Integrated Behavioural and Biological Assessment

Repeated surveys to assess changes in behaviours and prevalence of HIV/STIs in populations at risk of HIV

ROUND 2 (2009-2010)
National Summary Report

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Disclaimer

- These data represent the figures pertaining to populations at increased risk of HIV infection in the survey districts.
- Estimating state or national HIV prevalence is not possible from this data alone.
- Support for this study was provided by the Bill & Melinda Gates Foundation through Avahan, its India AIDS Initiative. The views expressed herein are those of the author(s) and do not necessarily reflect the official policy or position of the Bill & Melinda Gates Foundation or Avahan.

July 2011

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First, we sincerely thank Dr. V.M. Katoch, the Secretary, Department of Health Research and Director General, Indian Council of Medical Research for his constant guidance and support throughout IBBA round two. We also thank Prof. Nirmal Kumar Ganguly, former Director General, Indian Council of Medical Research for his contributions during IBBA round one.

We gratefully acknowledge the immense help provided by the National AIDS Control Organization (NACO). We also thank State AIDS Control Societies (SACS) of Maharashtra, Tamil Nadu, Andhra Pradesh, Karnataka, Manipur, and Nagaland for their support during the two rounds of IBBA.

The Community Advisory Board (CAB) and Community Monitoring Board (CMB) members need a special word of appreciation as without their constant support and help it would have been impractical to carry out the survey. We also take this opportunity to acknowledge the support provided by all the local authorities in IBBA districts including health officials and police department.

The difficult task of implementing the field work was successfully carried out by six research agencies/institutions. Our heartfelt thanks are due to the staff associated with the IBBA at ACNielsen ORG-MARG Private Ltd, TNS India Private Ltd, GFK Mode, the Centre for Operations Research and Training (CORT), and the Regional Institute of Medical Science (RIMS) – Imphal and KRIPA – Kohima.

We would like to place on record our appreciation for the active involvement and contributions by the Bill & Melinda Gates Foundation (BMGF) and their state lead partners.

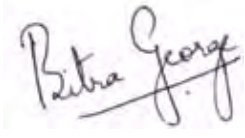
Last, but not the least, we thank all of the participants of the survey for their cooperation without which completion of the IBBA would not have been possible.

Preface

The Integrated Behavioural and Biological Assessment (IBBA) Round one carried out in the years 2005-07 emerged as a nationally important source of data for the revision of persons living with HIV/AIDS (PLHIV) estimation in India along with data from the HIV Sentinel Surveillance (HSS) and the National Family Health Survey (NFHS-3). Like IBBA Round one, the second round conducted in the years 2009-10 also provides information on important indicators such as types of sexual partners, condom use patterns with these sexual partners, knowledge, awareness and prevalence of HIV and STIs among the high-risk groups including female sex workers and their clients, men who have sex with men, injecting drug users, and long distance truck drivers.

Both rounds of the IBBA were implemented in 29 districts from six high prevalence states and along four selected segments of the national highways. A special feature of the IBBA was the use of probability based sampling approaches such as time location cluster sampling, conventional cluster sampling, and respondent driven sampling for gathering data. The IBBA rounds were implemented by premier institutes of the Indian Council of Medical Research (ICMR) including the National AIDS Research Institute (NARI), the National Institute of Epidemiology (NIE), the National Institute of Medical Statistics (NIMS), the National Institute of Nutrition (NIN), and the Regional Medical Research Centre, Dibrugarh (RMRC). FHI 360 team worked very closely with NARI and other ICMR institutes from the inception of IBBA until completion of the second round.

Given the vast amount of information gathered in the two IBBA rounds, we have presented the estimates for both rounds in one report for selected key indicators. We hope this report will be useful in deciding the future course of programming in the transition phase of Avahan and it will be a useful resource to both policy makers and programme planners working in the area of HIV in India and abroad.



Dr. Bitra George
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Foreword

It is a matter of pride that a comprehensive response to HIV epidemic from the National AIDS Control Programme, NGOs and CBOs and International Organizations has made it possible to stem the rising trends of AIDS epidemic in India. 'Avahan, an India AIDS Initiative' was one of the largest intervention programmes among population most at risk of HIV infection implemented by Bill and Melinda Gates Foundation. A Network of ICMR Institutes under leadership of NARI and collaborating agencies, particularly FHI 360 completed one of the most challenging evaluation of this programme under Integrated Behavioural and Biological assessment survey conducted in two rounds. The report of the first round of survey was released earlier by Honourable Minister of Health and Family Welfare. The round two of the survey was completed in early 2010 and results of Round 2 are being released now. The report represents the work carried out in spite of enormous logistic challenges through an extensive collaboration among different agencies, community preparation and hard work put in by the staff of collaborating institutions. The significant achievements of the survey include feed back to the programme at the district level within 45 days of the completion of survey and wide dissemination of the results with stake holders through a series of meetings. The complete team that made IBBA possible deserves to be complemented for this unique achievement. I am optimistic that the findings of the survey as well as the documentation of the methods employed will guide future surveys among the vulnerable populations. This report along with the other publications arising from the IBBA will remain a very important resource for future surveys in such sensitive and vulnerable populations. I compliment all those involved in this massive effort and convey my best wishes for the success of future endevours in this direction.

(V.M. Katoch)

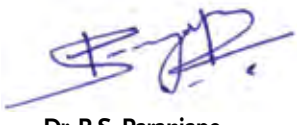
Foreword

Avahan, the India AIDS Initiative, one of the largest HIV prevention programmes in the world was launched by the Bill & Melinda Gates Foundation (BMGF) in the year 2003 among populations most at risk for HIV in six states with high HIV prevalence. With the aim of reducing the spread of HIV among the high-risk groups and stabilizing the epidemic in the general population, Avahan offered a package of services to high-risk populations similar to the NACO interventions. Avahan is implemented through 130 NGOs and a network of 7,000 peer educators.

The Integrated Behavioural and Biological Assessment (IBBA) implemented by the institutes of the Indian Council for Medical Research (ICMR) with technical support from FHI 360 formed a major component of the Avahan evaluation strategy. It is one of the largest surveys among the high-risk groups. The first round of the IBBA was carried out in the years 2005-07 and the second round in the years 2009-10. Two rounds of the IBBA involved collection of behavioural and biological data from approximately 52,000 respondents spanning six states and national highways. Every possible measure was adopted to ensure that the respondents who belong to vulnerable and marginalized populations were not exposed to any physical or social risk.

This report presents the major findings from both rounds of the IBBA among female sex workers (FSWs) and their clients, high-risk men who have sex with men (MSM), transgenders, injecting drug users (IDUs), and truckers. I hope that this information is useful for planners and policy makers and will further strengthen the HIV database. We are very happy to mention that we have made the round one data available to the scientific community and propose to do the same with round two data. The results of the surveys were also disseminated to stakeholders in a timely manner and published in peer reviewed journals.

For all of us involved in the IBBA, it was a unique learning experience. However, the success of the survey was the result of support received from the National AIDS Control Organization, State AIDS Control Societies, local administrations, research organizations/institutions, and Avahan partner NGOs. We hope that this report will be widely used as a resource material for future HIV surveys and prevention programmes and similar surveys in other socially and culturally sensitive areas.



Dr. R.S. Paranjape
Director
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List of Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
APSACS	Andhra Pradesh State AIDS Control Society
BMGF	Bill & Melinda Gates Foundation
CMIS	Computerized Monitoring Information System
CORT	Centre for Operations Research and Training
CSPRO	Census and Survey Processing System
CT	*Chlamydia trachomatis*
DBS	Dry Blood Spot
DKA	Dual Kinetic Assay
EAG	Evaluation Advisory Group
ELISA	Enzyme Linked Immunosorbant Assay
FSW	Female Sex Worker
FSW-BB	Female Sex Worker – Brothel-based
FSW-SB	Female Sex Worker – Street-based
FSW-NBB	Female Sex Worker – Non-brothel-based
GUD	Genital Ulcer Disease
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
HMSC	Health Ministry Screening Committee
HSV-2	Herpes Simplex Virus type 2
IBBA	Integrated Behavioural and Biological Assessment
ICMR	Indian Council of Medical Research
IDU	Injecting Drug User
IEC	Information, Education, and Communication
KHPT	Karnataka Health Promotion Trust
KSACS	Karnataka State AIDS Control Society
LDTD	Long Distance Truck Drivers or Truckers
MDACS	Mumbai District AIDS Control Society
MSACS	Maharashtra State AIDS Control Society
MSM	Men who have Sex with Men
MSW	Male Sex Worker
NACO	National AIDS Control Organization
NACP	National AIDS Control Programme
NARI	National AIDS Research Institute
NE	North-East
NG	*Neisseria Gonorrhoeae*
NGO	Non-governmental Organization
NIE	National Institute of Epidemiology

NIMS	National Institute of Medical Statistics
NIN	National Institute of Nutrition
NS	North-South
NSACS	Nagaland State AIDS Control Society
NW	North-West
ORW	Outreach Worker
PSI	Population Services International
RDS	Respondent Driven Sampling
RDSAT	Respondent Driven Sampling Analysis Tool
RIMS	Regional Institute of Medical Sciences
RMRC	Regional Medical Research Centre
RPR	Rapid Plasma Reagin
SACS	State AIDS Control Society
SB	Street-based
SE	South-East
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
TMA	Transcription-mediated Amplification
TNSACS	Tamil Nadu State AIDS Control Society
TPHA	Treponema Palladium Hemaggutination Assay
USTT	Urine Specimen Transport Tube
VCT	Voluntary Counselling and Testing

Operational Definitions

The study population in the Integrated Behavioural and Biological Assessment (IBBA) was not defined uniformly across the different states due to the differences in focus of the interventions, local risk behaviours, and interest in covering those most at risk for HIV. The definitions for each of the key populations covered are as below:

Female Sex Workers: Any female, 18 years or older, either brothel-based (working/living/operating in brothels in red light/brothel areas) or non-brothel-based (soliciting male clients on the street or in other non-brothel settings), who sold sex in exchange for cash at least once in the last one month.

Female Sex Workers – Brothel-based (Mumbai, Thane, and Pune, Maharashtra): Any female, 18 years or older, brothel-based (working/living/operating in brothels in red light/brothel areas) or soliciting within 100 meters of a brothel, who sold sex in exchange for cash at least once in the last one month.

Female Sex Workers – Street-based (Mumbai and Thane, Maharashtra): Any female, 18 years or older, non-brothel-based (soliciting male clients on the street or in other non-brothel settings), who sold sex in exchange for cash at least once in the last one month.

Bar Girls: Any female, 18 years or older, currently working in a bar in Mumbai, or living in Mumbai, and working in a bar in a neighbouring district.

High-Risk Men Who Have Sex with Men/Hijra (Andhra Pradesh): Any male or hijra, 18 years or older, who had any type of sex (oral, manual, or penetrative), paid or unpaid, with another male in the last one month.

High-Risk Men Who Have Sex with Men/Hijra (Pune, Maharashtra): Any male, identified at cruising points, 18 years or older, who had any type of sex (oral, manual, or penetrative) with another male in the last one month or any hijra, 18 years or older, identified at solicitation points who has sold sex in exchange for money in the last one month.

High-Risk Men Who Have Sex with Men/Male Sex Workers (Tamil Nadu): Any male, 18 years or older, who had anal sex with other males (in exchange for cash/kind) at least once in the last one month.

Hijra/Aravani-Transgender (Tamil Nadu): Any individual, 18–60 years, who self identifies as a hijra and exchanged any type of sex for cash/kind in the last one month.

Injecting Drug Users: Any man, 18 years or older, who has injected drugs for non-medical reasons at least once in the last six months.

Clients of Female Sex Workers: Any man, 18–60 years, recruited from solicitation points of FSWs who have paid for sex from a female in the last one month.

Long Distance Truck Drivers: Any truck driver, 18 years and above, who takes consignments from one place to destinations located along the national highways traversing more than 800 kilometers one way before returning to the place of origin.

Executive Summary

Background: The HIV epidemic in India is showing an overall declining trend. Estimated prevalence among the adult population in 2009 was 0.31% (0.25%-0.39%) as against 0.32% in 2008, 0.34% in 2007, and 0.41% in 2000. States with high HIV prevalence in 2009 were: Manipur (1.40%), Andhra Pradesh (0.90%), Mizoram (0.81%), Nagaland (0.78%), Karnataka (0.63%), and Maharashtra (0.55%). HIV epidemic in India is still concentrated among the high-risk groups including female sex workers (FSWs) and their clients, men who have sex with men (MSM), injecting drug users (IDUs), and long distance truck drivers (LDTDs). The primary drivers of the epidemic in the country are unprotected paid sex with commercial partners and sharing of syringe/needles among injecting drug users.

To halt and reverse the spread of HIV, Avahan, the India AIDS Initiative, was launched in 2003 by the Bill & Melinda Gates Foundation (BMGF). The first phase of Avahan has concluded in which the large-scale HIV intervention programme was implemented focusing on FSWs and their clients, MSM, hijras (transgender persons), and IDUs in about 83 districts in six high prevalence states in India and in 17 sites along the national highways. The programmatic interventions for the high-risk groups (HRGs) included outreach services by peer educators, provision of prevention commodities (condoms, needle and syringes), quality clinical services for prevention of STIs, community mobilization, and structural interventions to create an enabling environment for HIV prevention. At present, in its second phase, the Avahan programme is preparing to transition the intervention to the government and community representatives.

Integrated Behavioural and Biological Assessment (IBBA): The Integrated Behavioural and Biological Assessment is a significant component of the overall evaluation strategy of the Avahan programme. The first round of the IBBA was conducted between 2005 and 2007 and the second round between 2009 and 2010 in the six high prevalence states of India among FSW and their clients, high-risk MSM, transgender, IDU and truckers. The premier institutes of the Indian Council of Medical Research (ICMR), which included the National AIDS Research Institute (NARI), the National Institute of Epidemiology (NIE), the National Institute of Medical Statistics (NIMS), the National Institute of Nutrition (NIN), and the Regional Medical Research Centre, Dibrugarh (RMRC) implemented the IBBA in partnership with research agencies/institutions. The National AIDS Research Institute coordinated the survey. The Karnataka Health promotion Trust (KHPT) was responsible for the IBBA in Karnataka. Overall technical support for IBBA was provided by FHI 360.

The objectives of the IBBA were: a) to measure the major outcomes of HIV interventions funded by Avahan under the India AIDS Initiative; b) to make data available for estimating sizes of populations targeted by the Avahan programme and; c) to make information available to partner organizations under Avahan for modelling the impact of the intervention.

Methodology: The two rounds of IBBA were conducted in 29 districts from six high prevalence states including eight districts in Andhra Pradesh, five districts in Karnataka, six districts in Maharashtra, five districts in Tamil Nadu, two districts in Manipur and three districts in Nagaland. The time interval between two surveys was between 19 and 45 months for different groups. The target sample size was 400 per group, per district for FSW and their clients, high-risk MSM, IDU, and 500 per route category for truckers. In case of transgender in Tamil Nadu, a sample of 400 was selected from five districts combined. Overall, a total of 27,638 respondents were covered in R1 and 24,459 respondents in R2. Conventional cluster sampling, time-location sampling and respondent driven sampling were the methods used for selection of respondents. Ethical clearance for the assessment was obtained from the ethical committees of participating ICMR institutes and from FHI 360's Protection of Human

Subjects Committee (PHSC). Informed consent was taken from the respondents before the administration of questionnaire and sample for biological tests and protection of confidentiality of respondents was given high priority. Intensive training was imparted to all field personnel associated with IBBA. Community preparation was an integral part of IBBA. Independent community advisory boards (CAB) and community monitoring boards (CMB) were formed in each district for each of the survey groups to protect the interest of the survey population. They also provided inputs related to the local context and helped in addressing problems which arose during the survey. Behavioural data for assessing socio-demographic characteristics, migration, sexual practices, awareness and knowledge of HIV and STIs was collected using a structured questionnaire. Blood and urine samples were collected by trained clinical staff and tested to estimate the prevalence of HIV and STIs. Double data entry was carried out using CSPro (version 3.1), first by the research agency and later by the state ICMR institutes. Data management in round one was done by a central level data management team at NIE while in round two data management was carried out at each of the state ICMR institutes. Analysis of the data was conducted using Statistical Package for Social Sciences (SPSS) version 15, using complex sample module and RDSAT (version 5.6) was used to analyze RDS data.

