

# Asia-Pacific

## Country Reviews September 2011

### INDIA AT A GLANCE

Total population (in thousands)	1,214,464 (2010) <sup>1</sup>
Annual population growth rate	1.3 (2010-2015) <sup>1</sup>
Population aged 15-49 (thousands)	654,884 (2010) <sup>2</sup>
Percentage of population in urban areas	30 % (2010) <sup>3</sup>
Crude birth rate (births per 1,000 population)	22.5 (2009) <sup>4</sup>
Under-5 mortality rate (per 1,000 live births)	69 (2008) <sup>5</sup>
Human development index (HDI) - Rank/Value	119/0.519 (2010) <sup>6</sup>
Life expectancy at birth (years)	64.4 (2010) <sup>6</sup>
Adult literacy rate	62.8% (2005-2008) <sup>6</sup>
Ratio of girls to boys in primary and secondary education (%)	92 (2007) <sup>4</sup>
GDP per capita (PPP, \$US)	3,270 (2009) <sup>4</sup>
Per capita total health expenditure (Int.\$)	109 (2007) <sup>5</sup>

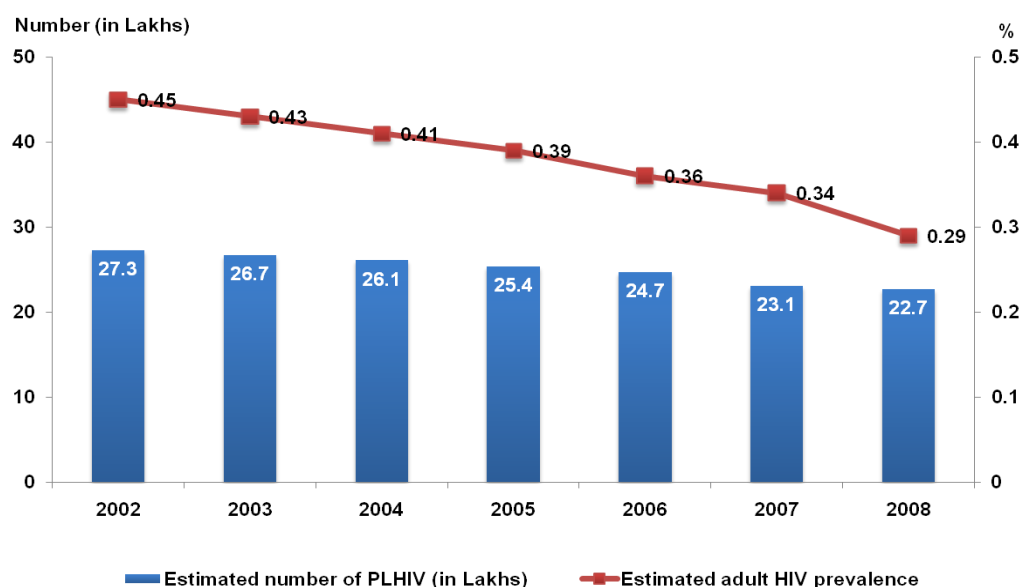


## HIV EPIDEMIOLOGY AND TRENDS

The first cases of HIV were diagnosed among sex workers in Chennai in 1986. Since then, the country has evolved from a “low” to “concentrated” epidemic; the national HIV prevalence has steadily grown, not only among key affected populations such as men who have sex with men (MSM), sex workers and injecting drug users (IDUs), but also spreading into the general population in several states.

In 2009, an estimated 2.4 million [2.1-2.8 million] adults and children were living with HIV, and – while this represents a decline from the 2.5 million estimated in 2001, India remains just behind South Africa and Nigeria in numbers of persons living with HIV. In addition, HIV prevalence among the general adult population was 0.3% in 2009 (down from 0.4% in 2001).<sup>7</sup> Figure 1 displays trends of estimated adult (aged 15-49) HIV prevalence and estimated number of PLHIV. It is important to note that, although the reduction of the overall adult prevalence in India is associated with increased HIV programme and service coverage, improvements in surveillance coverage, quality of data, and methods used for estimation were key to a more valid estimation process.<sup>8</sup> Women account for 38% of people living with HIV and children account for 4.4%.<sup>7</sup> Sixty percent of PLHIV are in the six high prevalence states of Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu, Uttar Pradesh and Manipur.<sup>8</sup>

**Figure 1: Trends of estimated adult HIV prevalence and estimated number of PLHIV, 2002-2008**



Source: Prepared by [www.aidsdatahub.org](http://www.aidsdatahub.org) based on India, Ministry of Health and Family Welfare, National AIDS Control Organization, Department of AIDS Control, Annual Report, 2009-10

### Surveillance systems<sup>8</sup>

- The National AIDS Control Programme collects routine information (monthly) on programme components from all states and union territories including Blood Banks, Integrated Counselling and Testing Centres, sexually transmitted infections clinics, antiretroviral treatment centres and from NGOs implementing targeted interventions and community care centres.

- A total of 495 monitoring and evaluation (M&E) officers at national level, 2,535 officers at state level and 12,393 civil society representatives went through M&E training during 2008 and 2009.

- HIV surveillance was first conducted among blood donors and people with sexually transmitted infection in 1985. Annual HIV sentinel surveillance began in 1998 in 176 sites, which has been expanded to 1,215 sites as of 2009. Surveillance populations are: pregnant women attending antenatal clinics, patients attending sexually transmitted infections clinics, female sex workers, men who have sex with men, injecting drug users, single male migrants and long distance truckers.

