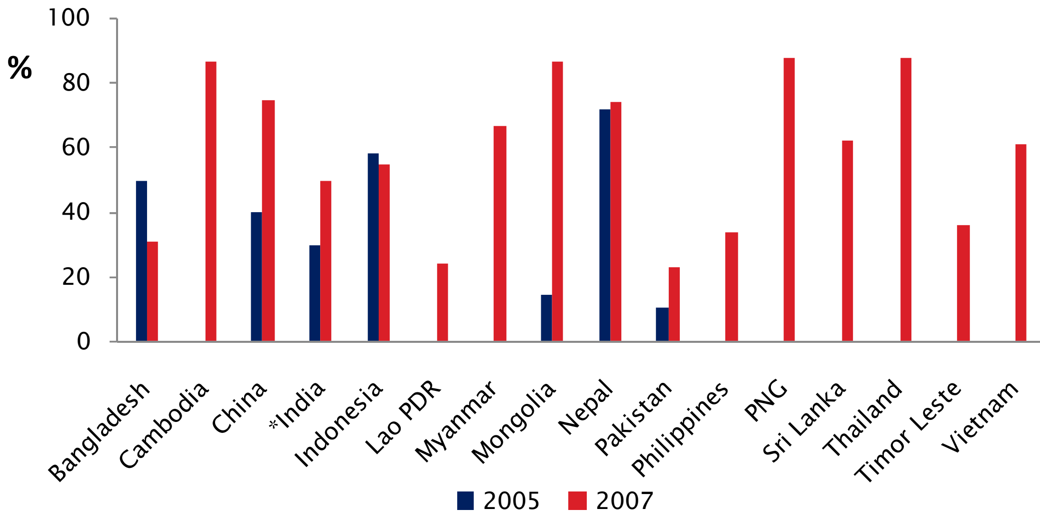


Fig 20: Percentage of MSM reporting the use of a condom the last time they had anal sex, 2006-2008

Source[99],[100],[101],[102]

*the data for India is the mean value from different surveys

A significant proportion of MSM reported also having had sex with female partners and/or wives (Fig 21).

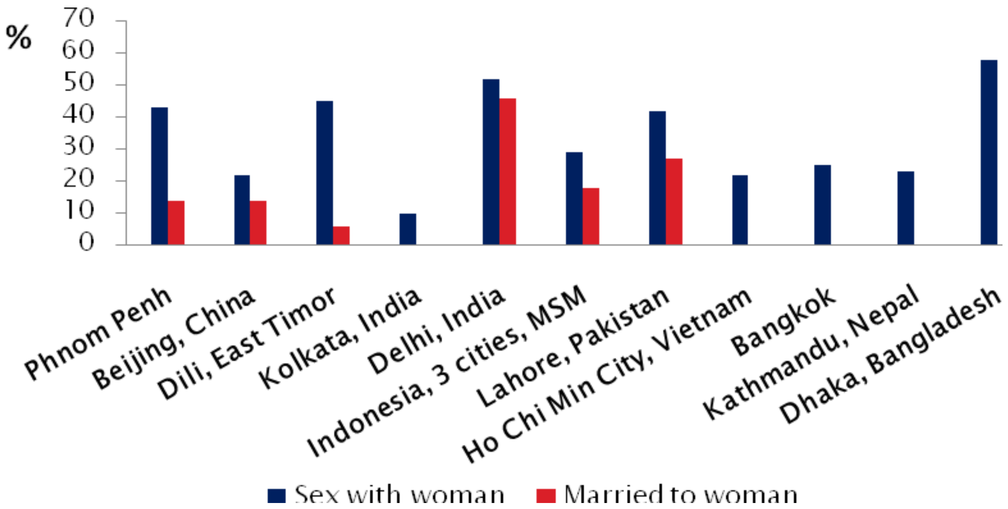


Fig 21: Percentage of MSM having sex with, or married to a woman

Source[103]

[99] See Ref. 55

[100] Behavioral surveys, national AIDS programs

[101] See Ref. 2

[102] See Ref. 75

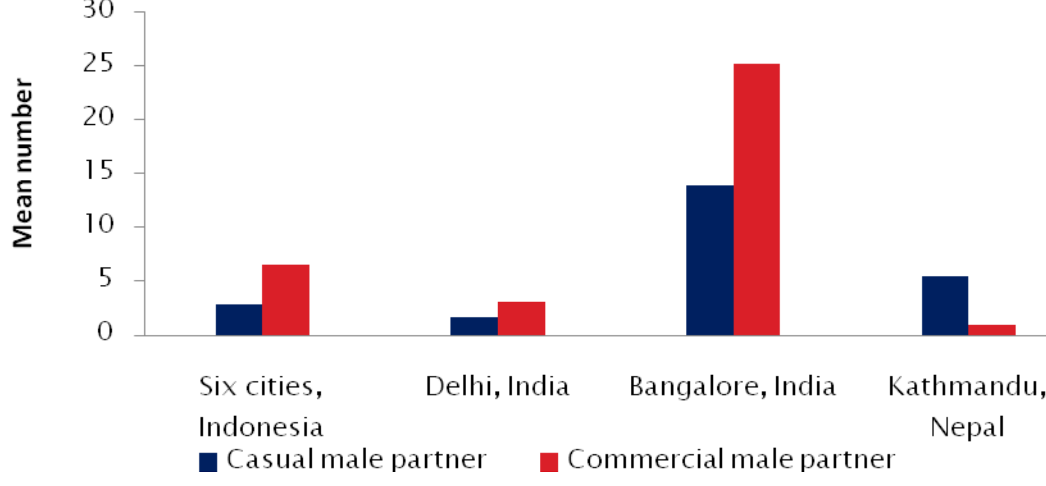
Consistent condom use is very low with both regular and commercial female partners. Few countries have data available regarding condom use by transgender SWs, but that which is available – together with data regarding MSM – indicates the likelihood that condom use is very low (Table 6).

Table 6: Percent distribution of consistent condom use among MSM with female partners and among transgender SWs, 2007

City/Country	Consistent condom use with female partner		Consistent condom use among transgender SWs
	Regular female partner	*Commercial female partner*	
Addu, Maldives	2		
Male, Maldives	18		
Timor-Leste	9	20	
Chennai, India	9		
Mumbai, India	33		
Indonesia	12	15	15-50
Thailand	44		
Bangladesh			1.4

Source[104]

Number of sexual partners: Fig 22 shows that, in some settings, the mean number of commercial partners had by MSM is higher than the number of casual male partners.



[103] Data from national behavioral surveillance
[104] See Ref. 1

Fig 22: Mean number of male sexual partners in the last month reported by MSM in selected cities, 2005-2007
Source[105],[106],[107]

Prevalence of sexually transmitted infections: Available data indicate high prevalence of STIs among MSM and transgenders, together with increased risk of HIV transmission. HSV-2, Hepatitis B, Syphilis, rectal C. trachomatis and *N.* gonorrhea are the most common of such infections. This has enhanced the rise in HIV prevalence among MSM in the Asia-Pacific region.

4.3 National response

HIV prevention coverage for MSM remains low in the Asia-Pacific region, except for in Cambodia (Fig 23). Cambodia, Indonesia, Thailand and Timor-Leste do not consider homosexuality as a crime[108]. A recent bill in Nepal recognizes transgender as a "third" gender. Also, the Delhi High Court has legalized sex between two consenting same-sex adults in India.

There are many challenges in implementing programs for MSM and transgender. Criminalization of homosexuality presents tremendous obstacles to HIV prevention for MSM by making them hard-to-reach for fear of apprehension. Moreover, widespread stigma compels most MSM to remain hidden and inaccessible to health services. Conversely, an enabling environment and increased advocacy can mobilize MSM and transgender towards accessing these services.