The major findings from two rounds of the IBBA for the different HRGs are presented in the subsequent sections. R1 denotes round one, and R2 is round two.

Female Sex Workers

Female sex workers are a critical group in HIV/AIDS transmission and thus the focus for any HIV prevention program especially in concentrated epidemic settings. Estimating the size of this community accurately and gathering information about risk behaviour and collecting biological samples for estimation of HIV was a challenge. In IBBA, a total of 22,915 FSWs (R1-11604, R2-11,311) in Andhra Pradesh, Tamil Nadu, Karnataka, Maharashtra, and Nagaland were interviewed. The respondents interviewed included females sex workers aged 18 years and above, either brothel or non-brothel based (street, lodge and home based FSW), who sold sex in exchange of money at least once in the past one month. Bar-based FSWs were covered as a separate group in Maharashtra. The following sections discuss in brief the key findings for the FSW groups surveyed.

Socio-demographic characteristics: The mean age of FSW surveyed in R2 ranged between 28 and 35 years, and a similar age pattern was observed in R1. Literacy level varied widely and the proportion of FSWs who could read and write ranged from 19% to 70% in R2 as compared to 14% to 61% in R1. Among the FSWs interviewed, a large majority were married and this proportion ranged from 64% to 98% in R2 and 52% to 98% in R1. The mean age when FSWs initiated sex work was between 21 and 29 years in both rounds of the IBBA.

Knowledge of HIV prevention methods: More than four-fifths of the respondents from Andhra Pradesh, Karnataka, and Tamil Nadu in both rounds of the IBBA were aware that consistent condom use could reduce the risk of contracting HIV and other STIs; whereas, in Maharashtra this proportion ranged from 64% to 97% in R2 and 28% to 82% in R1. The proportion of respondents who were aware that any healthy looking person may have HIV and that a person can't get HIV/AIDS through mosquito bites or sharing clothes and utensils varied widely and ranged between 18% and 80% in R2 as compared to R1 (between 8% and 65%). Respondents with no incorrect beliefs were less in proportion in almost all states in both rounds.

HIV risk behaviours: FSWs surveyed reported having both paid clients as well as non-paid partners. More than 80% of the FSWs in R2 from Andhra Pradesh, Tamil Nadu, Karnataka, and Maharashtra reported having occasional clients and the trend was not very different from R1 (except in Nagaland-Dimapur; R1-100%, R2-59%). However, the proportion of FSWs reported to have regular clients ranged from 57% to 100% in R2 and 65% to 100% in R1. A higher proportion of respondents from Maharashtra and Tamil Nadu reported having regular clients than those from the other states. The proportion of FSWs who reported having regular non-paying male sexual partners (husbands, boyfriends, and live-in partners) ranged between 43% and 83% in R2 and 24% and 89% in R1. A declining trend in the reported proportion of respondents having non-paying partners was seen in Andhra Pradesh and Tamil Nadu compared to other states.

Condom use pattern: More than 90% of respondents in R2 in almost all states (except Nagaland) reported using condoms during last sex with occasional clients as against 80% and above in R1. A similar trend was observed in the case of consistent condom use with occasional clients in all states. However, the reported condom use during last

sexual act varied widely in the cases of both non-paying regular partners (R1-7% to 64%, R2-1.7% to 52%) and non-paying casual partners (R1- 20% to 100%, R2-11% to 100%). The common trend observed was that a higher proportion of respondents from most states reported using condoms more often with non-paying casual partners than non-paying regular partners.

STI prevalence: FSWs were tested for STIs including syphilis, gonorrhoea, and chlamydia during R1 and R2, using the same testing algorithm. A declining trend was seen in the prevalence of any STIs in almost all states ranging from 7.6% to 50.2% in R1 and 2.7% to 31% in R2. FSWs from Maharashtra and Karnataka were seen to have higher prevalences of STIs than other states. Taken individually the prevalence of syphilis, *Neisseria gonorrhoea* and *Chlamydia trachomatis* was (R1-2.1% to 51%; R2-0.4% to 17.9%), (R1-0.0% to 11.5%, R2-0.0% to 9.3%) and (R1-0.9% to 22.6%, R2-0.2% to 19.5%) respectively.

HIV prevalence: The prevalence of HIV among FSWs ranged from 2.4% to 34.9% in R2 as against 2.8% to 26.3% in R1. In Tamil Nadu (R1-2.2% to 12.5%, R2-2.4% to 8.8%) and Karnataka (R1-9.7%-33.9%, R2-9.0% to 27.3%) a declining trend in prevalence of HIV was seen; whereas, in Maharashtra (R1-7% to 38.7%, R2- 3.1% to 34.9%) and Andhra Pradesh (R1-8.0% to 26.3%, R2-6.5% to 23.3%), the trend was mixed. HIV prevalence in R2 in districts Mumbai (BB:R1-28.1%,R2-34.9%; SB-R1-19.2%,R2-32.3%) and Thane (BB:R1-18.6%,R2;33.1% SB-R1-7%,R2-11.8%) in Maharashtra increased compared to R1 for both brothel and non-brothel based FSWs. The highest prevalences in each of the aforesaid states in both rounds were reported among FSWs in the following districts: East Godavari in AP, Belgaum in Karnataka, Mumbai (BB) in Maharashtra, and Dharmapuri in Tamil Nadu. In Nagaland, compared to other states, the prevalence remained almost the same (R1-11.6%, R2-11.4%).

Coverage by services: A fair proportion of FSWs in all states reported to have received HIV prevention services (outreach contacts by peer educators or outreach workers, visits to NGO clinics, and having received condoms) from different Avahan and non-Avahan NGOs working in their respective districts. Except for Andhra Pradesh, improvement in coverage of services was seen in all other states, and the corresponding proportion in the different states ranged between 34% and 100% in R2 as against 20% and 95% in R1.

High-risk Men Who Have Sex with Men and Aravani (transgender)

High-risk men who have sex with men

High-risk MSM are yet another group who play a major role in transmission of HIV. In IBBA, R1 and R2, a total of 8,615 (R1- 4,735, R2-3,880) high-risk MSM were covered and the surveys gathered HIV and STI risk behaviour data and conducted biological tests for HIV and STIs in Andhra Pradesh, Maharashtra, and Tamil Nadu. The survey was also carried out in the state of Karnataka and the major findings for the R1 survey are presented in the Chapter 4. The operational definitions varied in each of the states and those high-risk MSM aged 18 years or older who had paid or unpaid sex (oral, anal or manual) with another man at least once in the past one month were interviewed. The following sections discuss in brief the key findings for the high-risk MSM groups surveyed.

Socio-demographic characteristics: The mean age of high-risk MSM in R1 and R2 ranged between 24 and 32 years. A majority of the high-risk MSM could read and write and this proportion ranged from 74% to 99% in R2 as against 58% to 91% in R1. The proportion of ever married high-risk MSM in R2 decreased (R2-18% to 53%) in almost all states when compared to R1 (18% to 62%). High-risk MSM broadly identified themselves as *panthis, kothis*, double-deckers, bisexuals, and hijras in the three states depending on their sexual orientation.

Knowledge of STIs: More than 90% of high-risk MSM in R2 and 70% and above in R1 from the different states reported having heard of STIs. Among those who had heard of STIs, the proportion of MSM reported having knowledge of three or more STI symptoms ranged from 38% to 81% in R1 and 60% to 98% in R2. In all three states an increase in the level of awareness about STIs was seen in R2 compared to R1.

Knowledge of HIV and prevention methods: More than 90% of high-risk MSM in both rounds from the three states reported that they had heard of HIV/AIDS. Similarly, more than four-fifths of the respondents in Andhra Pradesh, Maharashtra, and Tamil Nadu were aware that consistent condom use could reduce the risk of contracting HIV. Furthermore, between 40% and 75% of high-risk MSM from the three states in R1 and 49% and 83% in R2 were also aware that any healthy looking person may have HIV and that a person could not get HIV/AIDS through mosquito bites or sharing clothes and utensils.

HIV risk behaviours: The proportion of high-risk MSM who reported having a main regular male partner varied widely from one state to the other and ranged from 18% to 83% in R1 and 49% to 100% in R2. High-risk MSM who reported having paid male/hijra (R1-12% to 48%, R2-6% to 32%) or female partners (R1-7% to 64%, R2-0.0% to 23%) also varied widely across the three states. Consistent condom use with regular male partners ranged from 3% to 52% in R1 and 20% to 95% in R2 in the three states. Furthermore, less than 50% of high-risk MSM reported using condoms during every sexual act with regular female partners (R1-0% to 41%, R2-1.5% to 32%). High-risk MSM in Andhra Pradesh used condoms more consistently than high-risk MSM in Maharashtra or Tamil Nadu with the different partners.

STI prevalence: High-risk MSM were tested for STIs including syphilis, gonorrhoea, and chlamydia during R1 and R2, using the same testing algorithm. The prevalence of any STI (syphilis, NG, and CT) ranged between 1.8% and 12.9% in R2 as against 5.3% and 18.8% in R1. Syphilis was the major contributor for the high STI prevalence (any STI) and prevalence of NG and CT was less than 2% in the three states. High-risk MSM in Tamil Nadu had a higher prevalence of syphilis compared to other states.

HIV prevalence: The trend in HIV prevalence among high-risk MSM surveyed varied and ranged from 4.8% to 24.7% in R1 and 4.8% to 28.9% in R2. Prevalence of HIV was higher in Andhra Pradesh compared to other states. In R2, the highest HIV prevalence in Andhra Pradesh was reported in Hyderabad (R1-24.7%, R2-28.9%), followed by Guntur and East Godavari districts. In Tamil Nadu, Madurai (R1-22.3%, R2-14.4%) had the highest prevalence, and lowest prevalence was reported in Salem (R1-5.5%, R2-4.8%). HIV prevalence in Maharashtra declined among high-risk MSM in Mumbai-Thane and Pune in R2 compared to R1 (Mumbai-Thane: R1-10.2%, R2-6%; Pune: R1-17.4%, R2-8.2%).

Coverage by services: Better service coverage was seen in R2 and a higher proportion of high-risk MSM from all three states in the past one year reported having received different HIV prevention services from Avahan and non-Avahan NGOs when compared with R1 for indicators: contacted by peer educator or outreach worker (R1-10% to 95%, R2-54% to 100%); received information on STI (R1-9% to 93%, R2-54% to 100%); received condoms (R1-10% to 93%, R2-54% to 100%); and visited an NGO clinic (R1-5% to 78%, R2-53% to 100%).

Aravani Group (transgender)

The respondents interviewed were individuals aged 18 to 60 years, who self identified as a hijra (transgender) and exchanged any type of sex for cash/kind in the past one month. About 404 aravanis in R1 and 403 in R2 from five districts of Tamil Nadu (Chennai, Coimbatore, Dharmapuri, Madurai, and Salem) were covered. The following sections discuss in brief the key findings for the aravanis surveyed.

Socio-demographic characteristics: Mean age of the aravanis in both rounds was identical (29 years). More than 90% of aravanis in R2 and 68% in R1 could read and write. One-fourth of them reported to be married in both rounds. The mean age when aravanis entered the sex trade was reported to be 18 years in both rounds.

Knowledge of STI/HIV: Knowledge about STI and HIV was high. More than 95% of aravanis in R2 and 89% in R1 reported that they had heard of STIs. Those having knowledge of three or more symptoms of STIs was also high (above 80% in both rounds). Almost all the aravanis in both rounds reported that they had heard of HIV/AIDS and between 93% and 99% in R1 and R2 believed that HIV/AIDS could be prevented.

HIV risk behaviours and prevalence: Two-thirds of the respondents in both R1 and R2 reported having regular partners. The reported condom use during last sex with regular partners decreased marginally (R1-73%, R2-61%). As for every time condom use with regular partners a higher proportion of respondents did so in R2 than R1 (R1-34%, R2-47%). Ninety percent (90%) of the aravanis in R2 and 74% in R1 also had paying male partners besides regular partners. Condom use was comparatively higher with paying male partners, and 61% of aravanis in R2 and 50% in R1 reported using condoms consistently. Prevalence of HIV among aravanis declined and was 9.8% in R2 as against 12% in R1.

Coverage by services: A higher proportion of aravanis in R2 than R1 reported to have been visited by a peer educator or outreach worker (R1-74%, R2-83%), received condoms (R1-74%, R2-81%), or having received information on STIs (R1-74%, R2-82%). However a considerable decline was seen in the proportion of respondents reporting to have visited the NGO clinics (R1- 75%, R2-45%).

Injecting Drug Users

The two rounds of IBBA were carried out among IDUs in Maharashtra (Mumbai-Thane combined), Nagaland, and Manipur states in 2006-07 and 2009-10 respectively. A total of 2,075 IDU in R1 and 1,977 in R2 were interviewed. Men aged 18 years or older, who had injected drugs for non-medical reasons at least once in past six months, were interviewed. The following sections discuss in brief the key findings for the IDU groups surveyed.

Socio-demographic characteristics: In Maharashtra, a majority of the IDUs who participated were between 26 and 36 years of age, and a very similar age pattern was observed in both rounds with marginal change. IDU respondents from Manipur and Nagaland were between 20 and 30 years of age. More than 80% of IDUs in Manipur and Nagaland in both rounds could read and write; whereas, this proportion in Maharashtra was 38% in R1 and 55% in R2.

Drug use pattern: More than 90% of respondents from Maharashtra (Mumbai-Thane) in both rounds reported injecting in public places. However, in Manipur and Nagaland injecting in public places was uncommon in R1, and in R2 one-third of the respondents reported to have injected in public places. Both in R1 and R2, heroin was the most commonly reported drug injected in Maharashtra and Manipur (R1-75% to 98%, R2-80% to 98%). However, in Nagaland, Spasmoproxivon was far more commonly used (R1-99% to 100%, R2-92% to 97%) than heroin or any other drug.

HIV risk behaviours: Use of pre-filled syringes during the last injecting episode was reported by fewer than 20% of respondents in R2 and 30% in R1. IDUs ranging from 51% to 80% in R2 and 30% to 78% in R1 reported injecting with a brand new needle. Of the IDUs from Maharashtra and Nagaland, 15% to 20% reported to have injected with a needle/syringe used by others in the two IBBA rounds. This proportion in Manipur was less than 5% in R2 and between 7% and 15% in R1. Use of non-sterile injecting equipment was also seen in more than one-third of the respondents in the three states.

IDUs reported having both paid and non-paid female sexual partners. In Bishnupur, 18% respondents in R2 and 14% in R1 reported having sex with FSW. This proportion was comparatively low in the other districts from Manipur and Nagaland ranging from 2% to 6% in R1 and 3% to 13% in R2. However, in Maharashtra between 27% (R1) and 34% (R2) of IDUs reported having had sex with FSW in the past year. Between 32% and 49% respondents in Manipur and 57% and 83% in Nagaland reported having non-paid regular female partners. This proportion in Maharashtra was 30% in R1 and 19% in R2. Condom use during last sex act with a non-paid regular female partner ranged from 28% to 55% in R2 and 17% to 55% in R1. Reported condom use with other non-paid female partners was comparatively higher and ranged between 41% and 81% in R2 as against 34% and 70% in R1 in the three states.