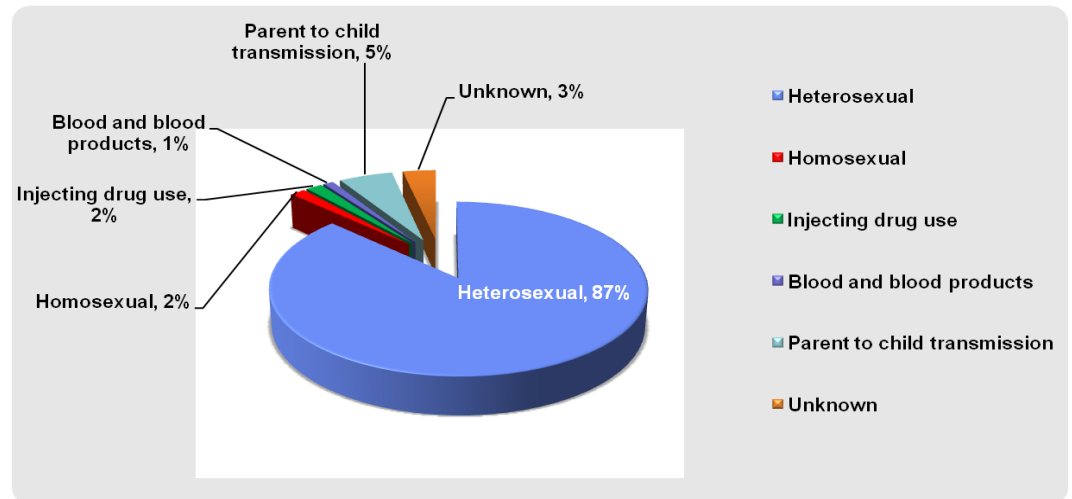
- Three rounds of BSS have been conducted as of 2009 - two at the national level in 2001 and 2006 and one at state level (both rural and urban areas) in 2009 in six high prevalence states. Population groups surveyed include female sex workers (brothel based and non-brother based), men who have sex with men, injecting drug users (including females in Manipur), single male migrants, youth in general population (Urban and Rural) and male and female in general population (urban and rural).

- Integrated Biological & Behavioural Assessment: Two rounds were conducted in 29 districts in six high prevalence states in 2006 and in all districts of Karnataka in 2009. Populations covered female sex workers, clients of female sex workers, men who have sex with men, transgender, injecting drug users, and long distance truckers.

### WHO IS AT RISK OF HIV INFECTION IN INDIA?

As of February 2010, HIV had been mainly transmitted via sexual intercourse (87%) (Fig. 2).<sup>9</sup> Additional routes of transmission include perinatal, unsafe blood and blood products, infected needles and syringes and unspecified/other routes of transmission.

**Figure 2: Percent distribution of reported HIV cases by mode of transmission, 2009 – February 2010**



Source: Prepared by [www.aidsdatahub.org](http://www.aidsdatahub.org) based on India, Ministry of Health and Family Welfare, National AIDS Control Organization, Department of AIDS Control, Annual Report, 2009-10

The heterogeneous distribution of the HIV epidemic is evident, as many isolated pockets of high prevalence are identified in several districts of the country.<sup>10</sup> Overall, 108 districts in the country have HIV prevalence >1% in lower-risk populations represented by women attending antenatal clinics (ANCs); 87 districts have HIV prevalence >5% in one or more of the key affected populations.<sup>11</sup> A population-based survey carried out in the north-eastern state of Nagaland in 2007 showed HIV prevalence to be 0.74% overall. The prevalence rate obtained was lower than estimates from 2006 sentinel surveillance (0.93%). However, it should be noted that the population based survey was likely to miss many members of mobile, migrant and other groups at an increased risk of HIV.<sup>12</sup>

With a concentrated HIV epidemic, India's HIV prevalence continues to be high among key affected populations (6 to 8 times that of the general population). Nationally, HIV prevalence is notably higher among IDUs and MSM than among female sex workers (FSWs) and other population groups. Still, sex work continues to act as the most important source of HIV infections in India due to the large number of clients becoming infected by sex workers.<sup>8</sup>