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[105] Morineau G, et al. (2009), Sexual risk taking, STI and HIV prevalence among men who have sex with men in six Indonesian cities. AIDS and Behavior, DOI 10.1007/s10461-009-9590-6
[106] Ministry of Health and Family Welfare, India 2007
[107] Family Health International, Ministry of Health, New Era and SACTS. Integrated biological and behavioral survey (IBBS) among men who have sex with men, 2009. Family Health International, Nepal, 2008
[108] See Ref. 1

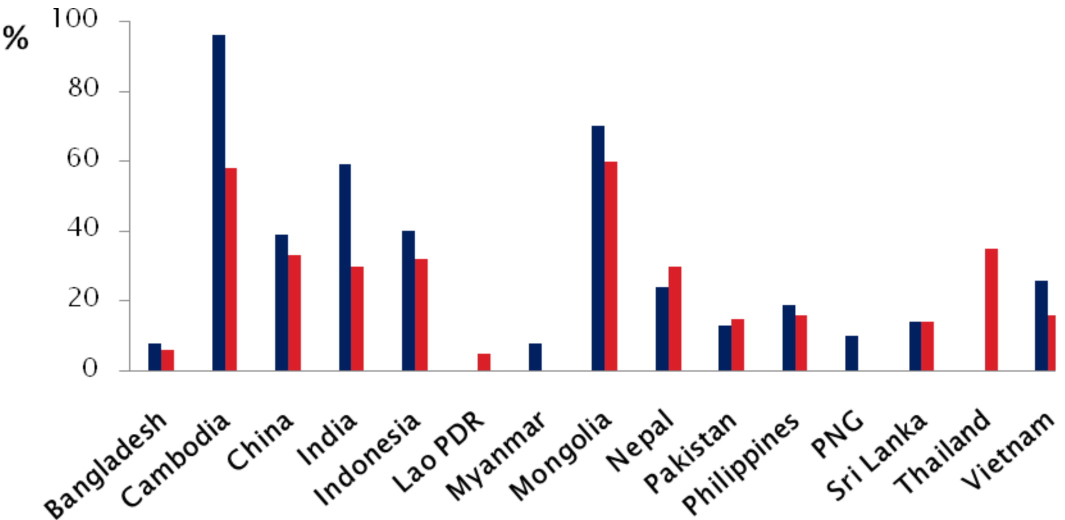

Fig 23: Coverage of prevention programs and HIV testing among MSM in the last 12 months, 2006-2008
Source[109], [110]

[109] See Ref. 55
[110] See Ref. 2

Chapter 5

The combination of risk behaviors

Risk behaviors for HIV are not mutually exclusive. A number of countries, such as Vietnam, China, India, Indonesia, and Bangladesh, have experienced networks between sex work and drug use, where a substantial number of SWs are also IDUs or vice versa. For example, a recent study in China shows that, among IDUs, more than 40% of females and 34% of males were also engaged in sex work either as clients or workers[111]. In Lao PDR, Second Generation Surveillance (SGS) in 2004 revealed that 11% of FSWs also injected drugs[112]. In Hanoi, Vietnam, about 17% of SWs said they injected drugs according to a 2005/2006 survey[113]. In India, about 20% of FSWs in five states[114] reported injecting drugs. Also in Vietnam, IDUs frequently buy sex from FSWs or sell sex to finance their addiction. The percentage of IDUs engaging in these practices ranges from 14%-43% in different cities in Vietnam. Meanwhile, studies in Vietnam's Ho Chi Minh City have found that SWs who injected drugs were between 3.5 and 31 times more likely to be HIV-infected compared to those who did not inject[115].

Beside the combination between heterosexual sex and injecting drug use, in some other parts of the region, data also show drug injecting among MSM. For example, in the two Indian cities of Bangalore and Chennai, 36% and 22% of MSM reported drug injection, respectively[116].

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[111] Gu J et al. (2009). Prevalence of needle sharing, commercial sex behaviors and associated factors in Chinese male and female injecting drug user populations. *AIDS Care*, 21(1):31–41

[112] Center for HIV/AIDS/STI, Ministry of Health - FHI, ADB, WHO, GTZ, Global Fund, UNODC and UNDP. Second Generation Surveillance 2nd round on HIV, STI and Behaviour, 2004.

[113] Ministry of Health, Vietnam. Results from the HIV/STI Integrated Biological and Behavioural Surveillance (IBBS) in Vietnam, 2006

[114] National AIDS Control Organization (NACO) – Ministry of Health and Family Welfare. National Baseline High Risk and Bridge Population Behavioural Surveillance Survey, 2002

[115] National Institute of Hygiene and Epidemiology, Viet Nam Ministry of Health, and Family Health International (2005–2006). *Results from the HIV/STI Integrated Biological and Behavioral Surveillance (IBBS) in Vietnam*.

[116] National AIDS Control Organization (NACO) – Ministry of Health and Family Welfare. National Baseline High Risk and Bridge Population Behavioural Surveillance Survey, 2002

Chapter 6

Most-at-risk young people

The age pyramid of this region indicates that a significantly large proportion of the population is made of young men and women. For example, in the Philippines, half of the population are less than 22 years old. An increasing number of young people are engaging in premarital sex having multiple partners without using any form of protection[117].

Adolescents and young people face a wide variety of vulnerabilities and risk factors of acquiring HIV. Their characteristics and needs may be different from the older members of populations at higher risk. Young people aged 15–24 account for an estimated 45% of new HIV infections worldwide[118], although in Asia this proportion is much less due to delayed age at first sex as compared to other regions. In addition, the social and cultural limits placed on women's sexuality means that a large majority of women abstain from sex until they are married, after which time they tend to be monogamous. For example the vast majority of women in the countries studied in Asia have reported only one sexual partner in the last year.

Serial HIV prevalence over time in young women (ages 15–24) attending antenatal clinics serves as a proxy measure for incidence, providing important indications of recent epidemiological trends[119].

Young people below the age of 25 constitute 1-5% percent of key populations at higher risk in the Asia-Pacific, including young IDUs who use non-sterile injecting equipment, young men who have unprotected sex with other men, and young women and men involved in commercial sex work[120].

India accounts for almost 1.4 million of young people (15–24 years) living with HIV – meaning that 1 youth per 1,000 is HIV positive[121]. In PNG, 33% of

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[117] Report card, Philippines, UNFPA, http://www.unfpa.org/hiv/docs/report-cards/philippines.pdf
[118] See Ref. 7
[119] ibid
[120] A Desk Review of Most at Risk Young People (MARYP) to HIV/AIDS in the Asia-Pacific in 17 Countries, UNICEF draft report, Bangkok, 2010
[121] Sulabha Parasuraman, Sunita Kishor, Shri Kant Singh, and Y. Vaidehi. 2009. *A Profile of Youth in India*. National Family Health Survey (NFHS-3), India, 2005-06. Mumbai: International Institute for Population Sciences; Calverton, Maryland, USA: ICF Macro.

all cases among women in 2007 were among people aged 15–24 years[122]. It has been reported in several Asian countries that over 60% of SWs are in this age bracket[123] (Fig 24). A recent study in Pakistan reported that about half of all IDUs were under the age of 25[124].

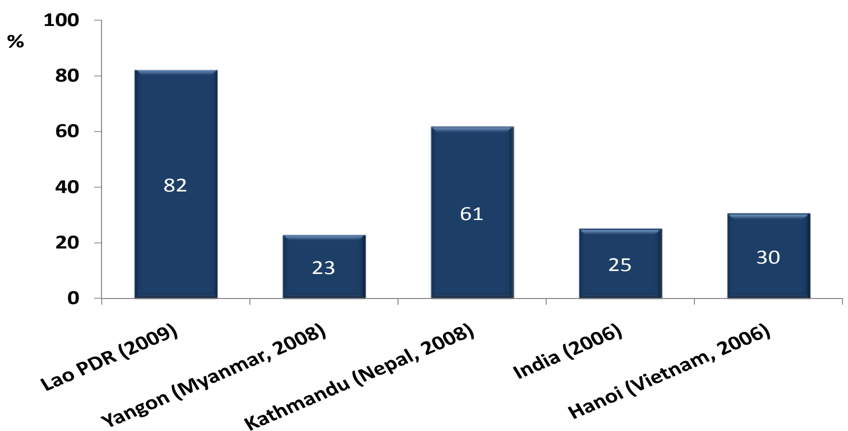

Fig 24: Percentage of female sex workers below 25 years old
Source: Behavior surveillance surveys

Age disaggregated data on risk behavior is scant among countries in the region. However, some countries have carried out national household representative surveys that allow for the assessment of higher-risk sex among young people (15-24 years). In the majority of countries where data is available mostly men are involved in higher-risk sex. However, in Thailand and PNG, both men and women partake in this behaviour (Fig 25). It can be presumed that younger men visit SWs due to the fact that they outnumber women in terms of reporting higher-risk sex in all of the countries having data.

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[122] Report of the Commission on AIDS in the Pacific http://data.unaids.org/pub/Report/2009/20091202_pacificcommission_en.pdf
[123] See Ref. 120
[124] Rapid Situation Assessments of HIV prevalence and risk factors among people injecting drugs in four cities of the Punjab, December 2009

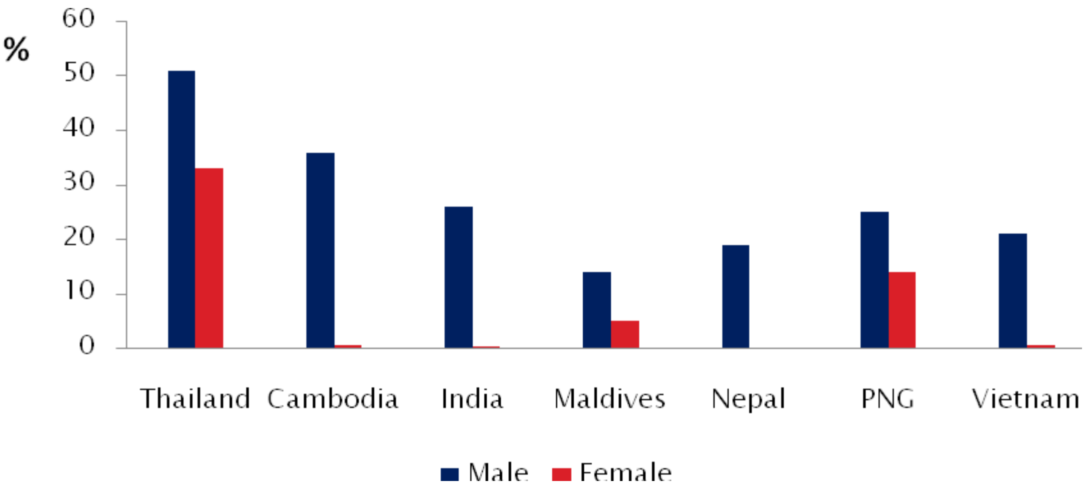

Fig 25: Percentage of young men and women (15-24 years) who reported higher-risk sex* in the last 12 months, 2005-2006

Source[125],[126],[127],[128],[129],[130],[131]

* Higher risk sex refers to sex with a partner who was neither a spouse nor who lived with the respondent.