Knowledge and prevalence of STIs: Forty-eight percent of IDUs from Maharashtra in R2 and 37% in R1 had heard of STI; whereas, in Manipur more than three-fourths of the IDUs in both rounds had heard of STIs. IDUs were tested for STIs including syphilis, gonorrhoea, and chlamydia during R1 and R2, using the same testing algorithm. Prevalence of any STI (syphilis, NG, and CT) among IDUs in both rounds was low in Maharashtra (R1-5.4%, R2-8.7%) and Manipur (Bishnupur: R1-7.4%, R2-5.1%; Churachandpur: R1-3.0%, R2-4.9%); whereas, a considerable proportion in Nagaland had STIs (Phek: R1-18.4%, R2-26%; Wokha: R1-29.7%, R2-22.5%).

Knowledge and prevalence of HIV: A high proportion of respondents (R1-above 90%, R2-56% to 97%) in both rounds reported having heard of HIV but a considerable decline in the reported level was observed in R2. The prevalence of HIV among IDUs in Maharashtra declined from 16.5% in R1 to 14.8% in R2. In Nagaland the prevalence remained almost the same (less than 2%); whereas, in Manipur there was an increase in HIV prevalence in Churachandpur district (R1-32.2%, R2-39.9%).

Prevalence of hepatitis C: Prevalence of hepatitis C in both rounds was high in Maharashtra and Manipur and ranged between 46% and 92% in R2 and 53% and 78% in R1. In Nagaland a marginal increase in prevalence was seen in both Phek (R1-5.4%, R2-8.7%) and Wokha (R1-16.7%, R2-20.8%).

Coverage by services: Better service coverage was seen in Maharashtra and Manipur; whereas, a marginal decline was seen in Nagaland. In Maharashtra the proportion of respondents reported having received different HIV prevention services from Avahan and non-Avahan NGOs ranged from 11% to 60% in R2 as against 20% to 54% in R1. The corresponding proportion in Manipur and

Nagaland ranged between 22% and 88% in R1 and 12% and 91% in R2.

Clients of Female Sex Workers

Clients of sex workers, considered the bridge population, are an important group and IBBA is among the few surveys where information about clients of sex workers has been gathered. A total of 6,757 clients of sex workers in R1 and 4,803 in R2 were interviewed from Andhra Pradesh, Maharashtra, and Tamil Nadu. The survey was also carried out in the state of Karnataka and major findings for the R1 survey are presented in the Chapter 6. The respondents interviewed were males aged 18 to 60 years, recruited from solicitation points of FSW, who had paid for sex with a female sex worker at least once in the past one month. Few other alternative strategies of sampling were tested before selecting clients from solicitation points of FSWs. These included: recruitment from place of entertaining clients; intercept survey among all males at the FSW solicitation points; recruitment of clients through FSW; and respondent driven sampling approach. Finally, selection of clients was conducted from place of solicitation of FSWs due to better response rates compared to other alternative approaches. The following sections discuss in brief the key findings for the clients surveyed.

Socio-demographic characteristics: The mean age of clients surveyed in R2 ranged between 28 and 32 years and was not very different from those surveyed in R1. A majority of the clients in both rounds could read and write (R1-58% to 88%, R2-57% to 95%). Clients surveyed were a mix of agricultural/non-agricultural labourers, businessmen, truck drivers, and semi-skilled labourers. Respondents in Andhra Pradesh were married; whereas, respondents in Maharashtra and Tamil Nadu were mostly unmarried.

HIV risk behaviours: More than three-fourths of the respondents in both IBBA rounds reported having occasional FSW partners; whereas, the proportion who reported having regular FSW partners differed across the states and ranged from 45% to 99% in R2 as against 20% to 86% in R1. The proportion of respondents having a main/steady female partner declined in R2 (47% to 76%) when compared with R1 (48% to 86%), and respondents also reported having sex with other non-paid partners than their spouse.

Condom use pattern: Consistent condom use with both occasional and regular FSW partners increased between the two rounds in all states. With occasional partners this proportion ranged from 26% to 77% in R2 as against 19% to 64% in R1 in the three states; whereas, with regular FSW partners this proportion was between 16% and 68% in R1 and 18% and 81% in R2. Consistent condom use with main/steady female partners was very low and less than 5% of respondents in R2 and between 0% and 14% in R1 reported using condoms consistently from Andhra Pradesh, Maharashtra, and Tamil Nadu.

STI prevalence: Clients were tested for STIs including syphilis, gonorrhoea, and chlamydia during R1 and R2, using the same testing algorithm. The prevalence of any STI (syphilis, NG, and CT) among clients of sex workers in the three states ranged from 3.5% to 10.6% in R1 and 1.1% to 12.2% in R2. In Andhra Pradesh prevalence of any STIs ranged from 0.1% to 3.1% in R2 and 4.4% to 10.6% in R1, which was comparatively lower than Maharashtra (R1-7.8% to 9.7%, R2-4.1% to 12.2%) and Tamil Nadu (R1-3.5% to 5.9%, R2-0.2% to 8.4%).

HIV prevalence: The trend in HIV prevalence among clients of sex workers surveyed varied and ranged from 0.7% to 11.7% in R2 as against 2% to 10.9% in R1. In Andhra Pradesh, the HIV prevalence ranged from 2.4% to 8.3% in R2 as against 2.8% to 9.6% in R1, and East Godavari (R1-8.3%, R2-9.6%) had the highest prevalence in both rounds. In Maharashtra, Yevatmal (R1-10.9%, R2-11.7%) had the highest prevalence in both rounds and the HIV prevalence in different districts ranged from 2.1% to 11.7% in R2 and 6% to 10.9% in R1. In Tamil Nadu, the HIV prevalence ranged from 0.7% to 10.2% in R2 and 2% to 4.2% in R1, and Madurai (R1-2.5%, R2-10.2%) had the highest HIV prevalence.

Coverage by services: A high proportion of clients of sex workers from the three states in R1 and R2 reported having exposure (heard/seen/read) to advertisements on condoms (R1 and R2- above 80%) and STIs (R1-40% to 99%, R2-45% to 97%). Comparatively, a very low proportion of respondents in R2 (6% to 36%) reported having heard/seen/read advertisements for the Key Clinics (Health clinics for high-risk men supported by Population Services International) for STI treatment when compared with R1 (7% to 84%). Further, less than 5% of the respondents in both rounds reported to have visited the Key Clinics for STI treatment.

Long Distance Truck Drivers

Two rounds of surveys (R1 and R2) were conducted in six transshipment locations (Delhi, Ghaziabad, Bangalore,

Ahmedabad, Mumbai and Kolkata) in 2007 and 2009, respectively. LDTDs were covered from four route categories namely North-East (NE), North-West (NW), North-South (NS), and South-East (SE) in the national highways. Using two stage time-location cluster sampling respondents were selected A total of 2,066 LDTDs in R1 and 2,085 in R2 were interviewed. Those covered in IBBA were any long distance truck drivers, aged 18 years and above, who took consignment from one place to destinations located along the national highways travelling more than 800 kms one way before returning to the place of origin. The following sections discuss in brief the key findings for the truckers surveyed.

Socio-demographic and trucking characteristics: The mean age of the truck drivers was broadly similar in both rounds (between 32 and 35 years) and more than 80% of the truckers could read and write. Three-fourths of the respondents in both rounds were currently married (R1-73% to 83%, R2-71% to 84%). As in R1, most LDTDs in R2 also had been working as drivers for the last 8 to 10 years with the exception of the SE route where the majority of the respondents had been working for around 11 years. LDTDs spent between 10 and 13 days or less on one round trip, and a very similar trend was observed in both rounds with regard to the amount of time spent. LDTDs in R2 reported spending one to two days waiting at destination or transhipment location (TSL) for the next consignment as against two to three days in R1. A major shift was observed in the case of LDTDs from the SE who in R1 reported the shortest waiting time but in R2 reported spending four or more days.

Sexual behaviours: The mean age at first paid sex was 21 years for NE, NS, and SE, and 22 for NW in R1, which increased to 22 (NW and SE) and 23 years (NE and NS) in R2. The majority of the LDTDs reported having had sex with their wife in the last one month, but only a small proportion reported using condoms during last sex, ranging from 2% to 22% in R2 as against 6% to 19% in R1. Besides wives, truckers also had paid female partners (those women whom respondent had paid for sex in past 12 months) and non-paid female partners (those women with whom the respondent had sex but was not married to and did no pay cash in exchange for sex in past 12 months). Not much variation was observed in R2 in the proportion of respondents who reported having had sex with a paid female partner across the different route categories (R1- 25% to 30%, R2- 26% to 29%) with the exception of the SE route where a marked decrease was seen. Those having non-paid female partners ranged from 18% to 22% in R1 and 15% to 34% in R2.

Condom use pattern: Consistent condom use with a paid female partner seems to have increased between the two rounds (R1-64% to 74%, R2-66% to 95%) for all route categories except the NE. An increasing trend was observed in condom use during last sex act with a non-paid female partner, and this proportion ranged from 33% to 63% in R2 but was between 22% and 36% in R1. A similar trend followed for consistent condom use, and this proportion ranged from 32% to 50% in R2 as against 14% to 21% in R1. Across the different routes between the two rounds, a very small proportion of the respondents reported to have had anal sex with male/hijra partners (R1-1% to 5%, R2-0.6% to 5%). Consistent condom use during anal sex with male/hijra partners varied from 14% to 74% in R1 in the different route categories as against 17% to 41% in R2.

Knowledge and prevalence of STIs: A majority of the truckers had heard of STIs ranging from 70% to 94% in R1 and 52% to 72% in R2. Among those who had heard of STIs, respondents who could correctly identify three of the most common symptoms of STIs ranged from 6% to 16% in R2 as against 5% to 58% in R1. Truckers were tested for STIs including syphilis, gonorrhoea, and chlamydia during R1 and R2, using the same testing algorithm. The prevalence of any STIs (syphilis, NG, and CT) among LDTDs in R1 ranged from 1.6% to 4.8% and 1% to 4.4% in R2. Across the different routes, with the exception of NE (R1-4.8%, R2-4.4%), the prevalence of any STIs was less than 2% in R2 and a decline in prevalence was seen R1 (1.6% to 3.6%).

Knowledge and prevalence of HIV: Almost all the LDTDs had heard about HIV/AIDS in R1 and between 77% and 94% in R2. HIV prevalence among LDTDs declined marginally across all four routes ranging from 1.9% to 3.3% in R2 as against 2.4% to 6.8% in R1. Maximum decline was observed among those plying on SE (6.8% in R-1 and 3.3% in R-2). Overall the prevalence of HIV among LDTDs was low compared to other HRGs.

Coverage by services: A marginal improvement in visits to Khushi clinics (Health clinics for truckers supported by Transport Corporation of India Foundation) was seen in R2 (4% to 31%) when compared to R1 (3% to 20%) across the different routes. However, awareness about Khushi clinics decreased in R2 (21% to 56%) when compared to R1 (38% to 58%) in all three routes except NW (R1-36%, R2-62%) where a marked increase was seen in R2. LDTDs

contacted by peer educators (R1-2% to 15%, R2- 10% to 35%) or having reported to have received condoms (R1-3% to 10%, R2-2% to 19%) were less in proportion in both IBBA rounds.

Limitations of the study

Districts in the IBBA within each state were not selected randomly. Rather districts with the highest numbers of key populations were selected to represent different socio-cultural regions, in recognition of the diversity that exists between these strata, and to facilitate the goal of modelling Avahan's impact in different types of settings. For this reason, aggregation of data across districts will represent only those districts, and generalization to the state overall or even to all Avahan districts in the state would be challenging.

Sub-group analysis of sub-populations within a district may not be statistically viable or yield reliable estimates due to very small numbers within each sub-category.

A sample size of 400 was considered for most of the key populations at the district level. Though this size is adequate to provide sufficiently precise estimates for high prevalence indicators, such as condom use, it may be inadequate to accurately estimate other indicators such as HIV prevalence or STI prevalence at the district level.

Implications of the findings

The findings from two rounds of IBBA have important implications for HIV prevention programs in India. The IBBA R1 estimates along with data from other sources such as National Family Health Survey (NFHS) and HIV Sentinel Surveillance (HSS) contributed to the revision of the estimated number of persons living with HIV in India. Furthermore, these not only provide data for modelling the impact of Avahan interventions on the HIV epidemic but also would inform programmatic decisions at the national level both for NACP III as well as planning for NACP IV. Also, the rigorous methodology evolved over the two rounds of IBBA can be used for carrying out similar surveys at the regional or national level. The various publications from IBBA data will also guide the different program and policies related to HIV prevention among high-risk populations in concentrated epidemic settings.

The prevalence of STIs among the different HRGs surveyed declined in most states between the two IBBA rounds. However, a mixed trend was observed with regard to prevalence of HIV. Among FSWs prevalence declined in Tamil Nadu, Karnataka and Nagaland whereas the trend in Maharashtra and Andhra Pradesh was mixed with decline in most of the surveyed districts. In particular, HIV prevalence among brothel and street based FSWs in Mumbai and Thane districts increased significantly which needs to be addressed by exploring reasons for the increase. Among MSM, clients and IDUs the prevalence declined only in Maharashtra. Among LDTDs, HIV prevalence declined across all routes. Also, inter-district variation was observed in the prevalence levels within a state. This information will be helpful in tailoring state-wide interventions for prevention of HIV. Further, analysis on the determinants could also bring out important factors which need to be considered while designing programs for reduction of HIV and STIs.

There is an increase in condom use with commercial clients among FSW and high-risk MSM which suggests of a positive impact of the targeted HIV prevention interventions. However, condom use by HRGs with regular partners remains low in both rounds of IBBA. Innovative approaches for condom promotion with regular partners need to be integrated in the routine HIV prevention programs. This may go a long way in preventing transmission of HIV to the general population.

Coverage of HIV prevention program for HRGs also increased in most states. This is evident from the increase in the proportion of peer contacts, visit to NGO clinics and condoms received between the two IBBA rounds from Avahan and non-Avahan NGOs. This improved coverage may have contributed to the decline in prevalence of STIs and increased condom use and increased proportion in R2 of participants who had undergone HIV test.

Finally, IBBA has gathered comprehensive data on different behavioural and biological indicators among HRGs which could be used in setting targets and allocating resources for NACP IV.

This report represents the data collected in 29 districts in one of the largest survey covering population at high risk of HIV infection. The survey provides data on FSWs, high-risk MSM, transgender, IDUs, long distance truck drivers and clients of FSWs that may be valuable resource for future programmes. R1 data from IBBA is already in public domain and R2 data is now available at http://www.nari-icmr.res.in/IBBAdataaccess.php. The publications from IBBA are available in evaluation/results supplements in AIDS and BMJ-STI journals published in the years 2008 and 2010 respectively.