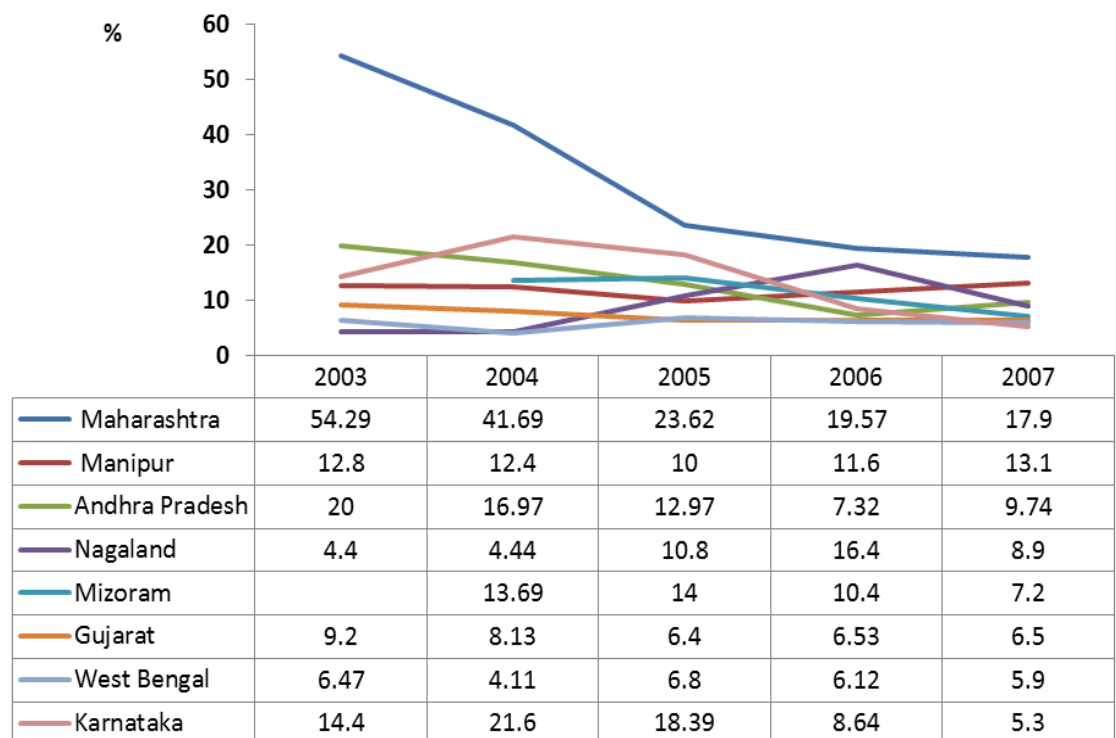
### Sex workers

It is estimated that there are 1.26 million female sex workers (FSWs) in India.<sup>8</sup> Sex workers are located in all parts of the country, with Mumbai and Kolkata being identified as the two largest brothel-based sex industry centres, not only in India but in the Asian Region. Overall, HIV prevalence among FSWs has experienced a steady decline in recent years to 4.9% in 2009,<sup>13</sup> down from 9.4% in 2000.<sup>14</sup>

The decline is particularly prominent in southern States; however, the highest HIV prevalence among FSWs in India is still found in the South with six sentinel sites having HIV prevalence above 20%. In addition, rising trends are evident in the North East.<sup>8</sup>

HIV prevalence among FSWs was higher than the average of 5.1% in eight states in 2007 – Maharashtra (West) at 17.9%, followed by the states of Manipur at 13.1% (Northeast), Andhra Pradesh at 9.7% (South), Nagaland at 8.9% (Northeast) and Mizoram at 7.2% (Northeast), Gujarat at 6.5% (West), West Bengal at 5.9% (East) and Karnataka at 5.3% (South) (Fig.3).<sup>15</sup> Some districts had greater than 15% HIV prevalence among FSWs such as Mumbai (42.4%) and Pune (59.2 in Maharashtra, East and West Godavari and Khamman (15.6%, 16.5%, 15.6%, respectively) in Andhra Pradesh and Churachanpur (19.6%) in Manipur.

**Figure 3: Trends in HIV prevalence among FSWs in selected states, 2003 - 2007**



Source: HIV sentinel surveillance and HIV estimation in India, 2007

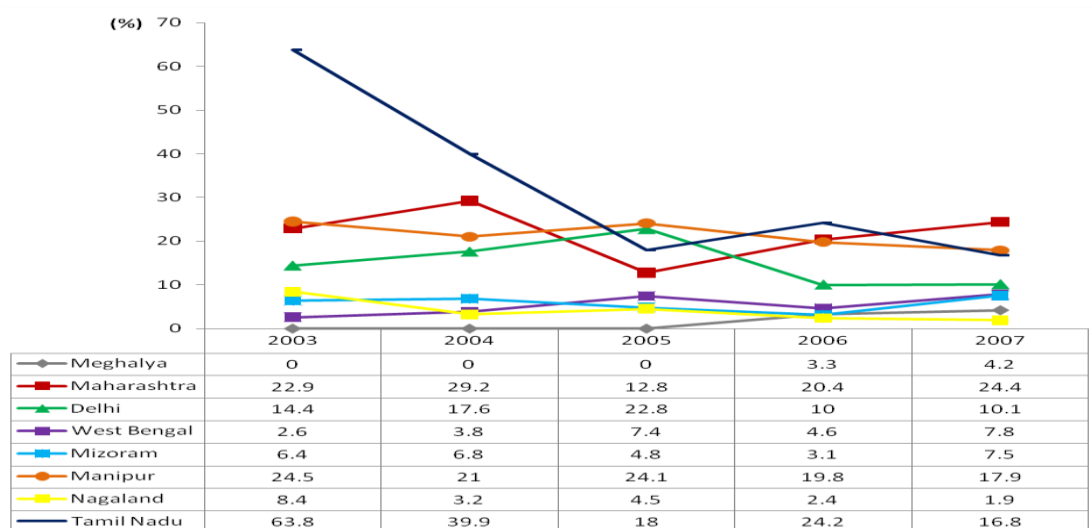
According to the BSS 2006, 3.4% of men (aged 15-49) reported commercial sex in the previous 12 months (5% among urban men and 3% among rural men).<sup>16</sup> Long distance truckers and male migrants form the largest clientele.<sup>17</sup> The BSS 2006 reveals that the percentage of MSM who reported sex with commercial male partners in the last month ranged across cities surveyed from 9% in Mumbai to 69% in Delhi.<sup>15</sup> The 2007 HSS also surveyed male migrants (3.6% prevalence) and truckers (2.5%) as proxy groups for clients of FSWs.<sup>15</sup> A high percentage of MSM also engage in commercial sex.

### **Injecting drug users**

There are an estimated 186,000 injecting drug users (IDUs) in India.<sup>8</sup> Among them, HIV prevalence varies widely across states, but was 9.2% overall in 2009, up from 7.2% in 2007.<sup>13: 15</sup> The northeastern states bordering Myanmar still have significant epidemics among people who inject drugs and new areas in the north are emerging with high injecting drug use epidemics.

Figure 4 shows HIV prevalence among IDUs in selected states. HIV prevalence is on the decline in Manipur and Nagaland (Northeast) where injecting drug use is the principal driver; in contrast, a rising trend is seen in Meghalaya and Mizoram (Northeast) – indicating the dual and often localized nature of the epidemic in the country. Overall, there has been a decline in Tamil Nadu (South); however, new sites of high HIV prevalence among IDUs were identified in this state as well as in Kerala (South), the states of Punjab and Chandigarh (North), West Bengal (East), Maharashtra (West), all of which have rising trends overall.