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[125] Thailand- National Sexual Behavior Survey,2006
[126] Cambodia Demographic and Health Survey, 2005
[127] India- National Family Health Survey, 2005-2006
[128] Maldives-Reproductive Health Survey, 2004
[129] Nepal- Demographic and Health Survey, 2006
[130] PNG- Institute of Medical Research and UNICEF, 2003
[131] Vietnam- AIDS Indicator Survey, 2005

Women report condom use less often than men. In India, use of a condom during higher-risk sex is low among both genders in this age group (Fig 26).

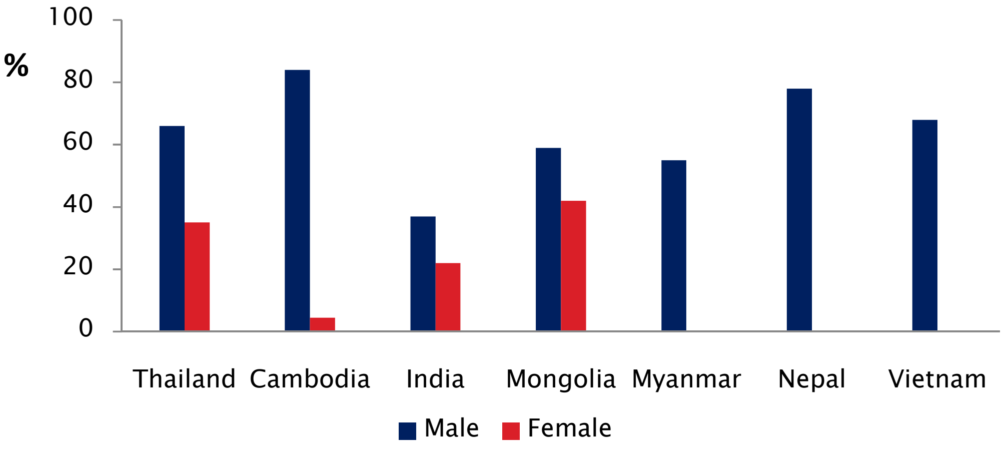

Fig 26: Percentage of young women and men (15-24 years) who reported the use of a condom during last higher-risk sex*, 2005-2006
Source[132],[133],[134],[135],[136],[137],[138]

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[132] See Ref. 120
[133] ibid
[134] See Ref. 126
[135] Mongolia STI/HIV/AIDS KAP Survey among Youth in Mongolia
[136] Myanmar Behavior Surveillance Survey, General Population and Youth, 2003
[137] See Ref. 128
[138] See Ref. 130

Chapter 7

HIV among women and children

7.1 Magnitude

Although the majority of HIV infections are still occurring among men, about 40% of the people living with HIV in South-East Asia in 2008 were estimated to be women. The figure was about 30% in East Asia[139]. This is, however, lower than the global average (50%) of HIV positive women[140]. According to the AIDS commission's report, women can be infected in three ways: very few women acquire HIV due to injecting drug use; a fair proportion of women get infected when selling sex; and most women get HIV during sex with regular partners who had been already infected due to their own high-risk behaviors.

An estimated 1.7 million women (aged 15 years and above) are currently living with HIV in the Asia-Pacific[141]. It was estimated that at least 50 million women are at risk of acquiring HIV from their intimate partners in Asia[142]. These women are either married or are the regular partners of men who engage in higher-risk behaviors. In all countries in the region, except PNG, the female-to-male ratio is less than 1. Over time, the female-to-male ratio among reported HIV cases has increased as men who engage in high-risk behaviors are increasingly infecting their female partners. Studies indicate that between 10% and 60% of MSM is either currently married or have regular female partners (Fig 21). Data from a number of countries exemplify this trend, for example:

- in Thailand, the proportion of women among all reported HIV and AIDS cases had increased from 14% in 1990 to 39% in 2008; a third of all new infections are now occurring among low-risk women from their husbands or regular partners;
- in Cambodia in 2007, an estimated one-third of all new infections were among women who were not SWs;
- in Indonesia, an estimated 17% of all new infections are among low-risk women from their high-risk male partners.

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[139] See Ref. 15
[140] ibid
[141] See ref. 10
[142] See ref. 25

Thus, the most sensible way to reduce spousal transmission from husband to wife is to prevent husbands from becoming infected in the first place. And the most effective way of achieving that is to scale up prevention interventions among MSM, male IDUs and clients of FSWs and to raise their awareness about the importance of protecting their regular female partners[143].

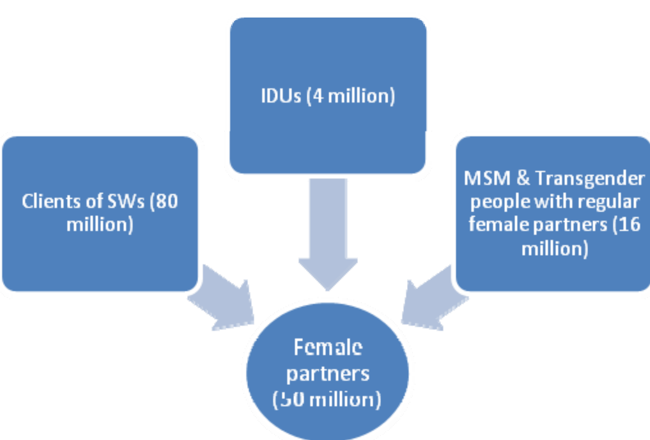

Fig 27: Schematic representation of HIV transmission in women who do not engage in high-risk behavior in the Asia-Pacific region
Source[144]

There is a scarcity of data on the actual number of women infected by their intimate sexual partners; Fig 28 shows the slowly increasing burden of HIV among women since 2001 in selected countries.

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[143] ibid

[144] HIV transmission in intimate partner relationships in Asia
http://data.unaids.org/pub/Report/2009/intimate_partners_report_en.pdf

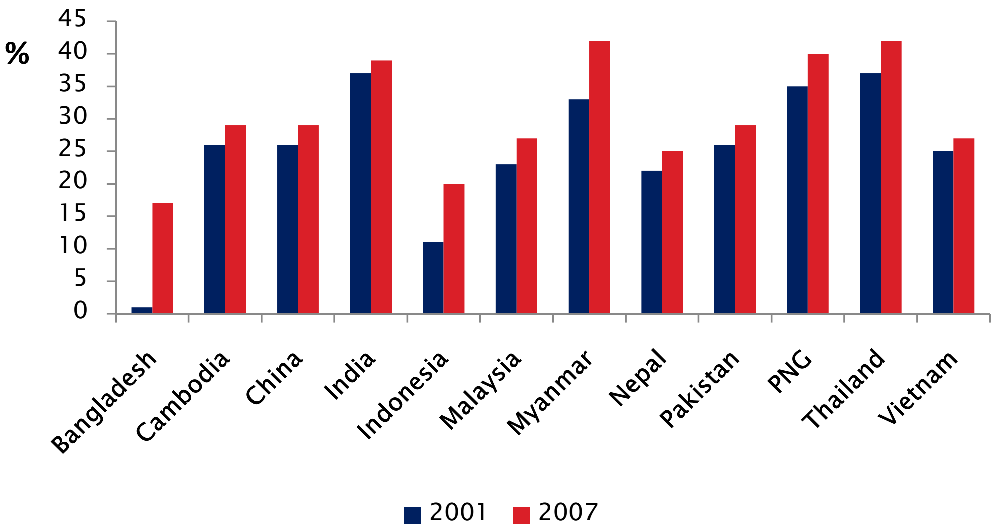

Fig 28: Comparison of the proportion of adult women among all adult HIV cases in selected countries of the Asia-Pacific region between 2001 and 2007
Source[145]

7.2 Programs to Reduce the Risk of HIV Transmission from Mother-to-Child

The Asia-Pacific has an estimated 180,000 children, aged 0-14 years, living with HIV as of 2008. More than 90% of the children living with HIV are infected through mother-to-child transmission during pregnancy, around the time of birth or through breastfeeding[146].

