

## Supplementary Material 1. Summary of impact of HIV and AIDS programming in India

Evidence	
<b>Prevalence</b>	Adult prevalence among general population declined from 0.41% in 2000 to 0.31% in 2009 <sup>1</sup>
	Nationally, HIV prevalence among FSWs declined by 50% between 2003 and 2008 <sup>2</sup>
	In Karnataka state, HIV prevalence among sex workers declined from 19.6% to 16.4%, high-titre syphilis from 5.9% to 3.4% and chlamydia and/or gonorrhoea from 8.9% to 7.0% between 2004 and 2009 <sup>3</sup>
<b>Incidence</b>	Estimated new infections reduced by >50% between 2000 (270,000) and 2009 (120,000) <sup>1</sup>
	Incidence trends in antenatal clinics (using prevalence among young women as proxy) declined by 54% between 2000 and 2007 in south India <sup>4</sup>
<b>Behavioral outcomes</b>	In Karnataka state, reported condom use among FSWs at last sex increased significantly for repeat clients from 66% to 84% between 2004 and 2009 <sup>3</sup>
	Consistent condom use by male clients with FSWs increased from 64% to 87% in the four southern high prevalence states between 2006 and 2008 <sup>5</sup>
<b>Impact analyses</b>	Over a 20-year period, prevention programs with FSWs in India reduced the prevalence of HIV infections by 47% <sup>6</sup>
	In districts with intensive prevention programs for sex workers in Karnataka, HIV prevalence among young ANC clinic attendees declined from 1.4% to 0.77%. The decline in standardized HIV prevalence in intensive districts was 56%, compared to 5% in the districts with non-intensive prevention programs <sup>7</sup>
<b>Cost-effectiveness analyses</b>	Prevention programs with FSWs are a very cost-effective strategy for HIV prevention. Each DALY averted has an incremental cost of \$10.7 <sup>6</sup>

## References

1. National AIDS Control Organization (NACO), Ministry of Health and Family Welfare, Government of India (2010) HIV declining in India; New infections reduced by 50% from 2000-2009; Sustained focus on prevention required. New Delhi, India. Available: <http://www.nacoonline.org/upload/HomePage/NACO%20Press%20Release%20on%20HIV%20Estimates.pdf>. Accessed February 5, 2012.
2. United Nations Programme on HIV/AIDS (UNAIDS) (2010). Country Progress Report UNGASS India 2010. Available: [http://data.unaids.org/pub/Report/2010/india\\_2010\\_country\\_progress\\_report\\_en.pdf](http://data.unaids.org/pub/Report/2010/india_2010_country_progress_report_en.pdf). Accessed February 5, 2012.
3. Ramesh BM, Beattie TS, Shajy I, Washington R, Jagannathan L, Reza-Paul S, et al. Changes in risk behaviours and prevalence of sexually transmitted infections following HIV preventive interventions among female sex workers in five districts in Karnataka state, south India. *Sex Transm Infect* 2010;86 Suppl 1:i17-24.
4. Arora P, Kumar R, Bhattacharya M, Nagelkerke NJ, Jha P. Trends in HIV incidence in India from 2000 to 2007. *Lancet* 2008;372(9635):289-90.
5. Lipovsek V, Mukherjee A, Navin D, Marjara P, Sharma A, Roy KP. Increases in self-reported consistent condom use among male clients of female sex workers following exposure to an integrated behaviour change programme in four states in southern India. *Sex Transm Infect* 2010;86 Suppl 1:i25-32.
6. Prinja S, Bahuguna P, Rudra S, Gupta I, Kaur M, Mehendale SM, et al. Cost effectiveness of targeted HIV prevention interventions for female sex workers in India. *Sex Transm Infect* 2011.
7. Moses S, Ramesh BM, Nagelkerke NJ, Khera A, Isac S, Bhattacharjee P, et al. Impact of an intensive HIV prevention programme for female sex workers on HIV prevalence among antenatal clinic attenders in Karnataka state, south India: an ecological analysis. *Aids* 2008;22 Suppl 5:S101-8.

# Supplementary Material 2. Evolution of evidence on HIV and AIDS and policy setting in India

## Epidemic Data

## Program Design

- 1. Set up HIV/AIDS sentinel surveillance system (HSS)
- 2. Initiate state specific behavioral surveys

- 1. HSS
- 2. BSS

- 1. Initiate IEC
- 2. Focus on blood safety
- 3. Pilot targeted interventions in select geographies where HIV and AIDS first reported

Initial response  
(NACP-I; 1992-99)

In select geographies:

- 1. Enhance surveillance
- 2. Initiate behavioral & biological surveys
- 3. Initiate HRG size estimation & mapping

- 1. HSS
- 2. IBBA, NFHS-3, GPS
- 3. BSS, PBS
- 4. Size estimation/mapping

- 1. Enhance IEC in the south
- 2. Scale up coverage prevention programs with HRGs in the south
- 3. Initiate testing and treatment programs
- 4. Monitor & evaluate program

Expand and focus the response  
(NACP-II; 2000-06)

Nationally:

- 1. Scale up surveillance
- 2. Expand data collection
- 3. Use facility-based data
- 4. Conduct data triangulation

- 1. HSS
- 2. IBBA, NFHS-3, GPS
- 3. BSS, PBS, BTS
- 4. National HRG size estimation/mapping
- 5. PPTCT, ICTC, ART

- 1. Categorize districts for resource prioritization
- 2. Scale up coverage of prevention programs with HRGs nationally
- 3. Scale up testing and treatment
- 4. Refine quality of programs
- 5. Conduct sub-district level prioritization of resources for prevention, testing and treatment
- 6. Monitor & evaluate program

Scale up and refine the response  
(NACP-III; 2007-12)

## Figure legend

**Supplemental Material 2. Evolution of evidence on HIV and AIDS and policy setting in India.** The relationship and interaction between the evolving data on the epidemic (left) and HIV/AIDS program components in each of the three stages of the national design (right) is shown. Only major data sets included. NACP, National AIDS Control Program; IEC, information, education and communication; STD, sexually transmitted disease; HRG, high-risk group; IBBA, Integrated Behavioral and Biological Assessment; NFHS, National Family Health Survey; GPS, general population survey; BSS, behavioral surveillance survey; PBS, polling booth survey; BTS, behavioral tracking survey; PPTCT, prevention of parent-to-child transmission; ICTC, integrated counseling and testing center; ART, antiretroviral therapy.