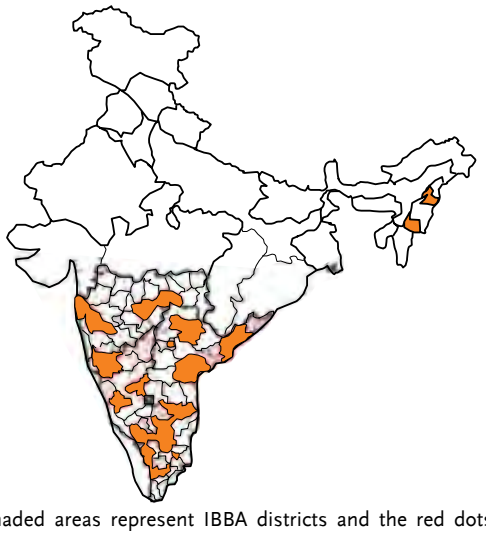
1 CHAPTER

Introduction

1.1 Background: In 1986 the first case of HIV was identified in India and since then HIV has increased substantially. During the last decade a marked decline in both prevalence and incidence of HIV is evident. According to the recent estimates released by the National AIDS Control Organization, adult prevalence in 2009 was 0.31% (0.25% -0.39%), which was 0.34% in 2007 and 0.41% in 2000. The states with high prevalence in the country in 2009 were Manipur (1.40%), Andhra Pradesh (0.90%), Mizoram (0.81%), Nagaland (0.78%), Karnataka (0.63%), and Maharashtra (0.55%)[1]. HIV Sentinel Surveillance in 2007 recorded high prevalence among injecting drug users (IDUs) (7.2%), men who have sex with men (MSM) (7.4 %), female sex workers (FSWs) (5.1%), and STI clinic attendees (3.6%), which indicates the concentrated nature of the epidemic in the country[2]. Primary drivers of the epidemic in the country are unprotected paid sex/ commercial sex work, unprotected anal sex between men, and injecting drug use[3]. Continued surveillance and prevention programmes to curtail the spread of HIV among high-risk groups indicate a decline in HIV prevalence among FSWs and an increase in prevalence among MSM and IDUs. In addition to routine surveillance activities, special surveys are essential for tracking the impact of the prevention programmes in the abovementioned high-risk target groups. Moreover, effective prevention programmes targeting both high-risk and general population are vital to reduce the burden of HIV, and these programmes are a major focus of the National AIDS Control Programme (NACP-III) and the India AIDS Initiative, Avahan.

1.2 The India AIDS Initiative, Avahan: Avahan, the India AIDS Initiative, was launched by the Bill & Melinda Gates Foundation in 2003 to curtail the spread of HIV in the country. The primary goals over the 10 years (2003-2013) were to build an HIV prevention model at scale and to disseminate the lessons learned within the country and worldwide. The first phase of Avahan (2003-08) is over, and during those initial years a large scale HIV intervention programme was implemented focusing on FSWs and their clients, high-risk MSM, hijras (transgendered persons), and IDUs in 83 districts in six high prevalence states in India (Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu, Nagaland, and Manipur) and in 17 sites along the national highways. Avahan provides these key populations with a core package of services very similar to the targeted intervention package used by the National AIDS Control Programme. These include quality clinical services for reducing sexually transmitted infections, ensuring availability of prevention commodities (condoms, needles/syringes), condom promotion, behaviour change communication, community mobilization, and structural interventions to create an enabling environment for HIV prevention. In the ongoing second phase (2009-13), Avahan is preparing to hand over the programme to the government and other stakeholders associated since inception. The major challenges for Avahan in the second phase is to maintain the intensity of the programme; to address issues relating to coverage and uptake of services; maximize quality of clinical services; and develop better referral systems[4].

Box 1.1: IBBA districts and Avahan program coverage



The shaded areas represent IBBA districts and the red dots denote Avahan intervention sites in the high prevalence states.

1.3 Monitoring and Evaluation of the Avahan Project: The Integrated Behavioural and Biological Assessment (IBBA) represents a significant component of the overall evaluation strategy to measure and understand the impact of the Avahan intervention on HIV transmission dynamics among high-risk populations in India. In the IBBA, behavioural risk information was collected along with biological specimens, which were tested for various STIs, including HIV. The IBBA is designed to measure the effect of a high coverage HIV prevention intervention, by monitoring changes in risk behaviours and prevalence of STI/HIV. Data from the evaluation are being used to measure the cost-effectiveness of the intervention, for modelling the impact of the intervention on HIV transmission in India, and to contribute to the larger information base for the programme planners in India to design effective interventions. The data will be used along with other data sources for projecting future epidemic trends. The information collected will also strengthen the NACP-III in India, as the Avahan intervention is carried out in close collaboration with the National AIDS Control Organization (NACO) and the State AIDS Control Societies (SACS).

In addition to IBBA data, Avahan also has established a routine monitoring system where data are gathered on standard indicators such as programme inputs and infrastructure, outreach, service utilization, and community engagement. Both manual and computerized systems support the integration of reporting from the grassroots level and from different partner agencies. A computerized management information system (CMIS) is also in place to facilitate data management. Avahan also supports special surveys that are conducted at specific time intervals by implementing partners or external agencies[5].

1.4 IBBA: Objectives and Characteristics: The primary objective of the IBBA is to collect the necessary information for assessing the outcomes and impact of interventions in Avahan districts (Box 1.2). The first round of the IBBA was conducted in the year 2005-07, and the second round in the year 2009-10. The findings for the recent round are presented in this report. Similar to round one, the second round of the IBBA was also implemented in 29 districts in six states of India, and along four selected route categories of the national highways. The total sample size for the second round of the IBBA was 26,800, and it covered high-risk populations (FSWs, high-risk MSM, hijras, and IDUs) and bridge populations (clients of FSWs, and truckers). Probability sampling approaches were used, and

Box 1.2: IBBA objectives

- To measure the major outcomes and impacts of HIV interventions funded by Avahan under the India AIDS Initiative;
- To make data available for estimating sizes of populations targeted by the Avahan project; and
- To make information available to a partner organizatioin under Avahan for modeling the impact of the intervention.

approaches differed (details given in Chapter 2) depending on the characteristics of the high-risk population. Geographical coverage of the IBBA in each district extended to the entire district, even when the Avahan intervention covered only a segment of the district (Tables 1.1 to 1.3). The first round of IBBA was not a true baseline assessment for Avahan since the programme was already active in most of the districts before the survey was conducted. Being a de facto baseline for the IBBA, there are limitations in using it as a baseline against which to measure change. However, changes in key variables/indicators over the multiple rounds of the IBBA are an important component in measuring the performance of Avahan.

1.5 IBBA Partners: Premier institutes of the Indian Council of Medical Research (ICMR) including the National AIDS Research Institute (NARI), Pune; the National Institute of Epidemiology (NIE), Chennai; the National Institute of Medical Statistics (NIMS), New Delhi; the National Institute of Nutrition (NIN), Hyderabad; and the Regional Medical Research Centre (RMRC), Dibrugarh implemented the IBBA in Maharashtra, Tamil Nadu, across national highways, Andhra Pradesh, Manipur, and Nagaland, respectively. The IBBA in Karnataka was conducted by the Karnataka Health Promotion Trust (KHPT) in partnership with St. Johns Medical College and T.T. Krishnamachari Blood Bank, Bangalore. The National AIDS Research Institute coordinated the conduct of the IBBA survey at the national level. IBBA data in round one was centrally managed and analyzed at the National Institute of Epidemiology, Chennai; whereas, it was decentralized in round two. FHI 360, New Delhi provided technical assistance for implementing the IBBA. Professional research agencies were hired by the ICMR Institutes to conduct the fieldwork. These included ACNielsen ORG-MARG Private Ltd in Andhra Pradesh for both rounds; TNS

Table 1.1: Coverage of Avahan intervention for female sex workers by district

District	Agencies implementing programmes	Month Avahan started	Intended Avahan coverage*	Month of IBBA Survey	
				Round 1	Round 2
Andhra Pradesh					
Chittoor	APSACS, Avahan	Apr 2004	82%	Jun 2006	Sep 2009
East Godavari	APSACS, Avahan	Jul 2004	14%	Mar 2006	Mar 2009
Guntur	APSACS, Avahan	May 2004	68%	May 2006	Jul 2009
Hyderabad	APSACS, Avahan	Jul 2004	17%	Feb 2006	Jun 2009
Karimnagar	Avahan	Apr 2004	100%	Nov 2005	Aug 2009
Prakasam	APSACS, Avahan	Sep 2004	77%	Jun 2006	May 2009
Visakhapatnam	APSACS, Avahan	Sep 2004	44%	May 2006	Mar 2009
Warangal	APSACS, Avahan	Jul 2004	59%	Feb 2006	Jul 2009
Karnataka					
Bangalore (Urban)	KSAPS, Avahan	Apr 2005	59%	Jul 2006	Feb 2009
Belgaum	Avahan	Apr 2004	100%	Oct 2005	Jul 2008
Bellary	Avahan	Aug 2004	100%	Nov 2005	Aug 2008
Shimoga	Avahan	Apr 2004	100%	Aug 2005	Sep 2008
Maharashtra					
Kolhapur	MSACS, Avahan	Dec 2004	50%	Mar 2006	Jul 2009
Mumbai BB	MDACS, Avert, Avahan	Oct 2004	50%	Mar 2006	Nov 2009
Mumbai SB	MDACS, Avert, Avahan	Oct 2004	50%	Apr 2006	Nov 2009
Mumbai BG	MDACS, Avahan	Oct 2004	85%	Nov 2009	Nov 2009
Parbhani	MSACS, Avahan	Feb 2005	72%	Nov 2006	Oct 2009
Pune BB	MSACS, Avahan	Dec 2004	35%	Jun 2006	Aug 2009
Pune NBB	MSACS, Avahan	Dec 2004	100%	Jun 2006	Sep 2009
Thane BB	MSACS, Avahan	Dec 2004	46%	May 2006	Jun 2009
Thane SB	MSACS, Avahan	Oct 2004	100%	Apr 2006	July 2009
Yevatmal	MSACS, Avahan	Feb 2005	100%	May 2006	Sep 2009
Tamil Nadu					
Chennai	TNSACS, APAC, Avahan	Jul 2004	21%	Jul 2006	Jul 2009
Coimbatore	Avahan	Jul 2004	100%	Jun 2006	Aug 2009
Dharmapuri	Avahan	Jul 2004	59%	Apr 2006	Mar 2009
Madurai	TNSACS, APAC, Avahan	Jul 2004	40%	Mar 2006	Mar 2009
Salem	Avahan	Jul 2004	100%	Mar 2006	Mar 2009
Nagaland					
Dimapur	OXFAM, NSACS, Avahan	Oct 2004	100%	Feb 2006	May 2009

* Intended coverage is calculated based on territory division with other HIV prevention providers in the district and the size estimates of the "high-risk" populations in each territory within the district.

Table 1.2: Coverage of Avahan intervention for high-risk men who have sex with men by district

District	Agencies implementing programmes	Month Avahan started	Intended Avahan coverage*	Month of IBBA survey	
				Round 1	Round 2
Andhra Pradesh					
East Godavari	Avahan	Oct 2005	100%	April 2006	Apr 2009
Guntur	Avahan	Jan 2006	21%	May 2006	June 2009
Hyderabad	APSACS	NA	0%	June 2006	June 2009
Visakhapatnam	Avahan	Apr 2006	17%	May 2006	April 2009
Karnataka					
Bangalore (Urban)	KSAPS, Avahan	Apr 2005	90%	Jul 2006	Jan 2010
Maharashtra					
Mumbai-Thane	MSACS, Avahan	Oct 2004	100%	Jan 2007	Dec 2009
Pune	MSACS, Avahan	Dec 2004	100%	Oct 2006	Jan 2010
Tamil Nadu					
Chennai	APAC, Avahan	Jul 2004	33%	Jul 2006	Aug 2009
Coimbatore	Avahan	Jul 2004	100%	Jun 2006	Aug 2009
Madurai	Avahan	Jul 2004	100%	Mar 2006	Mar 2009
Salem	Avahan	Jul 2004	100%	Mar 2006	Mar 2009

* Intended coverage is calculated based on territory division with other HIV prevention providers in the district and the size estimates of the "high-risk" populations in each territory within the district.

Table 1.3: Coverage of Avahan intervention for injecting drug users by district

District	Agencies implementing programmes	Month Avahan started	Intended Avahan coverage*	Month of IBBA survey	
				Round 1	Round 2
Maharashtra					
Mumbai-Thane	MDACS	NA	NA	Mar 2007	Nov 2009
Manipur					
Bishnupur	CSD, SIDA, MSACS, Avahan	Oct 2004	100%	Jan 2006	Apr 2009
Churachandpur	AusAID, MSACS, Avahan	Apr 2005	87%	Feb 2006	Apr 2009
Nagaland					
Phek	NSACS, Avahan	Oct 2004	100%	Mar 2006	May 2009
Wokha	NSACS, Avahan	Oct 2004	57%	Apr 2006	May 2009

* Intended coverage is calculated based on territory division with other HIV prevention providers in the district and the size estimates of the "high-risk" populations in each territory within the district.

Table 1.4: Coverage of Avahan intervention for truck drivers by route

District	Agencies implementing programmes	Month Avahan started	Intended Avahan coverage*	Month of IBBA survey	
				Round 1	Round 2
National Highways					
North-East	Avahan	Aug 2005	50%	Jul 2007	Sep 2009
North-South	Avahan	Aug 2005	50%	Jul 2007	Sep 2009
North-West	Avahan	Aug 2005	50%	Jul 2007	Sep 2009
South-East	Avahan	Aug 2005	50%	Jul 2007	Oct 2009

* Intended coverage is calculated based on territory division with other HIV prevention providers in the district and the size estimates of the "high-risk" populations in each territory within the district.

India Private Ltd (Round 1) and the Centre for Operations Research and Training (CORT) (Round 2) in Maharashtra; TNS India Private Ltd (Round 1) and GFK Mode (Round 2) in Tamil Nadu; and ACNielsen ORG-MARG Private Ltd (Round 1) and the Centre for Operations Research and Training (CORT) (Round 2) for national highways. The surveys in the north-eastern states were carried out by the Kripa Foundation, Kohima and the Regional Institute of Medical Sciences (RIMS), Imphal.

The present report provides detailed findings for the IBBA round two, with comparisons to round one, conducted among the high-risk populations in Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu, Nagaland, and Manipur and truck drivers along national highways. The assessment seeks their present status on awareness, knowledge, and behaviour with regards to STI/HIV/AIDS. A methodological overview of the IBBA survey is outlined in Chapter 2. Salient findings by state and high-risk category are described in subsequent chapters.

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2 CHAPTER Methodology

The salient features of the IBBA survey design and methodology are described in this chapter. A team consisting of members from the Indian Council of Medical Research, Karnataka Health Promotion Trust, FHI 360, and Avahan designed the protocol for implementation of the IBBA survey. The protocol was fine-tuned based on the lessons learnt during the first round of the IBBA. The questionnaires for the survey were slightly modified to include additional information, and the formats for the high-risk populations across the districts and states in round two were similar.

2.1 Approval Process: Prior to starting the IBBA, clearance for the survey was obtained from the Health Ministry Screening Committee, Government of India. The IBBA protocol was also approved by the Scientific Advisory Committees of the participating ICMR institutes. Ethics committees from these institutions reviewed and approved the protocol, consent forms, study instruments, standard operating procedures, and field manuals. The Karnataka IBBA protocol was approved by St. John's Medical College Hospital Institutional Ethics Review Board, Bangalore. The protocol was also approved by the Protection of Human Subjects Committee of FHI 360.

2.2 Survey Coverage

2.2.1 IBBA districts: Based on the recommendation of the Avahan WHO Evaluation Advisory Group (EAG) for the IBBA, the survey was carried out in 29 districts out of 83 where Avahan was operating and four segments along the national highways. The districts were chosen purposively based on two key criteria: socio-cultural region and size of the high-risk population to have adequate representation and to ensure heterogeneity in terms of social, economic, and cultural characteristics. In each state, the capital district for the state was also included.

2.2.2 Respondent groups: The selection of high-risk populations to be covered in each district was based on the focus of Avahan and the overall HIV transmission dynamics of the region (Box 2.1). Coverage of FSWs was a priority in the four southern states (Andhra Pradesh, Tamil Nadu, Karnataka, and Maharashtra); whereas, in the north-eastern states, priority was given to IDUs. Data were collected for the entire district regardless of the various funding agencies supporting HIV prevention interventions in the district. The high-risk populations covered include FSWs, high-risk MSM, hijras, IDUs, clients of FSWs, and truckers.