It has been estimated that without any interventions, 30–35% of the infants born to HIV positive mothers will acquire HIV[147]. Anti retroviral and optimal infant feeding practices are necessary to reduce HIV transmission to the infant and to promote child survival. A comprehensive approach to preventing HIV among infants and young children consists of four elements:

(i) primary prevention of HIV transmission among pregnant women and girls;
(ii) prevention of unintended pregnancies among women living with HIV;

[145] Towards Universal Access: Scaling Up Priority HIV/AIDS Interventions in the Health Sector, http://www.who.int/hiv/pub/towards_universal_access_report_2008.pdf
[146] *See ref 10*
[147] See ref 1

(iii) prevention of HIV transmission from women living with HIV to their newborn and;

(iv) provision of treatment, care and support for women living with HIV, their children and families.

Although to date, perinatal transmission has been responsible for a relatively modest share of new HIV infections in the region (Fig 1), most countries in the region have made some – albeit limited – progress in scaling up HIV testing and counseling services to pregnant women. This includes the provision of ARV prophylaxis or ART to women who require it for their own health, safer delivery care, clear guidance on infant feeding as well as counseling and support for those who test positive for HIV. The number of facilities providing HIV testing and counseling services per 100,000 pregnant women varies widely from less than one in Bangladesh to 315 in Myanmar.

Overall, only 13% of pregnant women had access to HIV testing and counseling (Fig 29) in 2008[148] in the region. Lack of access to ANC services along with a large number of births annually make testing costlier and are proven to be major barriers to expanding HIV testing and counseling among pregnant women.

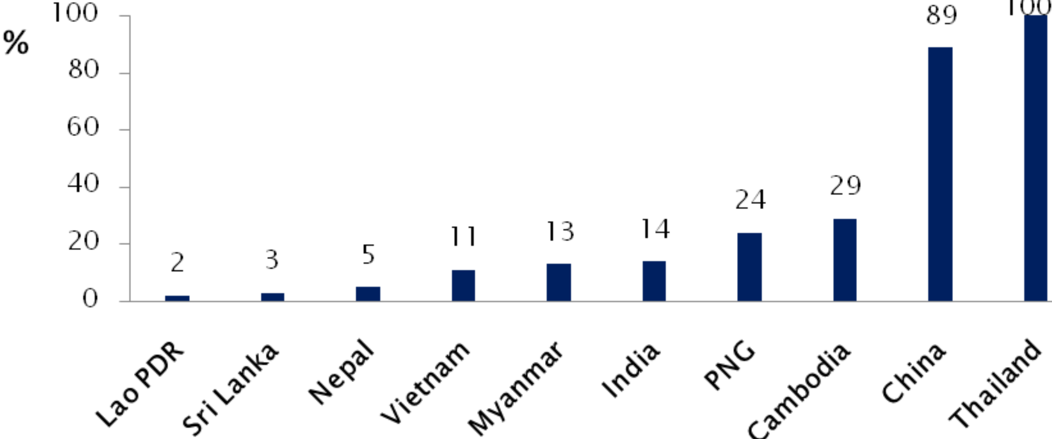

Fig 29: Percentage of pregnant women tested for HIV and who received the result in selected countries in the Asia-Pacific Region, 2008

Source[149],[150]

Differences in denominator definition- estimated number of pregnant women or women attending ANC- make comparison difficult

[148] ibid

[149] See ref 15

[150] World Health Statistics Report, WHO, 2009

A quarter of all HIV-infected pregnant women in the region received ART for PMTCT in South, East and South-East Asia region in 2008 whereas in 2004 the coverage was just 8%[151]. Still, the figure remains less than the global average (45%) for low- and middle-income countries. This figure varies widely within the region, from 3% in Nepal to 96% in Thailand (Fig 30). While some countries, for example Bangladesh, are using single-dose NVP, others use a combination of two or three ARVs for prophylaxis. India and Malaysia have recently switched over to AZT/3TC after using NVP single dose for years. Thailand is the only country in the region to have achieved universal coverage of prevention for PMTCT[152].

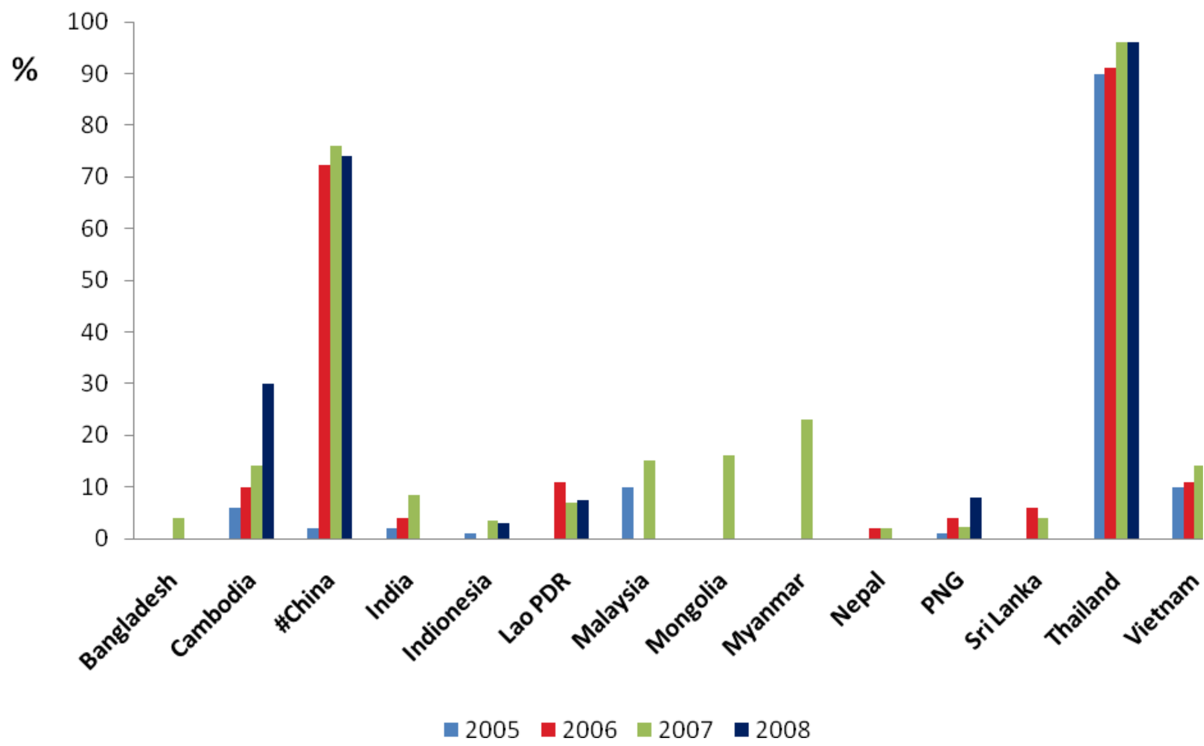

Fig 30: Trends in coverage of HIV-positive pregnant women receiving antiretroviral prophylaxis for PMTCT, 2005-2008
Source[153],[154],[155],[156]

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[151] See ref 15
[152] See ref 1
[153] See ref 15
[154] See ref 2
[155] See ref 74
[156] Data for Malaysia obtained from Epidemiological fact sheet (2008) http://cfs.indicatorregistry.org/country_factsheet.aspx?ISO=MAA

reported HIV positive cases only. Source[157]

ART prophylaxis coverage for PMTCT among pregnant women fairly closely corroborates with coverage of ART in infants in most of the countries in the region (Fig 31).

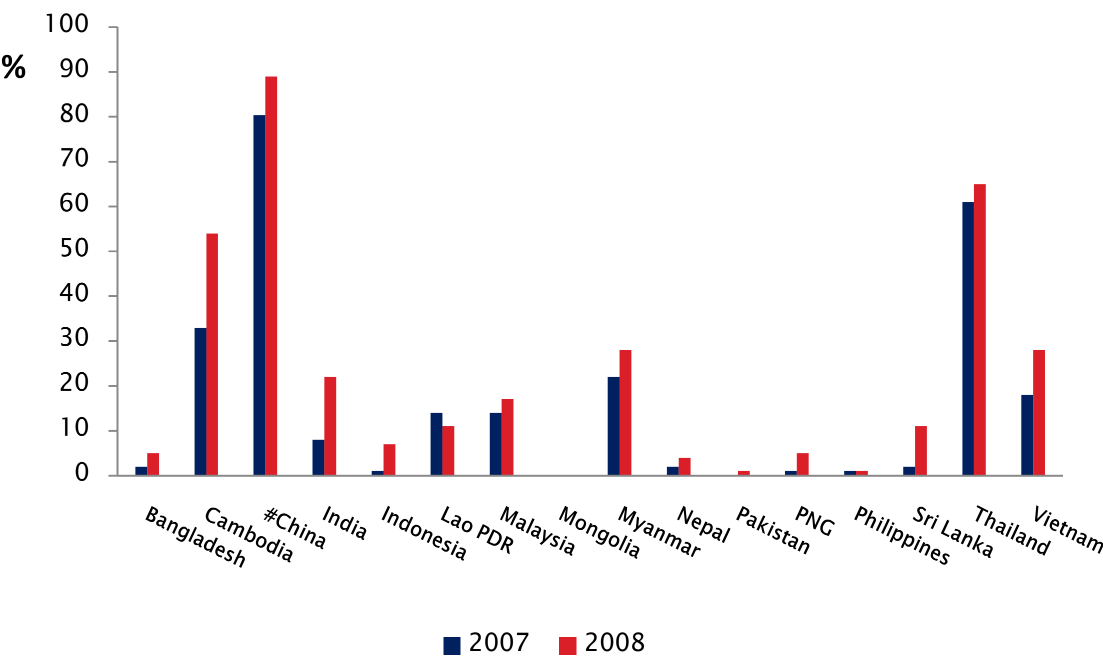

Fig 31: Percentage of infants born to HIV-infected mothers receiving any ART prophylaxis, 2007- 2008

Source[158],[159]

#For China- Reported cases only. Source[160]

In the South, East and South-East Asian regions, PMTCT coverage among infants was even lower than PMTCT coverage among mothers in 2007, but in 2008 these figures were matched at 25% per group (Fig 32).