**Figure 4: Trends in HIV prevalence among IDUs in selected states, 2003 - 2007**



Source: Prepared by [www.aidsdatahub.org](http://www.aidsdatahub.org) based on HIV sentinel surveillance and HIV estimation in India, 2007

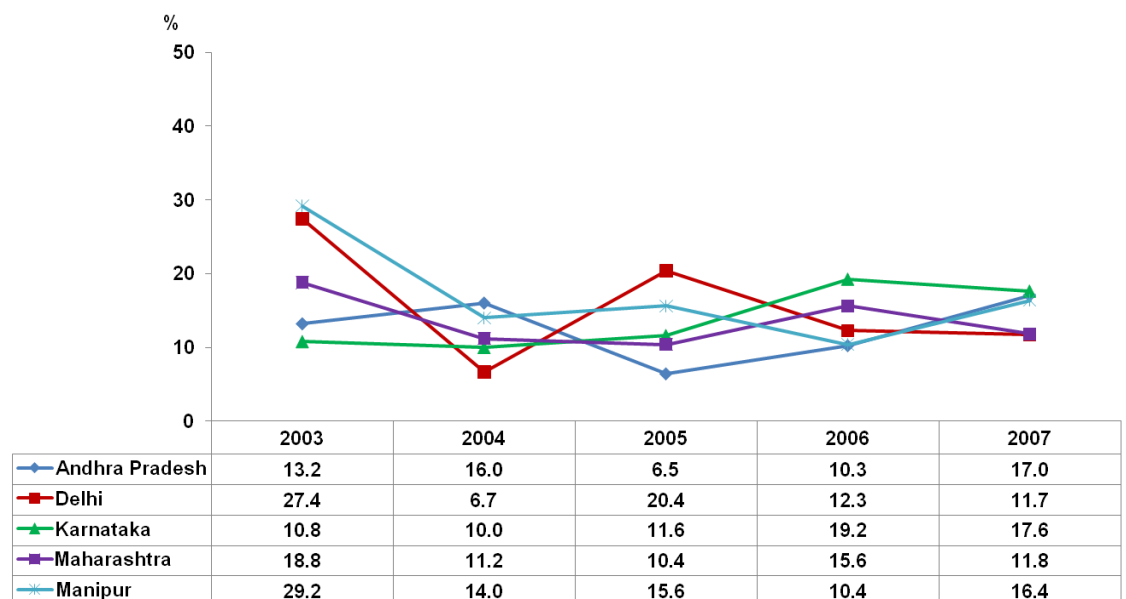
Data from surveys among IDUs reveal that sexual networking among key affected populations is extensive in some parts of the country. The 2006 BSS found that as many as 49% of IDUs in both Delhi and Mumbai and 56% in Punjab reported having sex with a commercial partner in the last 12 months.<sup>18</sup>

According to a rapid situation and response assessment of drugs and HIV conducted in India in 2005-2006, 62% of 5,800 drug users surveyed were injecting – of whom about three-fourths were current injectors (with a median frequency of injecting three times a day).<sup>19</sup> Only about a third (32%) of the drug users believed that they were at risk of getting infected with HIV.

### Men who have sex with men

In 2006, the National AIDS Control Organisation (NACO) reported an estimated 2,352,133 MSM in India,<sup>20</sup> while the 2010 UNGASS Report states that there are an estimated 351,000 higher risk MSM.<sup>8</sup> Overall, HIV prevalence among MSM was 7.3% in 2009 as compared to 7.4% in 2007.<sup>13; 15</sup> Despite this stable trend over reporting periods, there is an increasing trend in southern states (Fig. 5). In 2007, there were many states with HIV prevalence among MSM exceeding 5%: Maharashtra, Delhi, Gujarat, Goa, Orissa, Tamil Nadu and West Bengal, and exceeding 15% in Karnataka, Andhra Pradesh, and Manipur.<sup>15</sup>

**Figure 5: Trends in HIV prevalence among MSM in selected states, 2003 - 2007**





The 2006 BSS revealed that a large number of MSM in some states were currently married to or living with a female sexual partner. For instance, as many as 39% of MSM in Bangalore, 55% in Andhra Pradesh and 70% in Gujarat reported this sort of relationship.<sup>18</sup> Independent studies from areas having high prevalence among MSM also noted high proportions of MSM being married and/or having female sexual partners. For instance, a 2006 cross-sectional survey among MSM (n=357) in Bangalore revealed that 41% also reported sex with a woman in the past year and 14% were currently married to a woman.<sup>21</sup> Another 2008 study among MSM (n=721) in eight cities in Tamil Nadu found that 34% were married.<sup>22</sup>

## KNOWLEDGE, VULNERABILITY FACTORS & RISK BEHAVIOURS

### Vulnerability Factors

- Gender discrimination contributing to the spread of HIV, especially among women
- Stigma and discrimination
- Inadequate human resource and technical support that lead to slow progress in the scale-up of prevention, care and support programmes
- Lack of capacity and systems to effectively implement certain HIV programmes - e.g. cohort tracking of ART; coordination of integrated counselling and testing centres and ART centres; ensuring operational and functional governance structures.