Box 2.1: IBBA districts

State and District	FSW	High-risk MSM*	Hijra	IDU	Clients	Truckers
Andhra Pradesh (6,800)						
Chittoor	✓					
East Godavari	✓	✓			✓	
Guntur	✓	✓			✓	
Hyderabad	✓	✓			✓	
Karimnagar	✓					
Prakasam	✓					
Visakhapatnam	✓	✓			✓	
Warangal	✓				✓	
Karnataka (4,400)						
Bangalore	✓✓	✓			✓	

State and District	FSW	High-risk MSM*	Hijra	IDU	Clients	Truckers
Belgaum	✓	✓			✓	
Bellary	✓	✓			✓	
Mysore	✓	✓			✓	
Shimoga	✓	✓			✓	
Maharashtra (6,400)						
Kolhapur	✓					
Mumbai **	✓✓✓				✓	
Parbhani	✓				✓	
Pune	✓✓	✓			✓	
Thane	✓✓					
Yevatmal	✓				✓	
Mumbai-Thane		✓		✓		
Tamil Nadu (5,200)						
Chennai	✓	✓			✓	
Coimbatore	✓	✓				
Dharmapuri	✓					
Madurai	✓	✓			✓	
Salem	✓	✓			✓	
All five districts			✓			
Nagaland (1,200)						
Dimapur	✓					
Phek				✓		
Wokha				✓		
Manipur (800)						
Bishnupur				✓		
Churachandpur				✓		
Truckers (2,000)						
North – East						✓
North – South						✓
North – West						✓
South – East						✓

** Two IBBA surveys among MSM T in the state, one in Bangalore urban and another one combined survey in 4 other IBBA districts. The combined sample size in 4 districts is 550.

* Mumbai FSWs consist of three groups, and Pune, Bangalore, and Thane FSWs consist of two groups each.

Box 2.2: Behavioural indicators

- Number and types of sexual partners
- Condom use with different types of partners
- Practices related to condom use and safe sex
- Knowledge of STIs and STI care-seeking behaviors
- Knowledge and attitudes toward HIV/AIDS
- Drug and substance use
- Mobility and migration patterns influencing risk
- Perception of HIV and STI risk
- Exposure to Avahan and other HIV interventions

Box 2.3: Biological indicators

All participants:

Syphilis serology

N.gonorrhoeae NAAT

C.trachomatis NAAT

Herpes simplex virus type 2 (HSV-2) serology (10% sample)

HIV serology

BED assay for early HIV infection

IDUs only:

Hepatitis B virus (HBV) surface antigen

Hepatitis C virus (HCV) antibody

2.3 Key Areas of Inquiry: Key risk behaviours and STIs related to the spread of HIV were assessed. For the behavioural assessment (Box 2.2), face-to-face interviews using structured questionnaires were used. Keeping in view the requirement for modelling the impact of the Avahan intervention, different variables were selected. The questionnaire covered demographic variables, migration, sexual behaviour, condom use, types of partners, knowledge about HIV, and exposure to interventions. For the biological assessment (Box 2.3), prevalence of STIs including HIV was estimated. In addition, prevalence of hepatitis B and C were estimated in the IDU group.

2.4 Preparatory Activities

2.4.1 Pre-survey assessment: State level consultative discussions were held with local stakeholders including State AIDS Control Societies (SACS) and non-governmental organizations (NGOs) working with high-risk populations. In each state, a participatory workshop was conducted with NGOs, including outreach workers and peer educators.

2.4.2 Research instruments and tools: ICMR, KHPT, and FHI 360 developed the survey instruments including questionnaires and consent forms, field guidelines, and laboratory standard operating procedures (SOPs). Guidelines for handling adverse events, and ensuring safety and confidentiality of data were also developed. All the questionnaires and manuals were translated into local languages and back-translated. The questionnaires were pre-tested in each state and reviewed by ICMR, KHPT, FHI 360, and Avahan before finalization.

2.4.3 Community preparation: Community preparation, an integral part of the implementation of the IBBA, was carried out with the intent of understanding and addressing the concerns of stakeholders, gatekeepers, and community members. The survey established a Community Advisory Board and a Community Monitoring Board which were independent of the survey teams and their main role was protecting the high-risk populations. One Community Advisory Board was established for each high-risk population in each district to help and guide the survey team, to suggest mechanisms for avoiding adverse events, and to help address problems if and when they arose in a community sensitive manner. The Community Monitoring Board was composed of members of the high-risk populations who visited the areas where the survey was implemented, and the Community Monitoring Board reported any complaints, concerns, or problems to the Community Advisory Board.

2.5 Ethical Issues and Consent Process

2.5.1 Informed consent: All respondents were informed of, and gave consent for each test that was to be performed on their blood and urine specimens. At the study sites, potential participants were selected as per the protocol and were informed about the purpose and procedures for the study and asked for consent. Participation was completely voluntary with the option to withdraw at any time.

2.5.2 Harm minimization measures: The high-risk populations involved in the IBBA are often marginalized and stigmatized. Protection of respondents in all phases of the assessment was given high priority. The ethical committees of the participating centres reviewed the conduct of the study periodically. The guidelines were strictly followed to protect the rights of respondents including confidentiality of the data. Questionnaires and biological testing were linked anonymously, meaning that the results were linked to the questionnaire, but the results could not be traced back to the individual.

2.6 Sampling

2.6.1 Sample size: The sample size of 400 per district was arrived at for each of the high-risk groups, except for truckers where the sample size was 500 per highway segment. The sample sizes were calculated for tracking changes in key risk behaviours over time and for looking for district level impact. With the exception of truck drivers, by definition, all respondents engaged in behaviours that put them at risk for HIV infection, either commercial sex, sex with multiple partners, or injecting drug use. The main protective behaviours of interest to Avahan included condom use and use of clean needles/syringes and injecting equipment. The size of 400 allowed for detection of an absolute difference of 15% or more from the assumed value of 50% with 95% confidence (5% probability of type I error), and 90% power (10% probability of type II error), for indicators such as consistent condom use, last time condom use, and use of clean needles. A design effect of 1.7 was assumed for cluster sampling and 1.5 for respondent driven sampling methods.

2.6.2 Sampling approaches: A probability sampling method was used in all groups and all districts. The choice of method for individual high-risk populations was dependent on the population being assessed.

Conventional cluster sampling was used for populations that were relatively stable (in terms of mobility) in that they were attached (even if temporarily) to a particular establishment. This was most often the case for brothel-based, home-based, and lodge-based FSWs. For populations that tended to be less stable, such as street-based FSWs, high-risk MSM, hijras, and clients of FSWs (because they were not associated with any particular site or establishment in a fixed manner or at fixed times), time-location cluster sampling was used.

Respondent driven sampling was used for populations where a substantial proportion did not congregate in identifiable locations and would have been missed if a venue-based sampling approach, such as conventional cluster sampling or time-location cluster sampling, was used.

A "take-all" approach was followed when the pre-survey assessment or sampling frame development suggested that there were fewer than 400 members of the high-risk population in that district.

Sampling approaches used for selection of respondents from different districts across the two rounds were similar except for Parbhani (Maharashtra) where respondent driven sampling was used in round one and a take-all approach followed in round two.

2.6.3 Mapping and sampling frame: For surveys where cluster sampling was used, non-governmental organizations and individuals working with high-risk populations were involved in the mapping of potential sites where members of the group could be sampled. First, the existing mapping information available from the lead partners in each of the state agencies was obtained. Mapping information was updated by visiting each site. During this process, inactive sites were excluded and new sites were added. Information was gathered at each site about the presence of high-risk population members on different days and times, as well as approximate numbers and patterns of mobility. This information was then used to develop a list of primary sampling units to serve as either a conventional cluster sampling frame or a time-location sampling frame. The exercise was also carried out in areas that were not covered by Avahan.

2.6.4 Cluster sampling procedures: Selection of respondents for conventional cluster sampling/time-location cluster sampling was done through a two-stage cluster sampling procedure. The primary sampling units (clusters) were selected by systematic random sampling (without replacement), by probability proportional to size. In the selected clusters, respondents were chosen through simple random sampling using their dress code as labels. The information needed to calculate selection probabilities, weights, and non-response rates was recorded in the cluster information sheet.

2.6.5 Respondent driven sampling: Selection of respondents for respondent driven sampling was done through a system of peer recruitment involving initial identification of 6-8 diverse "seeds", who were members of the high-risk population, purposively selected from among various networks to participate in the survey. Each seed was issued three coupons to recruit members of the population who met the eligibility criteria and who were "known" to them (i.e., not strangers). Additional seeds were selected during the conduct of the survey if the earlier seeds did not succeed in developing active recruitment chains. Respondent driven sampling data were analyzed using the Respondent Driven Sampling Analysis Tool (RDSAT) program, with appropriate weighting and accounting for design effects. Validity of the estimates obtained through the respondent driven sampling depends upon the extent of networking amongst the respondents. Inability to cover different categories of the hidden population is the potential risk in this approach. If some categories of respondents are not identified in the RDS process, they remain unrepresented in the survey.

2.7 Implementation of Survey

2.7.1 Training: Intensive training was imparted to all field personnel in view of the sensitive nature of the behavioural questions and the fact that biological specimens were to be collected. One five-day training workshop was held to

Box 2.4: IBBA interview room

orient the various field staff on their specific roles. The medical officers were trained on syndromic management of STIs. In addition, all individuals involved in the IBBA were trained in community sensitization, harm minimization, good laboratory practices (GLP), biohazard, and the basics about HIV, AIDS, and STIs. A dry run of field activities was done to assess the skills of the team and to resolve problems before initiating field work.

2.7.2 Fieldwork: Multiple field teams were formed in each district. The teams consisted of a supervisor, community liaison staff, laboratory technician, interviewers, and a clinician. Data were collected through face-to-face interviews in a private location specifically set up for the interview and clinical examination in the vicinity of survey site (see Box 2.4 for a photo of a sample interview room).

2.7.3 STI referral and communicating results to participants: One major benefit to the participants of the IBBA was access to medical examination and treatment by a doctor. Participants with symptoms consistent with STIs were treated syndromically for STIs at the time of the survey. They were provided with referral cards containing only the participant's identification number and directed to visit a designated clinic. At the clinic, syphilis test results and STI care were provided, if any respondent chose to visit.

2.7.4 Monitoring: There were several layers of monitoring to ensure that the IBBA was conducted in strict adherence to the approved protocol. Researchers from NARI, the state ICMR institutes, KHPT, and FHI 360 were present in the field during the preparatory work, training, mapping, and conducting of the survey. Staff from the research agencies as well as NARI, ICMR, KHPT, and FHI 360 made frequent surprise visits to check quality and consistency of various aspects of fieldwork including sampling, selection of respondents, the consent process, clinical examinations by the doctors, biological sample collection by technicians, and storage/transport/processing of samples at the field laboratories. Quality of the data collected in the field was checked on the spot for completeness. Inconsistencies were checked and corrected at the site itself by the field team.

2.8 Biological Component of IBBA: The Integrated Behavioural and Biological Assessment survey is unique in that biological indicators for risk of HIV infection have been measured for the first time in such a large survey. The biological indicators included in the survey were presence of sexually transmitted infections as diagnosed by serology or nucleic acid amplification assay. Sero-prevalence of HIV infection was determined by using two test algorithms.

Laboratory network: Biological assays were carried out through a network of laboratories at three levels:

1. National level – National AIDS Research Institute, Pune (Box 2.5)

Box 2.5: IBBA central laboratory

2. State level – at each state ICMR Institute

3. District level

A small laboratory was established at field site during the survey period for the samples collection.

Transportation: The biological samples were transported from the site laboratory to the district lab and from district laboratory to the state laboratory, maintaining a cold chain (Box 2.6). In the state lab once the testing was completed the samples were sent to NARI every month for quality control and archiving. The detailed logistics of transport and storage are illustrated in Figure 2.1. Necessary monitoring and checks were instituted to ensure that samples were transported in appropriate conditions.

2.9 Biological Assays (Table 2.1):

Syphilis serology: The Rapid Plasma Reagin (RPR) test for syphilis antibodies was carried out in the district laboratory. An indirect heamagglutination test (TPHA) was used to confirm the results of the RPR rapid test for all RPR positive sera. TPHA was carried out in the state laboratories. Since RPR and TPHA assays were not validated on dried blood spot, Trepanostika TP recombinant (BioMerieux), a solid phase enzyme-linked immunoassay, was used for testing anti-treponemal antibodies using dried blood spot in the survey in the north-eastern states of Nagaland and Manipur.