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[157] UNGASS country report (2008), World Health Statistics Report, WHO, 2009 and China_ Comprehensive surveillance among FSW, IDU, and MSM_2008 reported in Country health sector, progress report towards Universal Access, 2009.

[158] See ref 15

[159] See ref 146

[160] See ref 151

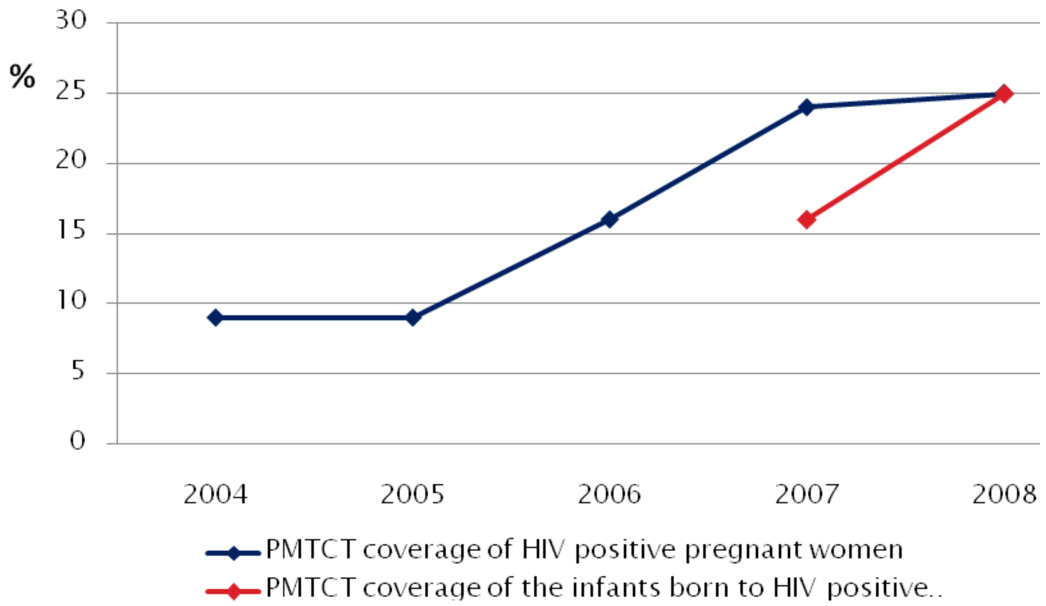

Fig 32: Percentage of HIV-positive pregnant women and infants born to them who received ART for PMTCT, in the South, East and South East Asia, 2004–2008 Source[161]

The successful implementation of PMTCT in Thailand corresponds with a series of successful HIV prevention initiatives targeting SWs and their clients. The combined efforts have led to a substantial decrease in HIV transmission and a dramatic decline in the number of pediatric AIDS cases (Fig 32).

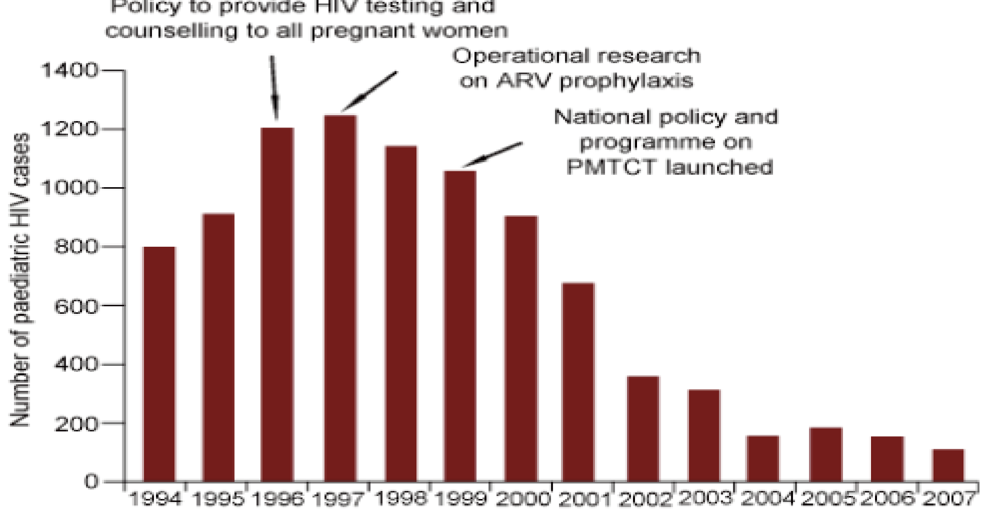

Fig 33: Reported HIV cases among children (aged 0–4 years), Thailand, 1994–2007

Source[162]

[161] See ref 15

Chapter 8

Antiretroviral Therapy

8.1 Coverage

An estimated 1.5 million people living with HIV were in need of ART in 2008. The Asia-Pacific region has scaled up ART since 2003 (Fig 34), yet the coverage is still not high enough to meet that which is required. Overall, 39% of all people living with HIV on ART are women. Children constituted 5.3% of all those on treatment.

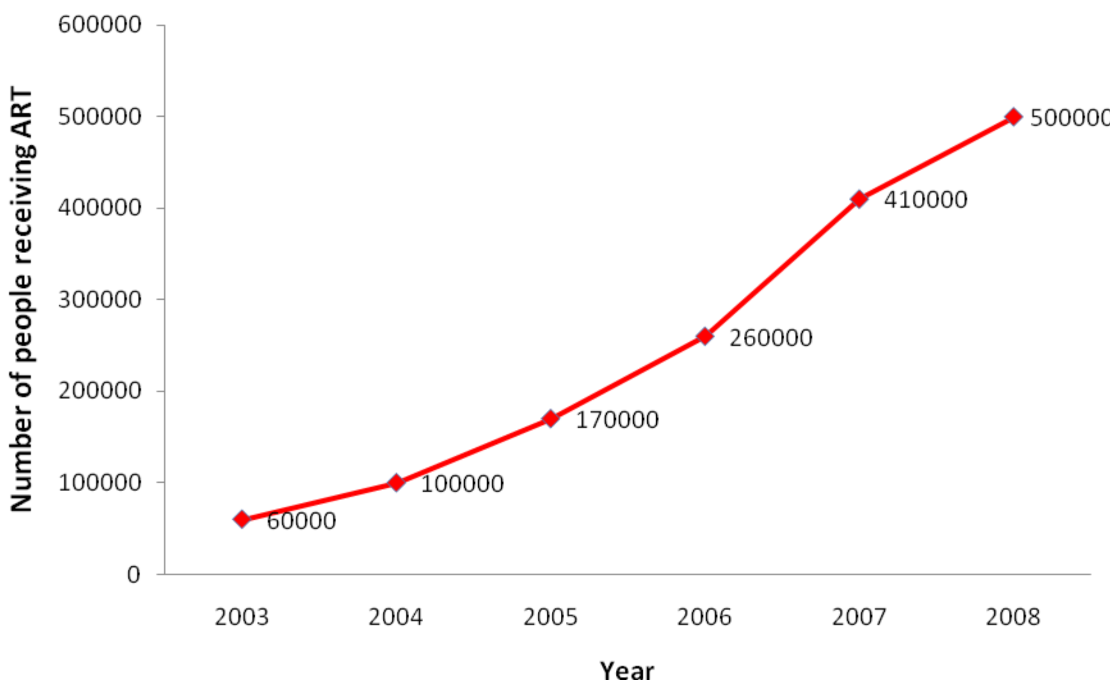

Fig 34: ART scale up in the Asia-Pacific, 2003-2008
Source[163]

Thailand was the first country in the region to provide antiretroviral therapy in 2000. Still, almost 90% of those in need of antiretroviral therapy are in just four countries – Thailand, India, China and Myanmar (Fig 35).