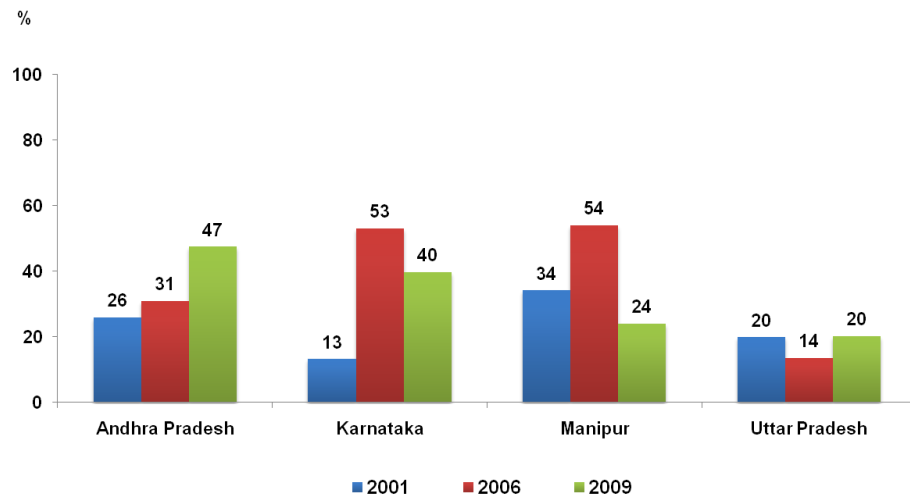
### *Knowledge about HIV*

As of 2006, more men (34%) than women (24%) within the 15-49 age group have comprehensive HIV knowledge – that is, could both correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission.<sup>16</sup> Overall, 2006 BSS data reveal an increase in the percentage of young women and men aged 15-24 who had a comprehensive HIV knowledge - from 22% in 2001 to 33% in 2006.<sup>10; 23</sup> More recently, the 2009 BSS of comprehensive knowledge across several survey sites reveals a decline in knowledge among young people – from 28% in 2006 to 19% in 2009 in Andhra Pradesh and from 23% in 2006 to 10% in 2009 in Karnataka. However, knowledge increased from 30% to 40% in Tamil Nadu,<sup>24</sup> likely indicating the range in the success and/or availability of prevention programmes in these differing regions of the country.

Misconceptions regarding HIV transmission persist among key affected populations. Less than half of FSWs have comprehensive knowledge about HIV. The percentage of FSWs workers reporting such comprehensive knowledge of HIV in the 2009 BSS ranged from 20% in Uttar Pradesh to 24% in Manipur, 40% in Karnataka and 47% in Andhra Pradesh.<sup>25</sup> In Manipur and Karnataka, these figures represent declines in knowledge from the 2006 round of BSS (Fig. 6).



**Figure 6: Percentage of FSWs with comprehensive HIV knowledge by state, 2001 - 2009**



Source: Prepared by [www.aidsdatahub.org](http://www.aidsdatahub.org) based on Behavioural Surveillance Survey, 2006 and Behavioural Surveillance Survey, 2009 cited in UNGASS Country Progress Report, 2010

\* BSS 2009 was conducted in six states of India - Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu, Uttar Pradesh and Manipur - and is not a nationally representative sample.

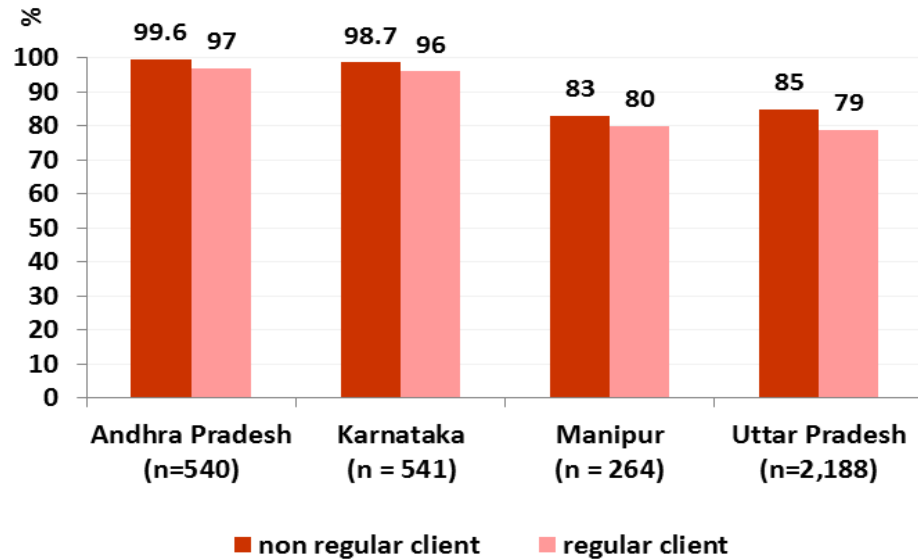
Comprehensive knowledge of HIV was similarly low among MSM in 2009 across survey sites, at 30% in Manipur, 57% in Andhra Pradesh, 21% in Karnataka and 17% in Uttar Pradesh.<sup>25</sup> Likewise, only 27% of IDUs in Manipur and 18% in Uttar Pradesh had comprehensive knowledge about HIV in 2009.<sup>25</sup>

### Condom use

One of the successes thought to be attributed to prevention programmes is the high rate of condom use among FSWs with their clients, especially in high prevalence states. Most recently, the 2009 BSS reports the high level of condom use during last sex with an occasional client among FSWs—92.6% in Tamil Nadu, 98.7% in Karnataka and 99.6% in Andhra Pradesh – yet slightly lower in Manipur (83.0%) and Uttar Pradesh (84.5%).<sup>25</sup> Results were similar with regular paying clients (Fig. 7).<sup>25</sup> High level of condom use with most recent clients was also reported in the 2006 BSS at both national level (87.5%) and in the states mentioned above - Manipur (95.2%), Tamil Nadu & Puducherry (90.7%), Karnataka (92.5%), Andhra Pradesh (93.6%) and Uttar Pradesh (81.8%). However, last time condom use with non-paying partner among FSWs was much lower - at national level (53.7%), in Manipur (73.2%), Tamil Nadu and Puducherry (55.0%), Karnataka (51.6%), Andhra Pradesh (45.5%) and Uttar Pradesh (40.0%).<sup>17</sup>