Box 2.6: Laboratory testing and storage protocol

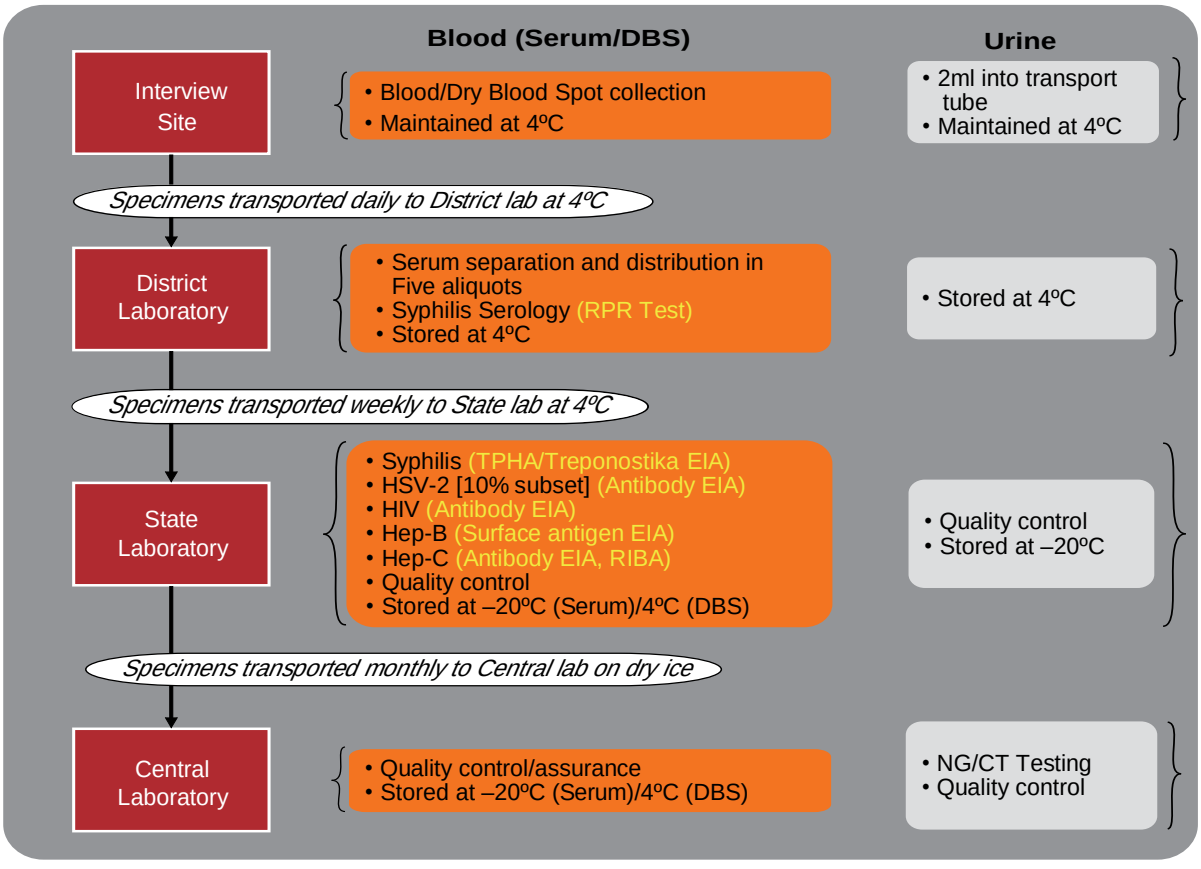


Figure 2.1: Specimen flow chart

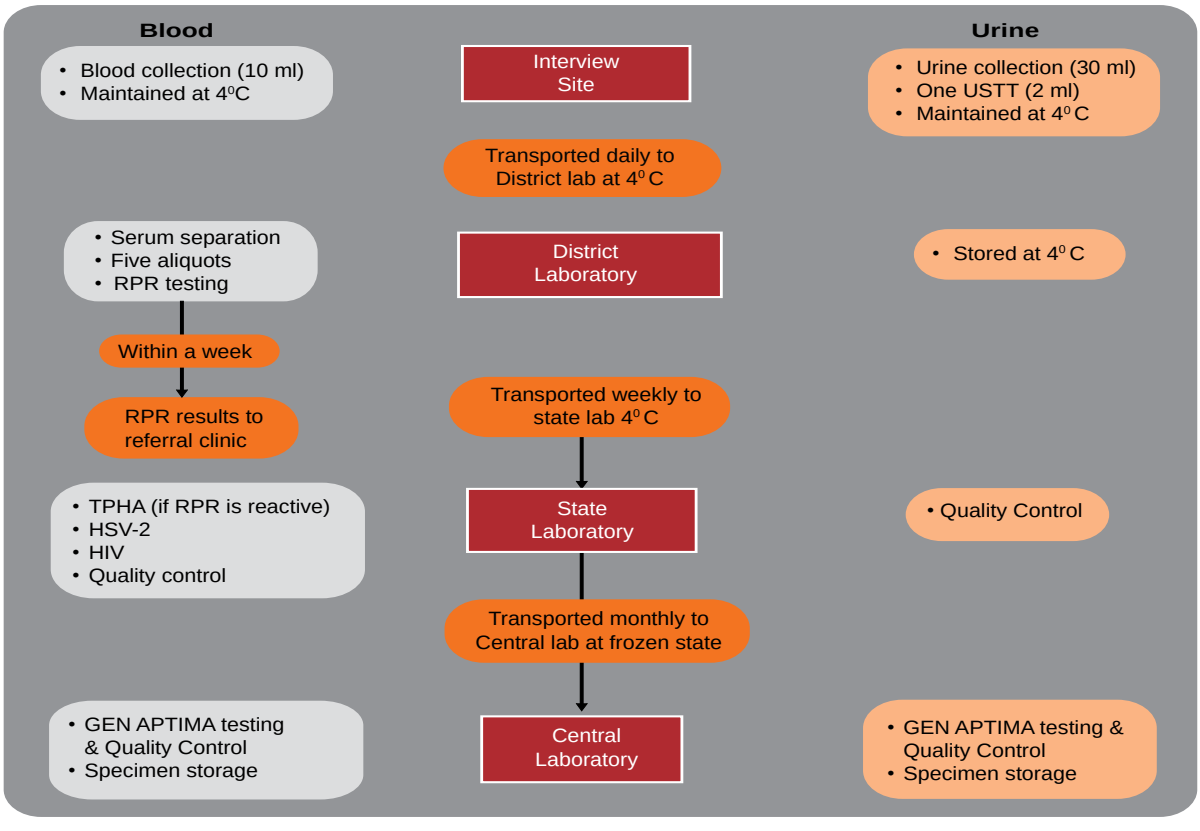


Table 2.1: Responsibilities and tests performed by level of laboratory

Laboratory level	Responsibility	Assays performed
Site laboratory	• Collect, label, log, and transport biologic specimens (blood and urine) to the district laboratory. • Aliquot 2 cc of urine into diagnostic test Urine Specimen Transport Tube (USTT).	
District laboratory	• Aliquot, label, and log sera into three vials. • Store and transport specimens in appropriate conditions. • Perform syphilis serologic screening test. • Return syphilis results under study ID number to referral clinics.	• Qualitative and quantitative RPR
State laboratory NARI, Pune NIN, Hyderabad NIE, Chennai RMRC, Dibrugarh	• Store and transport specimens in appropriate conditions. • Syphilis serologic screening and confirmatory testing. • HIV antibody testing. • HSV-2 serologic testing (10% random sample). • Hepatitis B surface antigen and hepatitis C antibody testing. • Complete laboratory data result forms per standard operating procedures.	• TPHA (if RPR is positive) • Trepanostika (dried blood spots only) • HIV-1 ELISA (screening) • HIV-1 ELISA (confirmation if screening test is positive) • HSV-2 • Hepatitis B virus surface antigen EIA • Anti-Hepatitis C virus EIA • Chiron RIBA, if anti-HCV EIA is positive
Central laboratory NARI, Pune	• HIV antibody testing to estimate new infection in the previous six months. • NG and CT detection by TMA amplification (GEN APTIMA). • HIV-1 confirmatory test for discordant ELISA results. • Genital ulcer pathogen antigen detection from swabs. • Quality control for all assays. • Repository of samples. • Logistics and co-ordination.	• Aptima nucleic acid amplification assay for *N. gonorrhoeae* and *C. trachomatis* (at NARI and NIN only) • HIV-1 Western Blot assay on discordant HIV results

HIV sero-prevalence: Sero-prevalence of HIV infection was determined by using two test algorithms at the state laboratory (screening test: Microlisa – HIV by J. Mitra and Co. Pvt. Ltd.; confirmatory test: Genedia HIV 1/2 ELISA 3.0 by Greencross Life Sciences Corp). HIV serology was performed on the serum samples except for the states of Nagaland and Manipur where Dried Blood Spot (DBS) were collected due to logistics necessity.

HSV-2 serology: HSV-2 ELISA was performed on a 10% subset of all serum samples at the state laboratory using HerpSelect 2 ELISA IgG kits (Focus Diagnostics).

Hepatitis B surface Ag (HBsAg) ELISA: HBsAg ELISA was carried out on all DBS samples at the state laboratory using Murex HbsAg Version 3 kits (Abbott Diagnostics) for the detection of hepatitis B surface antigen in DBS sample. This test was carried out only among injecting drug users.

Hepatitis C antibody ELISA: DBS samples from IDUs were tested for the presence of antibodies against hepatitis C by EIA (Murex anti-HCV Version 4.0, Abbott Diagnostics).

Detection of *N. gonorrhoeae* and *C. trachomatis* in urine sample: Gen-Probe APTIMA Combo 2 for *N. gonorrhoeae* and *C. trachomatis:* The APTIMA Combo 2 (AC2) Assay, a target amplification nucleic acid probe test that utilizes target capture for the in vitro quantitative detection and differentiation of ribosomal RNA (rRNA) from *C. trachomatis*

and/or *N. gonorrhoeae* was applied for urine samples from participants. The assay combines the technologies of target capture, Transcription-Mediated Amplification (TMA), and Dual Kinetic Assay (DKA). The chemiluminescent detection reaction for *C. trachomatis* signal has very rapid kinetics and has the "flasher" kinetic type. The chemiluminescent detection reaction for *N. gonorrhoeae* signal is relatively slower and has the "glower" kinetic type. Assay results are determined by a cut-off based on the total RLU and the kinetic curve type. Assay results are automatically interpreted by the APTIMA Combo 2 Assay software and presented as individual CT and GC test results. A test result may be a negative, equivocal, positive, or invalid.

While individual testing was done in IBBA round one for detection of NG and CT, in round two, following a review of the method and cost-effectiveness of conducting the amplification assay for detection of NG/CT, a Gen APTIMA pooling algorithm was developed. The pooling algorithm is a two-step testing procedure whereby urine specimens are first tested in pools of five in a single test unit. Specimens from pools which test negative are all considered negative. Specimens from positive pools are retested individually to determine which specimen(s) in the pool is (are) positive. An assessment of pooling strategy was performed by comparing individual assay results and results from pooled samples prior to implementation of round 2 of the IBBA in 2009.

2.10 Quality Control and Quality Assurance in the IBBA: Quality assurance for various laboratory tests consisted of training, site inspection, and documentation and proficiency testing (internal/external).

1. RPR tests done at the district laboratory were monitored by the state laboratory by retesting 10% of the serum samples tested at the district laboratories.

2. For the assays carried out in the state laboratories (TPHA, HIV-J Mitra, HIV-Genedia, HSV-2 ELISA, Trepanostika, HbsAg, Anti-HCV ELISA), 10% randomly selected samples were retested on a separate aliquot at the central laboratory.

3. For Gen-Probe APTIMA Combo 2 assay, all positive samples and 5% of all negative urine samples were retested on a separate aliquot at NARI.

External quality control of the state laboratories was done by sending proficiency panels (blinded samples) for each assay at regular intervals. The state laboratories implement internal quality control by including known blinded positive and negative samples apart from the control specimens provided in the test kits.

2.11 Archives: All the serum samples after testing are stored at -20°C while the serum vials for quality control are stored at -70°C at NARI. For storage of IBBA samples, a separate sample tracking system was developed and all the samples were stored group-wise in a freezer room. All the hard copies of the test protocol are separated group-wise. The soft copies of all lab results were entered in a computer as per the Excel sheet developed by IBBA and all the data have been kept on CDs for back-up and long-term storage.

2.12 Data Management and Analysis: In view of the large volume of data generated, a Data Management Group consisting of representatives from all partner organizations (ICMR, KHPT, and FHI 360) was formed in round one to steer the data management activities of the IBBA under the overall leadership of the Director, NIE, Chennai. However, in round two data management was decentralized and state level analyses were carried out by state ICMR institutes. Processes followed for data entry and quality control checks were similar across the two rounds. Double data entry was carried out using CSPro (version 3.1) software. In the case of the IBBA carried out by the ICMR institutes, the first data entry was done by the research agency and the second independent data entry was done by the respective state ICMR institute. The double data entry for Karnataka IBBA data was carried out by KHPT. Accuracy was ensured by matching the two separately entered data files and correcting the mismatches. Inconsistencies in the data were sorted out through discussions and cross verification with original documents. The cleaned data were used for statistical analysis. SPSS (version 15.0) and RDSAT (version 5.6.0) software were used for data analysis. The early findings were discussed amongst the IBBA team members and also shared with external experts. Based on these consultations, mid-course corrections in the analysis plans and new strategies for revised data analysis were incorporated.

3
CHAPTER

Female Sex Workers

3.1 Introduction: The HIV epidemic in India is concentrated among the high-risk groups, and female sex workers are one of these high-risk or "key populations" targeted for preventive interventions due to their large number of sexual partners. They are also the main focus population for Avahan along with MSM and IDUs. The first round of the IBBA was conducted among the FSWs in the different states between August 2004 and November 2007 and the second round in the year 2009-10. As in round one, the survey in round two was also conducted in eight districts in Andhra Pradesh, five districts in Karnataka, six districts in Maharashtra, five districts in Tamil Nadu, and in Dimapur district in Nagaland. The surveys among FSWs in round two were carried out between March 2009 and October 2009 in Andhra Pradesh and Tamil Nadu; June 2009 and December 2009 in Maharashtra; December 2006 and February 2009 in Karnataka; and February 2009 and July 2009 in Dimapur.

3.2 Mapping: A two-stage cluster sampling design was adopted (fixed-location and time-location clusters were the primary sampling units) for all districts and a total of 3,074 brothel-based (fixed-location) and 3,993 non-brothel-based (time-location) clusters were mapped in Andhra Pradesh, Maharashtra, and Tamil Nadu in round two across the survey districts. From among the mapped clusters, 1,034 brothel-based and 1,007 non-brothel-based clusters were selected for IBBA round two. In Karnataka, 41,114 clusters were mapped and 510 selected in round two of IBBA. Public places like parks, streets, cinema halls, bus stands, railway stations, etc. where FSWs solicit clients were considered as non-brothel-based sites. In all, during IBBA rounds one and two, a total of 22,915 FSWs (R1-11,604, R2-11,311) were interviewed from the states of Andhra Pradesh, Tamil Nadu, Karnataka, Maharashtra, and Nagaland.

3.3 Participation Rates: The overall participation rate for FSWs was 79% in round one and 68% in round two. High participation rates could be achieved in both rounds one and two in Karnataka (R1-85% to 90%, R2-92% to 98%) and Maharashtra (R1-45% to 78%, R2-62% to 96%). In a few of the districts in Andhra Pradesh (R1-63% to 82%, R2-45% to 77%) and Tamil Nadu (R1-61% to 79%, R2-50% to 83%) a marginal decline in participation rates was observed between the two rounds (Table 3.1). The sections which follow discuss the key findings related to sexual behaviour of FSWs and the prevalence of STI and HIV/AIDS.

3.4 HIV Prevention Services Received from Any Agency: Exposure to HIV prevention interventions was captured in both IBBA rounds through indicators related to provision of outreach services by peer educators, availability of condoms, exposure to promotional activities for increased condom usage, coverage, and quality clinical services for sexually transmitted infections. This particular section mainly focuses on three different services received by female sex workers in the states of Andhra Pradesh, Maharashtra, Karnataka, Tamil Nadu and Nagaland: (1) Contacted by peer educator/outreach worker (ORW); (2) Visit to NGO clinic; and (3) Received condom from peer educator/ORW.

In districts of Andhra Pradesh in round two, the proportion of FSWs who reported having received any one of these services (ever contacted by peer/ORW, ever visited NGO clinic, and received condom from peer/ORW) ranged from 34% to 88%. The corresponding proportions for districts in Maharashtra, Karnataka, and Tamil Nadu ranged from 34% to 100%, 73% to 97%, and 75% to 99%, respectively. In Dimapur more than 70% of the FSWs reported receiving any one of the aforesaid services. When compared to round one, better service coverage was observed in all states except a few districts in Andhra Pradesh where declines in service coverage were noted (Hyderabad, Vishakhapatnam, and Warangal) (Table 3.2; Summary Data Sheet F2).

3.5 Demographic Profile: This section presents information on the socio-demographic profile of the

Table 3.1: Participation rates by district for female sex workers

State & District	Round 1		Round 2	
	Completed questionnaire and biological specimen collection	Participation rate (%)	Completed questionnaire and biological specimen collection	Participation rate (%)
Andhra Pradesh				
Chittoor	401	80	398	52
East Godavari	422	71	401	77
Guntur	405	77	405	61
Hyderabad	399	63	401	50
Karimnagar	412	68	402	57
Prakasam	404	78	408	59
Visakhapatnam	411	80	409	74
Warangal	417	82	401	45
Karnataka				
Bangalore (Urban)	673	85	750	94
Belgaum	360	85	396	92
Bellary	420	88	410	95
Shimoga	390	90	401	98
Maharashtra				
Kolhapur	115	45	190	86
Mumbai (BG)	338	NA*	405	NA
Mumbai (BB)	407	78	395	75
Mumbai (SB)	394	69	385	72
Parbhani	367	NA*	303	93
Pune (BB)	404	50	403	71
Pune (SB)	257	75	266	94
Thane (BB)	401	74	384	62
Thane (SB)	394	68	395	72
Yevatmal	153	70	157	96
Tamil Nadu				
Chennai	410	61	397	50
Coimbatore	410	64	400	62
Dharmapuri	408	62	406	83
Madurai	402	79	396	61
Salem	402	66	407	51
Nagaland				
Dimapur	426	NA*	417	NA

* NA-Not applicable (respondent driven sampling was adopted).