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[162] Bureau of AIDS, STI & TB. Ministry of Public Health, Thailand.
[163] Adapted from the meeting report on "Regional workshop on strengthening ART data use in Asia and the Pacific", 18-19 may, 2009, Bangkok, Thailand

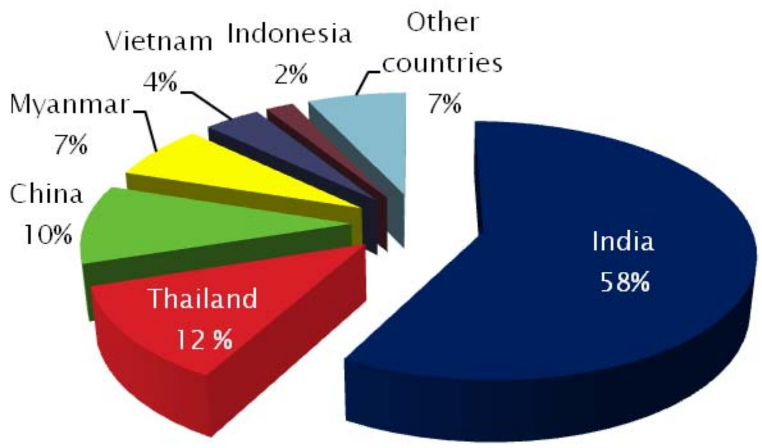

Fig 35: Percent distribution of PLHIV in the Asia-Pacific who are in need of ART, 2008
Source[164]

Thailand provides the highest number of ART clinics (1014) in the region. India has scaled up ART clinic numbers from just 8 in 2004 to 197 in 2008. Despite this, the average number of patients receiving treatment per ART clinic is very high in India (1189 per clinic) as compared to Thailand (177 per clinic)[165].

Although ART coverage has been scaled up in most of the countries in the region, the overall ART coverage is falling short of the 80% target for universal coverage. Only two countries in the region, namely Cambodia and Thailand, have scaled up ART coverage remarkably among adults and children whereas the other countries continue to fall short of the millennium goal target (Fig 36). The exceptionally high coverage in the Pacific (e.g. Palau, Tuvalu) is largely due to the very small numbers of individuals requiring ART. For example, in Tuvalu, only 11 people living with HIV and AIDS are also receiving ART. Also, in many Pacific countries, increased ART coverage was recently made possible though a Global Fund grant. It is noteworthy that PNG – the Pacific country where the epidemic is most severe – in fact has for long the lowest ART coverage.

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[164] Universal access health sector response, 2008
[165] See Ref. 1

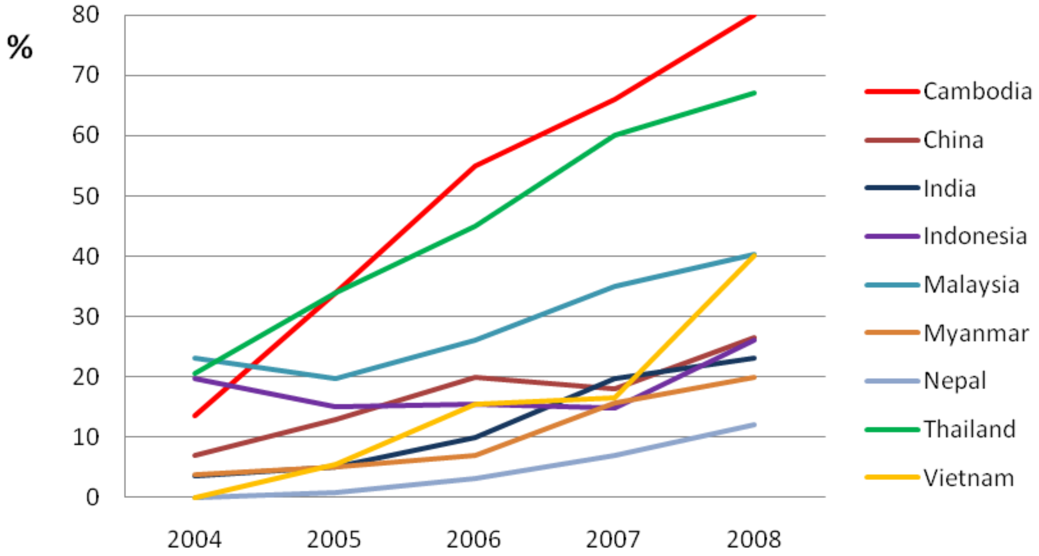

Fig 36: Trends in the coverage of adults and children with advanced HIV infection receiving ART, Asia-Pacific, 2008
Source[166]

Note: For 2008, the numerators are reported numbers in 2008; the denominators are 2007 estimates.

The implementation and expansion of ART programs in the region has been accompanied by improvements in survival and decreases in morbidity among persons accessing care. This effort has been largely the result of strong collaborative efforts of the national programs, with commitment from governments, civil society and advocacy groups, NGOs and donor agencies, as well as the global momentum to provide lifesaving therapies to those in need. However, to ensure success of these programs, key challenges still need to be addressed, including: identifying and linking infected persons to care earlier in the course of disease to prevent early mortality; developing appropriate measures to support treatment adherence and prevent loss to follow-up; and strengthening of health systems to monitor program progress and support the effective long-term decentralization of HIV treatment services. Continued advocacy and research for affordable and better-tolerated drugs as well as low-cost strategies to monitor treatment response are also essential elements to ensure the long term success of ART in the region.

[166] Universal access country reports, 2008

8.2 Treatment guidelines and new treatment recommendations

Currently, almost all countries in the region have national ART guidelines and free national ART programs, in which standardized first-line ART is prescribed and delivered using a public health approach. The most frequent first-line regimen used in adults is AZT/3TC (D4T/3TC) +NVP in India, Indonesia and Myanmar, followed by second-line D4T/3TC (AZT/3TC) + NVP in Thailand. In all other countries, except Thailand, second-line therapy is provided to only a limited number of patients.

In 2006, WHO recommended that all patients start ART when their CD4 count falls to 200 cells/mm^3 or lower, at which point they typically show symptoms of HIV disease. Most recently, in 2009, WHO has revised its guidelines to recommend that ART be initiated at a higher CD4 threshold of 350 cells/mm3 for all HIV-positive patients, including pregnant women, regardless of symptoms[167].

WHO also recommends in the revised guidelines that countries phase out the use of Stavudine, or d4T, because of its long-term, irreversible side effects. Stavudine is still widely used in first-line therapy in developing countries due to its low cost and widespread availability. Zidovudine (AZT) or Tenofovir (TDF) are recommended as less toxic and equally effective alternatives.

These new recommendations are starting to be implemented in the region and have important programmatic implications: the cost of treatment will increase as will the estimated number of HIV positive people in need of ART. On the other hand, the national coverage estimates will decrease, making it difficult for many countries to reach their own targets.

In 2006, WHO recommended that ARVs be provided to HIV-positive pregnant women beginning at their 28th week of pregnancy for PMTCT. It is now recommended that ARVs be started at the 14th week and continuing through to the end of the breastfeeding period. It also now encouraged that breastfeeding continue until the child is 12 months old, provided the HIV-positive mother or baby is taking ARVs during that period. This will reduce the risk of HIV transmission and improve the infant's chance of survival.

National health authorities are encouraged to identify the most appropriate infant feeding practice (either breastfeeding with ARVs or the use of

[167] http://www.who.int/mediacentre/news/releases/2009/world_aids_20091130/en/index.html

infant formula) for their communities. The selected practice should then be promoted as the single standard of care.

8.2.1 Benefits and challenges

An earlier start on ART reduces the risks of HIV-related death and perinatal transmission. The new PMTCT recommendations combined with improved infant feeding practices have the potential to reduce mother-to-child HIV transmission risk to 5% or lower.

The main challenge lies in increasing the availability of treatment in resource-limited countries. The expansion of ART and PMTCT services is currently hindered by weak infrastructure, limited human and financial resources, and poor integration of HIV-specific interventions within broader maternal and child health services. The recommendations, if adopted, will result in a greater number of people needing treatment. The associated costs of earlier treatment may be offset by decreased hospital costs, increased productivity due to fewer sick days, fewer children orphaned by AIDS and a drop in HIV infections.

Another challenge lies in encouraging more people to receive VCT before they have symptoms. Currently, many HIV-positive people are waiting too long to seek treatment, usually to when their CD4 count falls below 200 cells/mm^3. However, the benefits of earlier treatment may also encourage more people to undergo VCT and learn their HIV status.

Chapter 9

9.1 HIV spending

Development partners projected a total spending of US$ 1.6 billion for HIV and AIDS in 2007. As much as US$ 5.1 billion was estimated to be required for a comprehensive response in the face of slow growth in domestic spending on HIV-related programmes in the Asia-Pacific compared to other regions. In the Asia-Pacific, the percentage of total HIV expenditure funded out of national budgets has decreased from 60% in 1996 to 40% in 2004. Of note, in other countries, the ratio of domestic to external funding has either remained the same or decreased. International donors have provided more than 95% of the resources for HIV programs across the pacific islands. There were three notable exceptions to these regional trends: Thailand, China and India each had domestic funding exceeding external funding in 2009 (Fig 37).