In 2009 BSS, FSWs reported lower last time condom use with their non-paying partners—11%, 24% and 21% of FSWs in Manipur, Andhra Pradesh and Karnataka, respectively, reported using a condom at last sex with a non-paying regular partner, while 9%, 26% and 8%, respectively, reported such usage with a non-paying non-regular partner.<sup>25</sup>

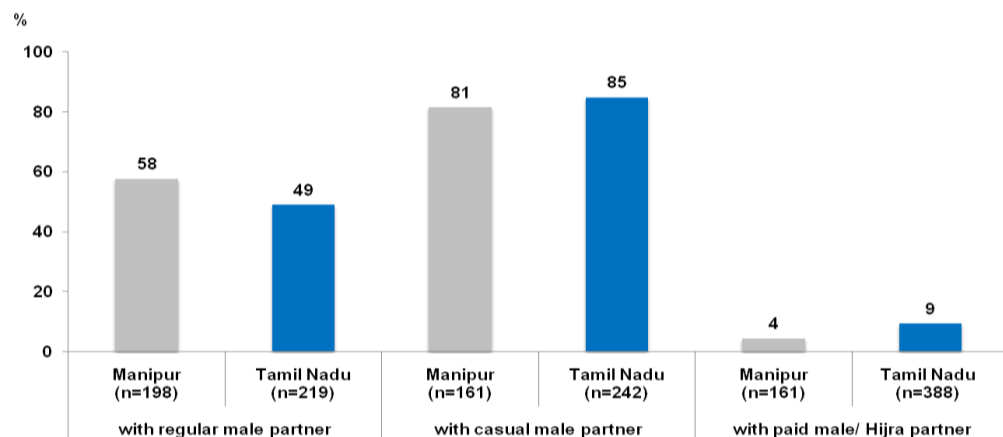
**Figure 7: Percentage of FSWs who reported condom use at last sex with non regular paying client and regular paying clients by state, 2009**



Source: Prepared by [www.aidsdatahub.org](http://www.aidsdatahub.org) based on Behavioural Surveillance Survey, 2009 cited in UNGASS Country Progress Report, 2010

Also in 2009, the percentage of MSM who reported condom use at last anal sex ranged by type of partner. As shown in Figure 8, overall condom use was highest with casual male partners, followed by regular male partners, and was lowest with paid male/hijra partners in both Manipur and Tamil Nadu.<sup>25</sup> The National Family Health Survey in 2005-2006 found that the proportion of MSM who used a condom the last time they had sex with a commercial partner was highest in Kolkata (64%) and lowest in Delhi (41%).<sup>10</sup> Of all states, Goa had the highest proportion (87%) of respondents who used a condom the last time they had sex with a commercial partner while Uttar Pradesh had the lowest (13%).<sup>10</sup>

**Figure 8: Percentage of MSM who reported condom use at last anal sex by type of partner, Manipur and Tamil Nadu, 2009**



Source: Prepared by [www.aidsdatahub.org](http://www.aidsdatahub.org) based on Behavioural Surveillance Survey, 2009 cited in UNGASS Country Progress Report, 2010



Meanwhile, the percentage of IDUs who reported condom use at last sex ranged from as low as 16% in Manipur to 77% in Maharashtra, 79% in Tamil Nadu, 92% in Karnataka, 94% in Uttar Pradesh and up to 95% in Andhra Pradesh.<sup>25</sup> Overall condom use at last sex with a paid female partner (by IDUs who had paid sex with a female partner in the last 30 days) was much lower in 2009 – at 16%.<sup>25</sup>

### ***Injecting Equipment***

In BSS 2009, 87% and 73% of IDUs reported the use of sterile injecting equipment at the last injection in Manipur and Uttar Pradesh, respectively.<sup>25</sup> In BSS 2006, the proportions were 29-88% across survey locations, with 55.3% for Manipur.<sup>18</sup>

### **HOW MIGHT HIV AFFECT INDIA IN THE FUTURE?**

The studies of Impact of HIV/AIDS on Poverty in Cambodia, India, Thailand and Viet Nam showed that that significant numbers of households that are not poor are being pushed into poverty and households that are already poor are being rendered destitute, particularly in provinces and areas where the epidemics are more advanced or with higher than average prevalence. Between 2003 and 2015 HIV/AIDS will slow down poverty reduction in India by up to 23 per cent every year.<sup>26</sup>

### **NATIONAL RESPONSE**

#### ***Law and policy implementation***

The following are legal issues relating to HIV and AIDS in India:

- India became the region's most recent country to abolish section 377 (that criminalises sexual activity "against the order of nature" and was used to treat consensual homosexual conduct between adults as a criminal offense) when, in June 2009, it was declared unconstitutional by the Delhi High Court.<sup>8</sup>

- Sex work is not illegal, per se, but the *Immoral Trafficking Prevention Act* does not criminalize the commercial exchange of sex but does make an offence of all associated activities, including soliciting, keeping a brothel, and living on the earnings of a prostitute. While the Act's purpose is to protect individuals from being trafficked, it has been used to justify orders to demolish red-light districts,<sup>27</sup> and it has been reported that over 90% of those arrested under the Act are FSWs.<sup>28</sup> Alternatively, sex workers may be charged for public indecency or disturbance, even when these misdemeanours have no association with sex work. Specifically, public nuisance provisions in the Indian Penal Code have been invoked.<sup>29</sup>

- Stigma and discrimination: A 2006 study found that 25% of people living with HIV in India had been refused medical treatment on the basis of their HIV-positive status.<sup>30</sup> It also found strong evidence of stigma in the workplace, with 74% of employees not disclosing their status to their employees for fear of discrimination. Of the 26% who did disclose their status, 10% reported having faced prejudice as a result. People in marginalized groups – FSWs, hijras and MSM – are often stigmatized not only because of their HIV status, but also because they belong to socially excluded groups.