Table 3.2: HIV prevention services received from by FSWs from any agency by district

State & District	Round 1			Round 2		
	Contacted by a peer/ORW in the last month (%)	Visited an NGO clinic in the last 3 months** (%)	Received condom from peer/ORW in the last year (%)	Ever contacted by peer/ORW (%)	Ever visited NGO clinic (%)	Received condoms from peer/ ORW (%)
Andhra Pradesh						
Chittoor	90	83	90	71	61	70
East Godavari	93	78	92	84	72	82
Guntur	95	84	94	88	72	88
Hyderabad	67	45	61	50	43	50
Karimnagar	NA	NA	60	75	68	74
Prakasam	84	70	86	79	75	78
Visakhapatnam	86	59	90	56	34	55
Warangal	62	54	64	56	54	66
Karnataka						
Bangalore (Urban)	87	69	78	84	73	73
Belgaum	95	NA	91	97	85	95
Bellary	91	NA	87	95	80	93
Shimoga	73	NA	55	97	89	86
Maharashtra						
Kolhapur	33	23	35	100	96	95
Mumbai (BG)	66	55	63	76	64	71
Mumbai (BB)	36	24	41	65	57	60
Mumbai (SB)	28	22	30	74	54	63
Parbhani	31	20	33	84	72	79
Pune (BB)	65	35	71	72	65	71
Pune (NBB)	40	30	44	72	56	55
Thane (BB)	85	75	86	61	34	61
Thane (SB)	31	27	31	61	52	38
Yevatmal	83	63	86	94	89	92
Tamil Nadu						
Chennai	30	30	30	79	75	78
Coimbatore	56	55	56	88	82	87
Dharmapuri	79	74	77	90	89	88
Madurai	73	69	71	99	99	99
Salem	71	69	65	81	81	81
Nagaland						
Dimapur	NA	NA	23	71	78	76

NA-Not available

** R1 data for Hyderabad, Karimnagar, Warangal, and Karnataka given under last year represent last six months.

FSWs surveyed. The discussion is centred on age, literacy, marital status, current living status, and initiation into sex work. The mean age of FSWs covered in both IBBA rounds one and two ranged between 28 and 35 years. As in round one, FSWs from Karnataka and Tamil Nadu were older compared to FSWs from other states. Trends in literacy status varied by state between rounds one and two with decline in Dimapur (R1-61%, R2-45%) in the north-east and a marked increase in literacy level in some districts in Andhra Pradesh (Chittoor, Hyderabad, Karimnagar, and Warangal) and all districts in Tamil Nadu. In Karnataka, literacy level in Bellary (R1-34%, R2-23%) dropped in comparison to round one and in the rest of the districts a marginal increase was observed. The proportion of FSWs reported to be ever married was high and ranged from 59% to 98% in round one as against 64% to 98% in round two. Similar to round one, more than two-thirds of the FSWs in Andhra Pradesh and Tamil Nadu reported cohabitating with their sexual partners. In Karnataka this proportion ranged from 45% to 59% in round two and 26% to 48% in round one. The corresponding proportion in Maharashtra ranged from 39% to 64% in round two and was between 24% and 57% in round one. As compared to 41% of FSWs in round one, only 30% of those covered in Dimapur in round two reported cohabitating with their sexual partners. The mean age at which the FSWs initiated sex work ranged between 22 and 29 years in round two; however, in round one it was between age 21 and 28 years (Table 3.3; Summary Data Sheet F1).

3.6 Typology: As in round one, FSWs in round two also were both brothel-based and non-brothel-based in Andhra Pradesh; whereas, in Tamil Nadu and Karnataka FSWs were predominantly non-brothel-based. In Maharashtra, FSWs were brothel, street (Mumbai, Thane), and bar-based. Due to the large group size of these different typologies of FSWs in Maharashtra, each was treated as a separate survey group.

3.7 STI Knowledge: This section provides information about the awareness levels of FSWs about STIs and their knowledge of three or more STI symptoms in women. A higher proportion of FSWs in round two from most districts in Maharashtra (R1-43% to 83%, R2-62% to 96%) and Tamil Nadu (R1-78% to 93%, R2-87% to 100%) were aware of STIs when compared with round one. In Karnataka, a marginal decline in the proportion of FSWs who reported to have heard of STI was observed in Bangalore (urban) (R1-84%, R2-79%) since round one. However, a marked increase in the proportion of FSWs who had heard of STI was recorded in Bellary (R1-77%, R2-88%) and Shimoga (R1-66%, R2-84%). A similar trend followed in Andhra Pradesh and the level of awareness of STI declined in Chittoor (R1-96%, R2-86%), East Godavari (R1-97%, R2-91%), and Prakasham (R1-96%, R2-84%), but an increase in Karimnagar (R1-81%, R2-92%) was noted. In Dimapur, the reported level of awareness of FSWs about STI showed a declining trend since round one (R1-73%, R2-50%). Knowledge of STI was also assessed based on the ability of the FSW to correctly identify at least three of the six most common symptoms (i.e., lower abdominal pain, foul smelling vaginal discharge, burning on urination, genital ulcer/sore, swelling in the groin area, and genital itching). As in round one, among the FSWs in Andhra Pradesh who had heard of STIs, more than 80% could correctly identify at least three of the most common STI symptoms in all districts. This proportion ranged from 76% to 94% in Tamil Nadu districts, 50% to 62% in Karnataka, and 46% to 96% in Maharashtra districts (as against 57% to 79%, 30% to 43%, and 24% to 85%, respectively, in round one). In districts such as Warangal, Kolhapur, Mumbai (BB), Parbhani, Pune (BB), Belgaum, and Bellary a marked increase was seen in the proportion of respondents having knowledge about three of the most common STI symptoms in round two than in round one. In contrast a sharp decline in knowledge levels was observed in East Godavari, Prakasham, and Thane (BB and SB). In Dimapur, also a declining trend was seen with respect to knowledge about three symptoms of STI from 37% in round one to 17% in round two (Summary Data Sheet F3).

3.8 HIV Awareness, Knowledge, and Risk Perception: The level of awareness among FSWs about HIV/AIDS remains high and was almost universal in round two. In both rounds one and two, from among the districts surveyed more than three-fourths of the respondents (except Dimapur-45%) believed that HIV could be prevented with appropriate measures. Knowledge about HIV prevention methods shows that more than four-fifths of the respondents from Andhra Pradesh, Karnataka, and Tamil Nadu in both rounds one and two were aware that consistent condom use could reduce the risk of contracting HIV. In Maharashtra, this proportion varied and the proportion of respondents identifying consistent condom use as a method of reducing the risk of HIV ranged from 64% to 97% in round two as against 28% to 82% in round one.

Table 3.3: Demographic profile of participating female sex workers by district

State & District	Mean age (years)		Mean age when started selling sex (years)		Can read and write (%)		Ever married (%)		Living with sexual partner (%)	
	R 1	R 2	R 1	R 2	R 1	R 2	R 1	R 2	R 1	R 2
Andhra Pradesh										
Chittoor	30	29	25	25	36	53	95	86	80	62
East Godavari	31	31	23	22	33	26	88	88	69	65
Guntur	31	31	25	25	39	37	96	97	77	72
Hyderabad	30	29	25	25	14	46	96	91	76	64
Karimnagar	29	30	23	26	22	42	89	86	73	66
Prakasam	29	30	24	24	32	43	96	91	79	70
Visakhapatnam	30	30	24	27	35	48	96	95	76	80
Warangal	29	30	21	26	21	42	81	90	74	80
Karnataka										
Bangalore (Urban)	31	31	27	27	52	50	95	92	48	56
Belgaum	31	34	22	23	18	22	59	79	26	45
Bellary	31	32	22	23	34	23	61	85	33	59
Shimoga	32	33	26	28	39	44	91	97	48	55
Maharashtra										
Kolhapur	30	31	24	26	23	31	85	81	45	45
Mumbai (BG)	NA	NA	NA	NA	39	48	83	88	57	54
Mumbai (BB)	30	31	22	23	15	27	80	86	33	39
Mumbai (SB)	31	32	24	24	28	19	90	86	46	54
Parbhani	32	32	25	26	14	28	88	92	43	64
Pune (BB)	29	28	22	22	23	24	63	79	24	44
Pune (NBB)	33	33	26	28	22	40	89	95	55	52
Thane (BB)	28	28	22	24	36	31	65	79	24	44
Thane (SB)	27	30	24	26	56	23	84	86	39	63
Yevatmal	28	30	24	24	22	33	86	92	34	40
Tamil Nadu										
Chennai	33	34	28	28	33	66	97	97	67	72
Coimbatore	33	33	28	29	59	70	96	92	79	65
Dharmapuri	31	32	25	25	29	50	98	96	69	55
Madurai	32	34	26	28	45	56	97	92	76	71
Salem	33	35	28	29	29	51	98	98	76	64
Nagaland										
Dimapur	NA	NA	NA	NA	61	45	65	64	41	30

BB=Brothel-based, SB=Street-based, NBB=Non-brothel-based
NA-Not applicable

However, the proportion of respondents who were aware that any healthy looking person may have HIV and that a person could not get HIV/AIDS through mosquito bites or sharing clothes and utensils varied widely ranging from 8% to 65% in round one and 18% to 80% in round two. Among the districts surveyed, the reported proportion of respondents who felt they were at the risk of contracting HIV varied and ranged from 12% to 80% in round one and 4% to 77% in round two. In Karnataka, this proportion ranged from 43% to 56% in round two as against 21% to 29% in round one. In Maharashtra, between 21% and 73% of respondents in round one felt at risk for contracting HIV. This proportion in round two varied and in Yevatmal, Thane, Mumbai (BG), and Pune (NBB), 27% to 42% of respondents felt that they were at risk for HIV infection while in other districts more than 50% of the respondents reported feeling at risk. In Andhra Pradesh (R1-41% to 66%, R2-4% to 35%) comparatively a lower proportion of respondents in round two viewed themselves at risk for HIV than other states. In Tamil Nadu between 12% and 40% of respondents in round one and 9% and 60% in round two reported feeling at risk (Summary Data Sheet F4).

3.9 Numbers of Clients: The reported mean number of clients on the "last day worked" in round two was highest in Yevatmal (4) and between 2 and 3 in all other districts. An overall increase in the mean number of clients entertained during a week was observed in round two when compared to round one in all districts in Andhra Pradesh except Vishakhapatanam. In contrast the number of clients entertained during the week reduced since round one in Tamil Nadu with the exception of Chennai. In Maharashtra the trend was mixed in round two and the number of clients entertained was highest in Yevatmal (18) and between 10 and 12 clients in all other districts. As compared to round one, in Karnataka, the reported mean number of clients entertained on the last day and last week in Bangalore and Belgaum declined. In contrast, Bellary in round two recorded an increase in the reported mean number of clients entertained both on the last day and last week. In Shimoga, no change was observed in clients entertained on the last day, but an increase was observed in the number of clients entertained during the last week (Summary Data Sheet F5).

3.10 Partner Types and Condom Use: The different types of partners/clients reported by FSWs were categorized as occasional/regular and non-paying regular/casual partners. "Occasional" clients were defined as clients who visited the FSW only once or on a few occasions and are not well known to her. Similarly, "regular" clients were defined as those who visit the FSW regularly/repeatedly and whom the FSW knows. With the exception of Dimapur in Nagaland where 59% of FSWs reported having occasional clients, in all other districts from Andhra Pradesh, Tamil Nadu, Karnataka, and Maharashtra more than 80% of the FSWs reported having occasional clients, and the trend was not very different from round one. A marginal increase in the proportion of respondents who reported having occasional clients was observed in districts of Andhra Pradesh and Tamil Nadu when compared with round one. In Karnataka, comparatively, the proportion of respondents who reported having occasional clients decreased in all districts (except Bellary) since round one. However, in Maharashtra except for Parbhani and Pune (NBB) where the proportion of FSWs who reported having occasional clients dropped in round two, in other districts it either remained the same or increased when compared with round one. Similarly, a high proportion of FSWs also reported having regular clients (R1-65% to 100%, R2-57% to 100%). In round two, the proportion who reported having regular clients varied and ranged from 57% to 99% in Andhra Pradesh, 78% to 98% in Maharashtra, 78% to 86% in Karnataka, and above 90% in Tamil Nadu. The proportion of FSWs who reported having regular clients decreased in round two in all districts in Karnataka and AP (except Praksham and East Godavari) when compared with round one; whereas, it increased for all districts in Maharashtra and Tamil Nadu (except for Thane-BB and Dharmapuri) (Summary Data Sheet F5).

Husbands, boyfriends, and live-in partners were the regular non-paying male sexual partners (R1-24% to 82%, R2-43% to 83%). The proportion of FSWs in round two who reported having regular non-paying male sexual partners varied from 63% to 83% in Andhra Pradesh; 43% to 77% in Maharashtra; 53% to 63% in Karnataka; 66% to 82% in Tamil Nadu; and 75% in Dimapur (in Nagaland). In contrast, the proportion of FSWs who reported having non-paying casual partners was low in all districts and ranged from 8% to 33% in Andhra Pradesh; 1% to 10% in Maharashtra; 2% to 7% in Karnataka; and 8% to 16% in Tamil Nadu. In Dimapur, 19% of the FSWs reported having non-paying casual partners. A considerable decline in the proportion of FSWs who reported having casual partners was observed since round one in most districts (R1-0.4% to 38%, R2-0.7% to 33%) (Summary Data Sheet F6).

3.10.1 Last time condom use: "Last time condom use" refers to the reported use of a condom with any type of partner during the last sex act. When compared to round one, an increase in the reported proportion of condom use (last time) was observed in round two. Condom use during last sexual act in round one ranged between 36% and 98% with occasional clients and 26% and 99% with regular clients. However, in round two more than 90% of respondents reported having used condoms during last sex act with their occasional client (except Dimapur-72%) and regular clients (above 80% in Karnataka and 58% in Dimapur). With regular non-paying partners the reported condom use during last sex act decreased in round two and ranged from 2% to 52% as against 7% to 64% in round one. On the other hand, condom use with non-paying casual partners varied widely in both rounds (R1-20% to 100%, R2-11% to 100%) and was towards a higher side than with regular non-paying partners. This proportion in round two ranged from 31% to 89% in Andhra Pradesh; 11% to 100% in Maharashtra; 66% to 89% in Karnataka; and 62% to 89% in Tamil Nadu. In Dimapur, 36% of respondents in round two reported having used condoms with regular non-paying partners; whereas, in the case of casual non-paying partners it was 51% (Figures 3.1-3.9; Summary Data Sheets F5 and F6).