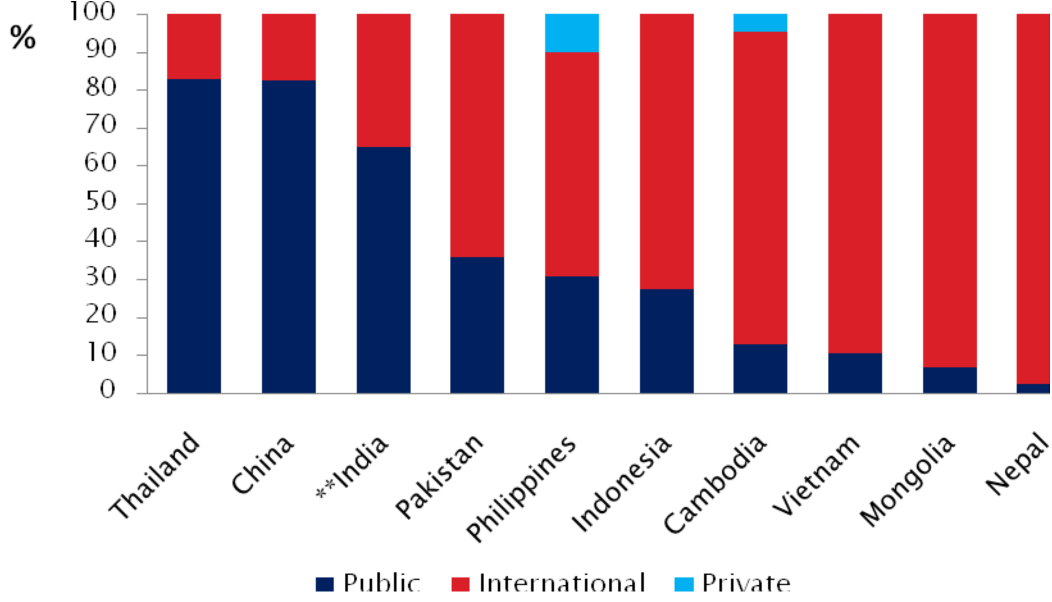

Fig 37: Percent distribution of AIDS funding, by countries and sources, 2007

Source[168],[169]

** India data of 2009

[168] See ref. 2

[169] NASA surveys,2006-8

The increase in external funds available for HIV programs makes it easier for countries to fund their HIV responses, but medium- to long-term sustainability of some programs may be compromised if HIV loses its priority on the international agenda. In addition, donor funding sometimes does not reflect or fit well with the national or sub-national priorities laid out in countries' national strategic plans. Above all, funding should match the priorities and patterns of the HIV epidemic, with at least 50% of spending of the budget on HIV prevention. For example, in Thailand – where the Government funds more than 80% of the HIV budget – there was a marked policy focus on treatment (Fig 38) for several years but, more recently, HIV prevention efforts have been revitalized.

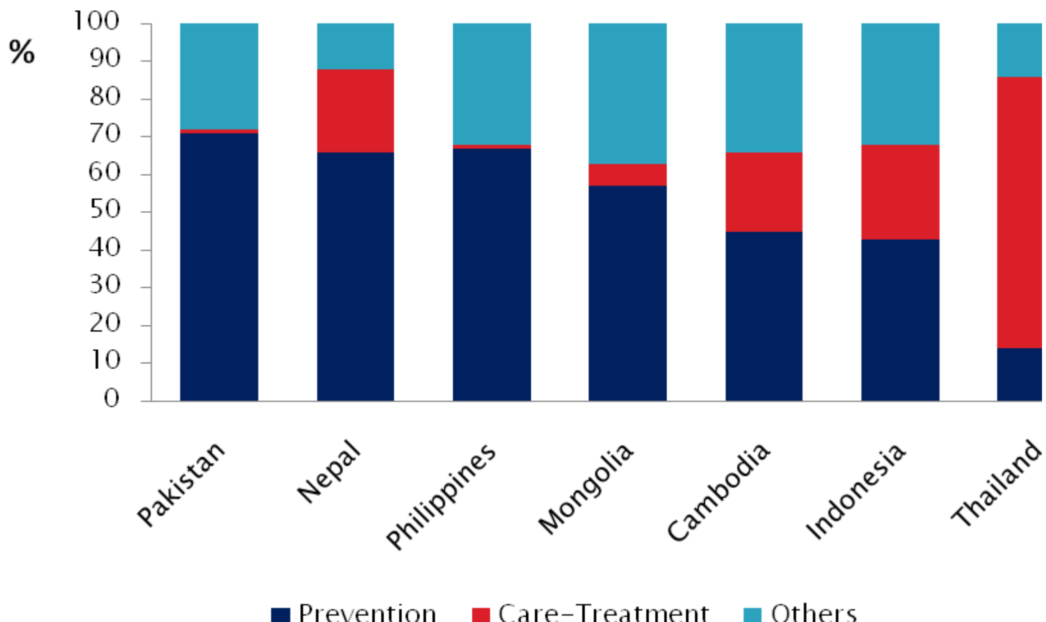

Fig 38: Percent distribution of AIDS spending by key areas of the AIDS response, 2005-2007
Source[170]

However, when disaggregating HIV prevention programme activities, it is striking that in many countries, the epidemiologically informed priorities – such as the population groups where most of the new HIV infections are occurring – are not prioritized and thus money is not being spent on the most effective interventions. The HIV prevention budget often goes to "soft" programmes, such as general awareness for the population at large rather than

[170] See ref 2 & ref 74

to high-impact HIV prevention (Fig 39). The need to prioritize targeted prevention programs for key populations at higher risk is increasingly being addressed. For instance, between round 6 and round 9 of Global Fund grant proposals, the proportion of proposals focusing on populations at higher risk has increased from 24% to 58%.

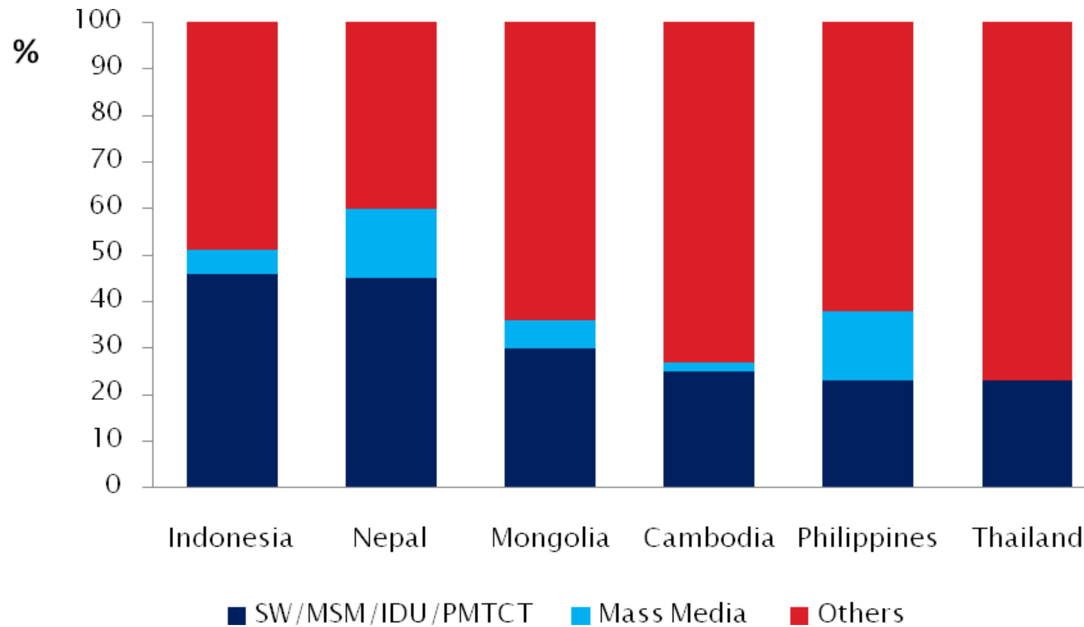

Fig 39: Percent distribution of AIDS spending by HIV prevention components
Source[171],[172]

The recent economic crisis might affect the AIDS programs in countries that are heavily dependent on international funding. Most of the prevention programs like harm reduction programs are donor-dependent. Therefore, cuts in funding might affect the prevention programs for populations already at higher risk. New international agendas such as climate change and the H1N1 pandemic have recently obtained a great deal of political attention and may result in the lessening of AIDS as a political priority.

[171] See ref 2
[172] See ref 164

9.2 Socio-economic impact

In the Asia-Pacific, HIV continues to directly or indirectly affect health, livelihood, quality of life and other socio-economic factors. It is most likely to hamper life expectancy and survival at national as well as regional levels (Fig 40).