- Since 2007, India and the European Union (EU, 27 member nations) have been negotiating a Free Trade Agreement (FTA) which "could vastly expand trade between the two in goods, services, and investments."<sup>31</sup> However, upon final ratification may contain provisions on data exclusivity, patent term extensions and border measures that could hamper the development, production and export of generic drugs, which account for more than 80% of drugs to treat HIV/AIDS in India. The FTA would affect not only the citizens of India, but also those of several other developing countries in Africa and Asia that depend on Indian manufacturers for good quality, affordable medicines.

#### ***Governance***

In 1992, the Government of India established The National AIDS Control Organization (NACO) to oversee policy formulation, preventive work and control programmes on HIV and AIDS. Administratively, NACO relies on State AIDS Control Society (SACS) set up in each state to perform its mandate.

NACP III (2007-2012) has been designed with the overall goal to halt and reverse the epidemic in India over the five-year duration. NACP III will use a four-pronged strategy of:

- Preventing new infections in high risk groups through Targeted Interventions and scaling up interventions in general population
- Providing greater care, support and treatment to PLHIVs
- Strengthening the infrastructure systems and human resources in prevention, care, support and treatment programmes at the district, state and national level and
- Strengthening the nationwide Strategic Information Management System.

### *HIV Prevention programmes*

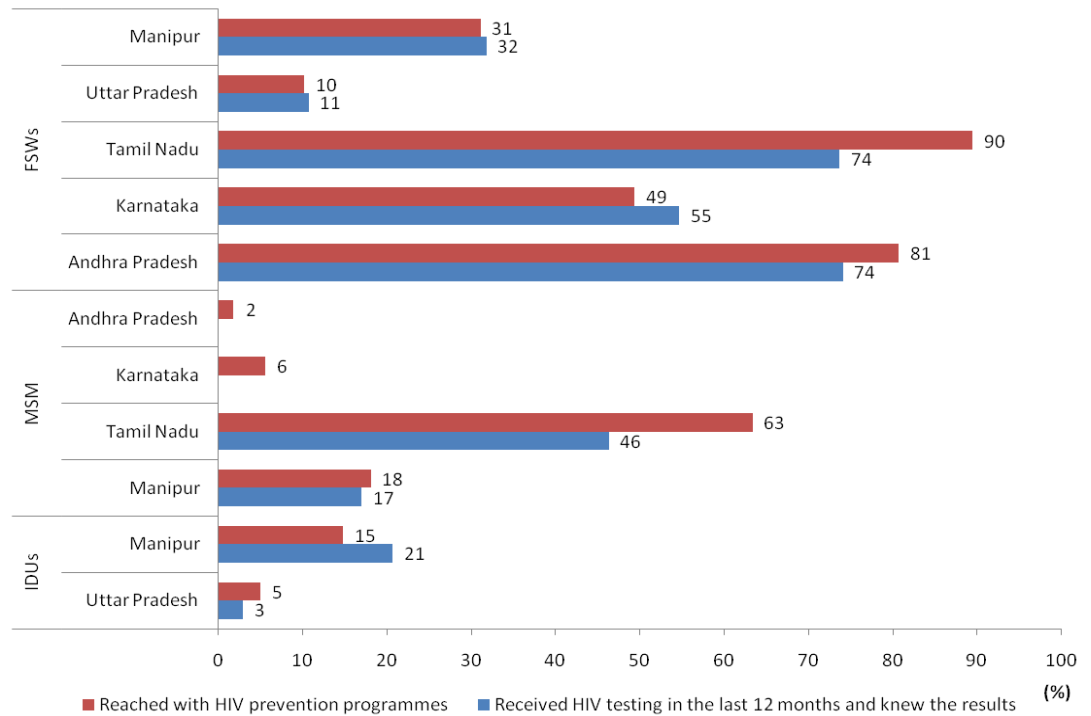
NACO has significantly scaled up from 789 Targeted Interventions in NACP II (2000-2006) to over 1,290 Target Interventions by 2009, covering over 1.1 million high risk populations and representing approximately 60 percent of the mapped estimate.

<b>Distribution of TIs by Typology and Coverage</b>			
Type of intervention	Estimated population in millions	Coverage in millions (%)	No. of TIs (Jan. 2010)
FSW	1.26	0.67 (53.1)	437
MSM	0.35	0.28 (78)	132
IDU	0.18	0.14 (74)	230
Core composite*	-	-	220
Migrants	8.4	1.8 (21.4)	204
Truckers	2.4	1.6 (66.6)	67
Total			1,290

There was also a dramatic scale up of VCT centres, from 873 in 2005 to 4,817 by 2008 and 5,089 in 2009.<sup>32: 33</sup> In total, over 9 million HIV tests were carried out in 2009 with approximately 300,000 among key affected populations.<sup>8</sup>

The 2009 BSS revealed that regardless of the differentials in perception of risk, it is observed that high proportions of sex workers have been tested for HIV in last 12 months across all states, ranging between 76 percent in Karnataka and 98 percent in Tamil Nadu. The proportions of FSWs who received the test and know their results are also high in Andhra Pradesh, Karnataka, Manipur and Tamil Nadu. Proportions of MSM and IDU received HIV testing and know the results are lower, only MSM in Tamil Nadu which proportion who received test in the last 12 months is up to 46% (Figure 9).<sup>25</sup>

**Figure 9: Percentage of key affected populations reached by HIV prevention programmes and who received an HIV test in the last 12 months and know their results, 2009**