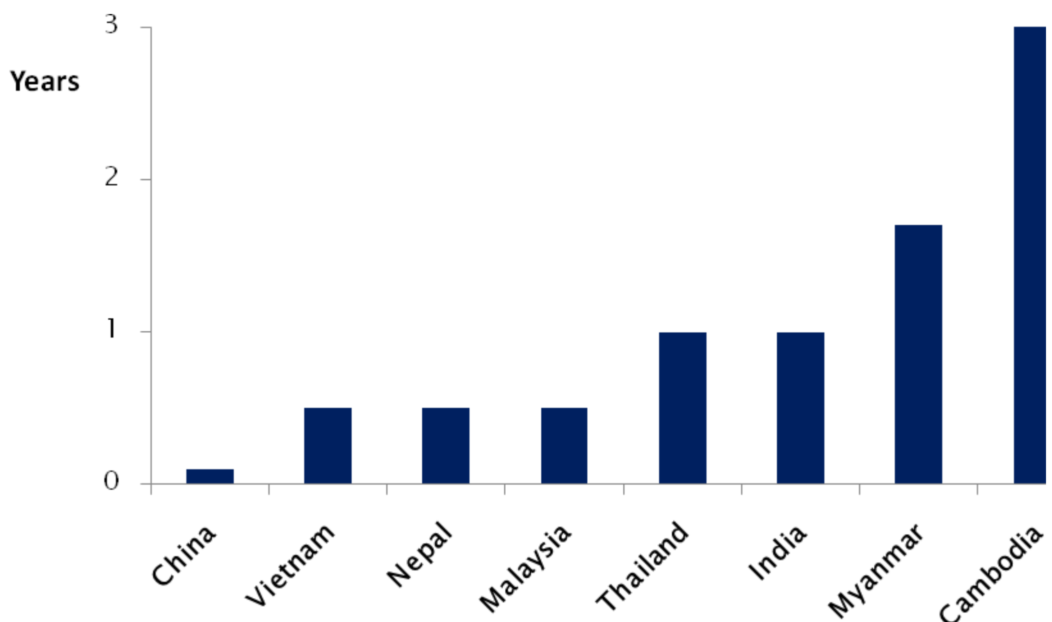

Fig 40: Reduced life expectancy in years due to HIV in different countries in the Asia-Pacific
Source[173],[174]

Box 3: Economic impact of HIV

"It has been estimated that each AIDS death represents an income loss of almost USD 5000 the equivalent of nearly 14 years of income for people earning USD 1 per day at current prices. The economic effects of AIDS-related illness and death tend to be felt most acutely in households living close to or below the poverty line". The AIDS Commission estimates that, by 2015, AIDS will have caused an additional 6 million households in Asia to fall below the poverty line.

[173] UNAIDS 2008
[174] See Ref. 25

Chapter 10

The way forward towards universal coverage?

Although the HIV epidemics vary considerably from country to country in the region, they share important characteristics in that they are each primarily driven by unprotected paid sex, sharing of contaminated needles and syringes by IDUs, and unprotected sex between men. The region has witnessed successes in Thailand, Cambodia and parts of India in curbing HIV prevalence. Four major conclusions can be drawn as follows:

1. There is an urgent need to address the specific behaviors which contribute to HIV incidence and to provide specific services to reduce the vulnerability of populations at higher risk.

2. Low-risk women living with their regular male partners who indulge in one or more high-risk behaviors are particularly at risk of HIV infection.

3. Access to information on and services for HIV prevention as well as care and treatment each needs to be scaled up if countries want to control their HIV epidemic and reduce its impact.

4. Social and political environments that support the provision of appropriate HIV prevention services to populations at higher risk need to be enhanced and legislation and regulations that are obstacles to HIV prevention and access to services must be amended.

Overall, intervention programs should be appropriately addressed to ensure that target populations are reached with sufficient strength and coverage. More and more countries are now moving forward in providing care and treatment to those who are living with HIV and in need of ART. However, care and treatment should go hand in hand with HIV prevention. Understanding more about risk behaviors and risk situations would help in developing, maintaining and expanding comprehensive intervention programs in a more efficient and effective manner. Each country and sometimes each sub-region or district need to address the specific conditions that create vulnerability to HIV. For example, more detailed information on migration and HIV or on sex work conditions can be found on the HIV and AIDS Data Hub website in the country capsules under regional review.

Progress in the Asia-Pacific region has been mixed, both among the different sub-regions and at the country level. The region still lacks the much-needed

degree of urgency, commitment and coherence required to curb the epidemic. While significant progress has been made in scaling up care and treatment, progress on reaching those most-at-risk with prevention programs has been more challenging.

Key findings from a review of the 2008 UNGASS Reports for countries in the Asia-Pacific region are as follows: Available data indicates that condom use among FSWs has increased significantly. Many of the countries in the region appear to have met the 80% condom use target. However, it is important to note that progress in many other countries has been challenging and that overall data quality needs verification.

IDUs are not being reached effectively by prevention programs and only a few countries are reporting over 60% safe injection behavior. Coverage of programs for MSM in the region has been extremely limited. Many countries did not report on the percentage of MSM reached with HIV prevention programs. However, even with low prevention coverage, several countries in the region report relatively high condom use among MSM.

The majority of pregnant women in the region are not being reached by PMTCT services. The cost-effectiveness of HIV testing of pregnant women on a routine basis is to be questioned. A risk behavior assessment approach in which selected women are tested may prove to be more effective. With the exception of a few countries, PMTCT remains very low.

Although the Asia-Pacific region as a whole falls short of meeting the 80% coverage target for care and treatment, there has been impressive progress in a number of countries. The most notable progress has been made in the South-East Asian sub-region. In South Asia, the situation remains most challenging.

Political engagement and support has increased overall, but leadership is still lacking with regards to addressing the epidemic among those most-at-risk. Stigma and discrimination towards these populations and people living with HIV is persistent.

The resource gap in the region is still significant. Most finances are contributed through international support, with domestic spending at a very low level. Especially in light of the limited resources available, it is important to give increased priority to resource allocation and cost-effectiveness of the response.

Among countries in the Asia-Pacific having responded to the question "Does the country have laws, regulations or policies that present obstacles to effective HIV prevention, treatment, care and support for vulnerable sub-populations?" in 2007 UNGASS progress reports (n=18 countries in the region), 61% of countries reported inhibitory legislation and policies with regards to MSM (compared to 29% of all other countries, where n=114). Eighty-three percent of countries in the region reported such barriers for sex workers, nearly twice the 39% of countries in the rest of the world. Obstacles impeding IDUs were reported by 61% of countries in the Asia-Pacific, compared to 36% elsewhere. National Composite Policy Index data analysis indicates that key populations at higher risk face significant barriers in the region, particularly in comparison to other countries of the world (Fig 41).

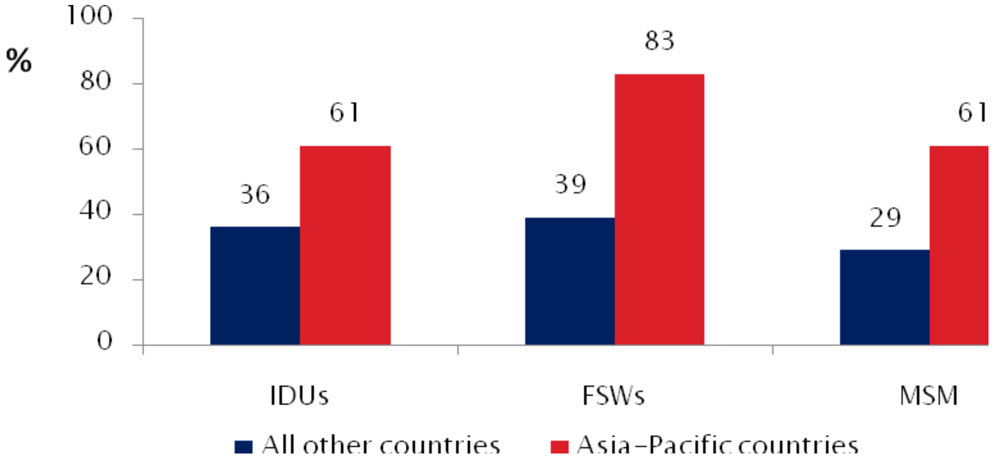

Fig 41: Percent of Asia-Pacific countries having laws, regulations or policies that present obstacles to effective HIV prevention, treatment, care and support for vulnerable populations
Source[175]

As a result of criminalization and discriminatory laws and policies, HIV surveillance, management, and prevention programs are often hindered, or rendered non-effective. Therefore, recognition and protection of the rights and needs of people living with HIV and vulnerable groups are critical to the creation of an "enabling environment" – an environment that supports initiatives to control HIV and address its impact on individuals and communities. Human rights recognition is also a critically important public health measure: harm reduction programs for injecting drug users have been

[175] See Ref. 49

shown to be very effective in reducing HIV spread. However, for rights to be meaningful at the community level there must also be a transformation of the social and normative environments. This means developing a comprehensive response to HIV and AIDS that includes medical and public health interventions, strong human rights-based legislation and policy and social transformation within communities and institutions.