Source: Prepared by [www.aidsdatahub.org](http://www.aidsdatahub.org) based on India, Behavioural Surveillance Survey, 2009 cited in UNGASS Country Progress Report, 2010

In terms of harm reduction interventions, as of 2009, 0.3 opioid substitution therapy sites per 1,000 IDUs had been established, and there were 1.5 needle and syringe programme sites per 1,000 IDUs, with an average of 81 needles/syringes distributed by such programmes per IDU per year.<sup>32</sup>

### **Antiretroviral treatment, Prevention of Mother-to-Child Transmission**

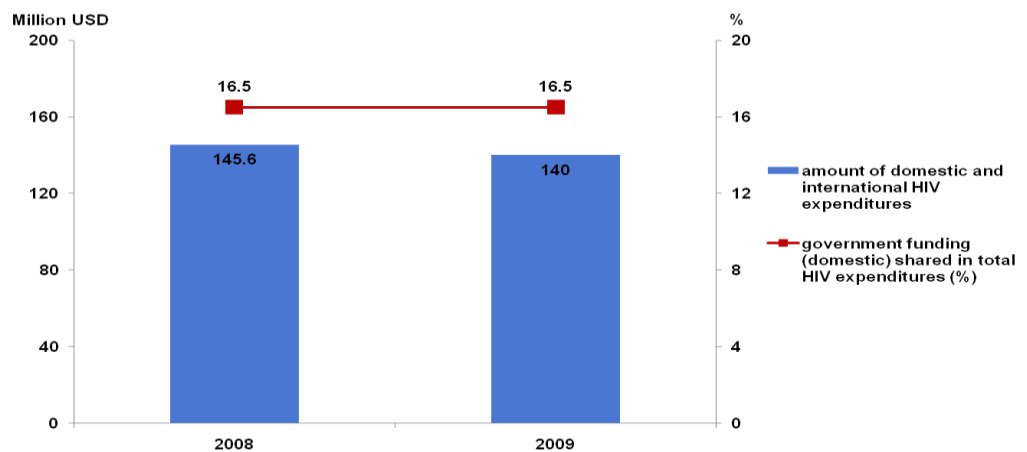
HIV prevalence among ANC attendees has been declining steadily in recent years, from 0.74% in 2005-2006 to 0.46% in 2008-2009.<sup>34</sup> In 2009, 490 out of 10,937 health facilities were providing antiretroviral therapy (ART), with 320,074 adults and children receiving ART (up from 234,581 in 2008)<sup>32: 33</sup> and 45.3% of adults with advanced HIV infection received ART.<sup>8</sup>

In terms of prevention of mother-to-child transmission (PMTCT), as of 2008, 173,464 health facilities were providing antenatal care services, with 4,817 providing ANC and VCCT services and ARVs for PMTCT.<sup>32</sup> In 2009, 20,375 pregnant women tested positive for HIV, and 11,319 received ARVs to reduce the risk of mother-to-child transmission.<sup>32: 33</sup>

### ECONOMICS OF AIDS

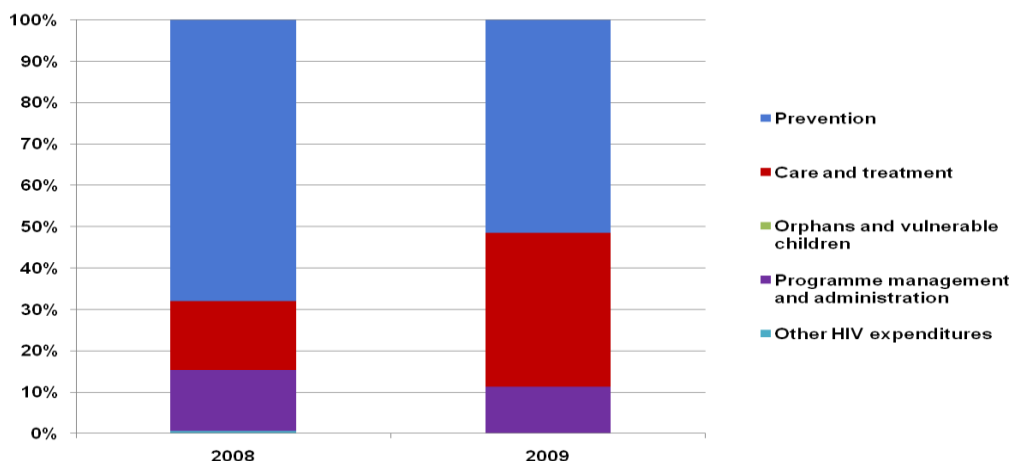
AIDS spending decreased slightly over the 2008 to 2009 period, from US\$ 146 million to US\$ 140 million.<sup>8</sup> Meanwhile, the percentage of this total funded by the government remained constant at 16.5% (Fig. 10). Several donors, bilateral organizations and private foundations support NACP III and other specific interventions – principally the World Bank, DFID, the President’s Emergency Plan for AIDS Relief (PEPFAR) of the US Government, the UN, the Global Fund and private foundations such as BMGF (Gates) and the Clinton Foundation. Prevention received the most (51%) of the total expenditure for 2009, followed by care and treatment, programme management and administration and human resources (Fig. 11).

**Figure 10: Amount of domestic and international HIV expenditures and % shared by government, 2008 - 2009**



Source: Prepared by [www.aidsdatahub.org](http://www.aidsdatahub.org) based on India, UNGASS Country Progress Report, 2010

**Figure 11: Percent distribution of total HIV expenditures by major spending category, 2008 - 2009**



Source: Prepared by [www.aidsdatahub.org](http://www.aidsdatahub.org) based on India, UNGASS Country Progress Report, 2010



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