Figure 3.1: Last time condom use with occasional clients

(Andhra Pradesh)

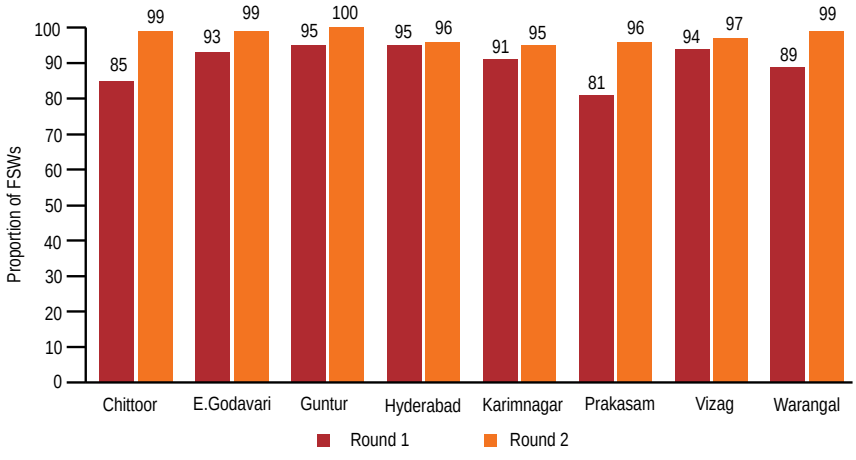


Figure 3.2: Last time condom use with regular clients

(Andhra Pradesh)

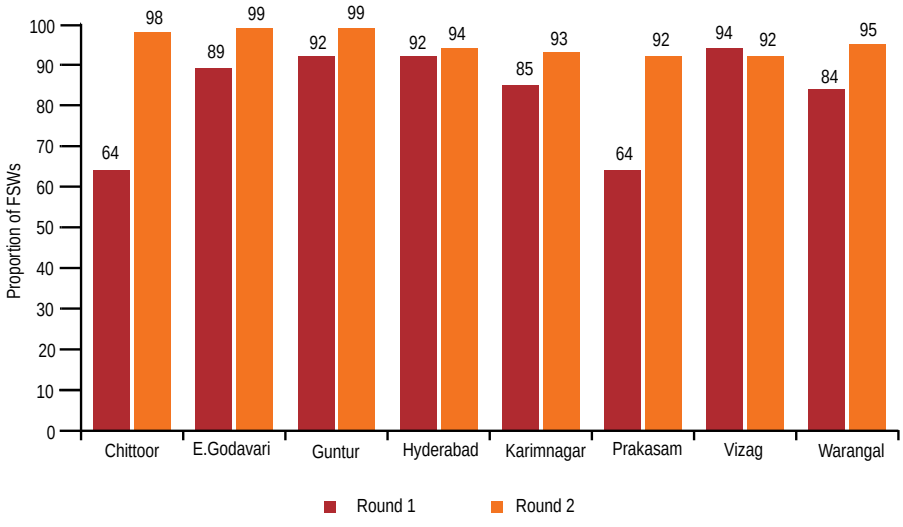


Figure 3.3: Last time condom use with occasional clients

(Maharashtra)

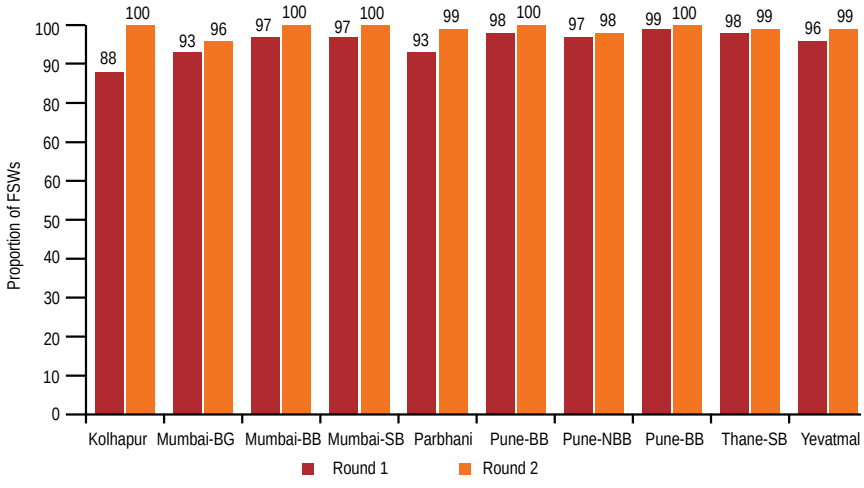


Figure 3.4: Last time condom use with regular clients

(Maharashtra)

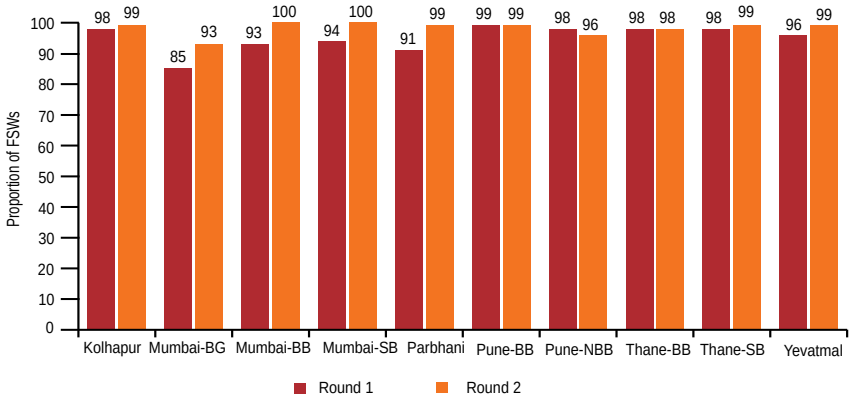


Figure 3.5: Last time condom use with occasional clients

(Tamil Nadu)

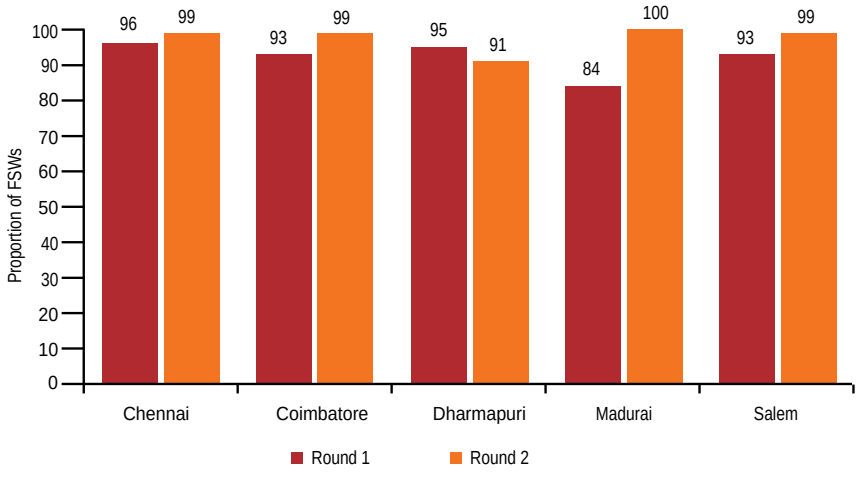


Figure 3.6: Last time condom use with regular clients

(Tamil Nadu)

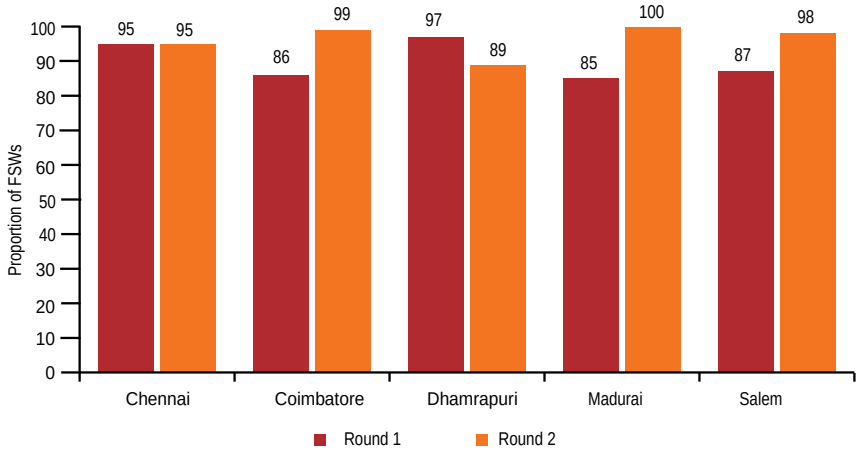


Figure 3.7: Last time condom use with occasional clients

(Karnataka)

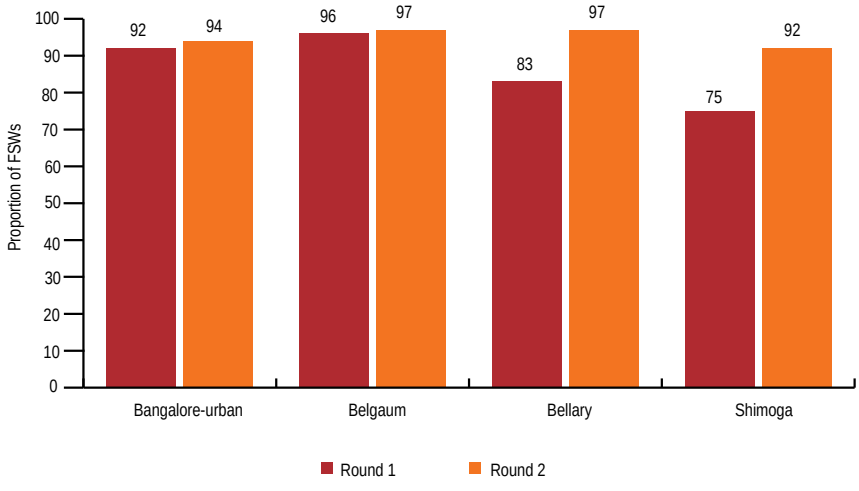
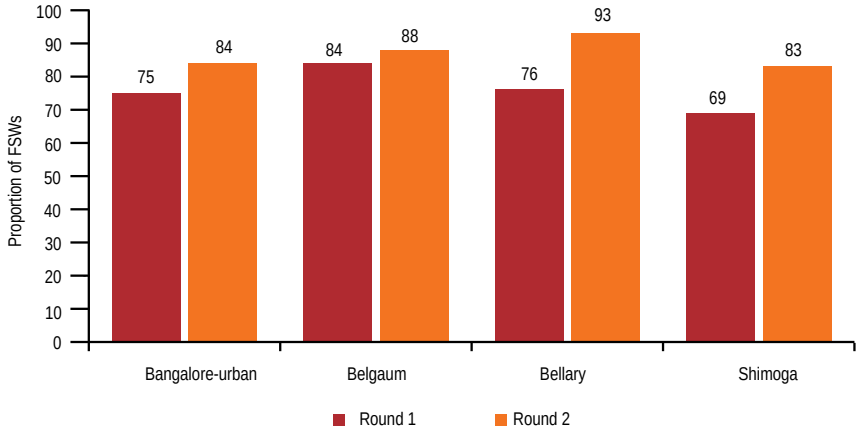


Figure 3.8: Last time condom use with regular clients

(Karnataka)



3.10.2 Consistent condom use: "Consistent condom use" was defined as use of a condom at each sex act (every time) with any type of partner. Consistent condom use with occasional (R1- 36% to 99%, R2-70% to 100%) and regular clients (R1-15% to 97%, R2-61% to 100%) increased between the two IBBA rounds in almost all districts. With occasional clients in round two this proportion ranged from 70% to 97% in Andhra Pradesh; 75% to 100% in Maharashtra; 84% to 89% in Karnataka; and 74% to 100% in Tamil Nadu. Consistent condom use with regular clients in Andhra Pradesh was above 75% in all districts (except Hyderabad-61%). Similarly, it was above 80% for Maharashtra (except among bar girls in Mumbai, where it was 69%) and between 72% and 100% in Tamil Nadu and Karnataka. In Dimapur consistent condom use in round two was low; it was 32% with occasional clients (as against 11% in round one) and 20% with regular clients (5% in round one). However, the scenario of consistent condom use with regular non-paying partners was dissimilar and varied widely among the districts (R1-1% to 58%, R2-0.7% to 42%). In Dimapur, only 10% of respondents in round two reported using condoms every time during sex (4% in round one). Similarly a very small proportion of respondents from Andhra Pradesh in round two reported using condoms consistently with regular non-paying partners (less than 1% in Hyderabad and Karimnagar and 4% to 29% in the rest of the districts). The corresponding proportion for Maharashtra, Karnataka, and Tamil Nadu in round two ranged from 9% to 32%; 15% to 42%; and 5% to 28%, respectively (Figures 3.9-3.17; Summary Data Sheets F5 and F6).

Figure 3.9: Condom use with occasional and regular clients

(Nagaland)

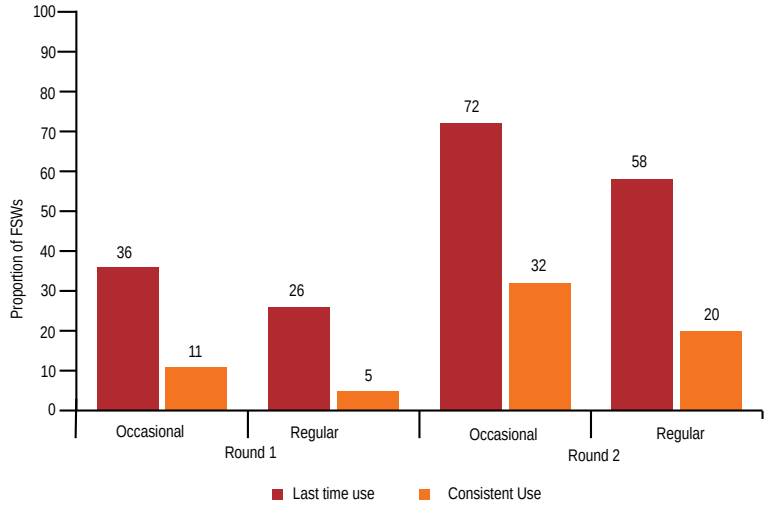


Figure 3.10: Consistent condom use with occasional clients

(Andhra Pradesh)

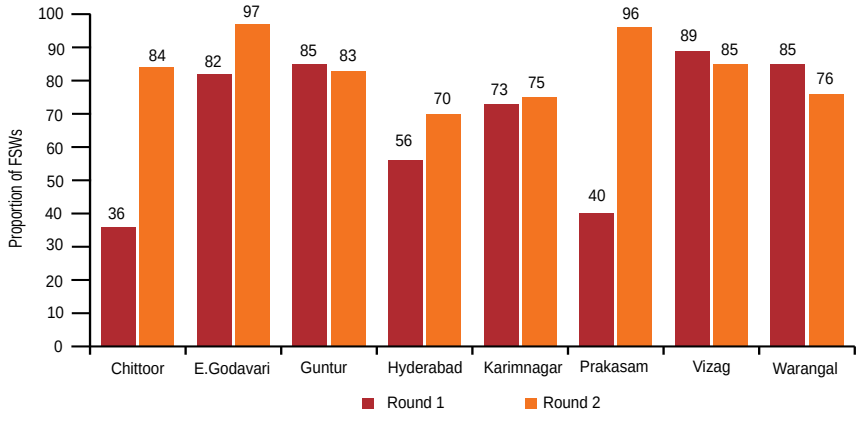


Figure 3.11: Consistent condom use with regular clients

(Andhra Pradesh)

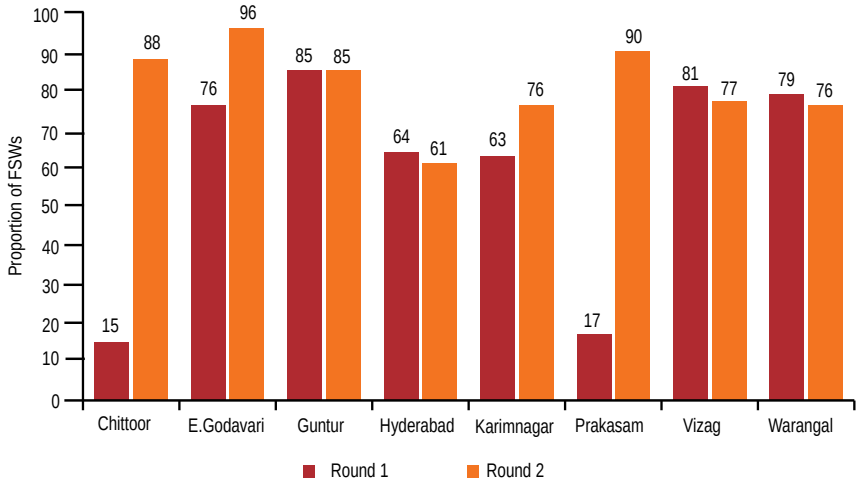


Figure 3.12: Consistent condom use with occasional clients

(Maharashtra)

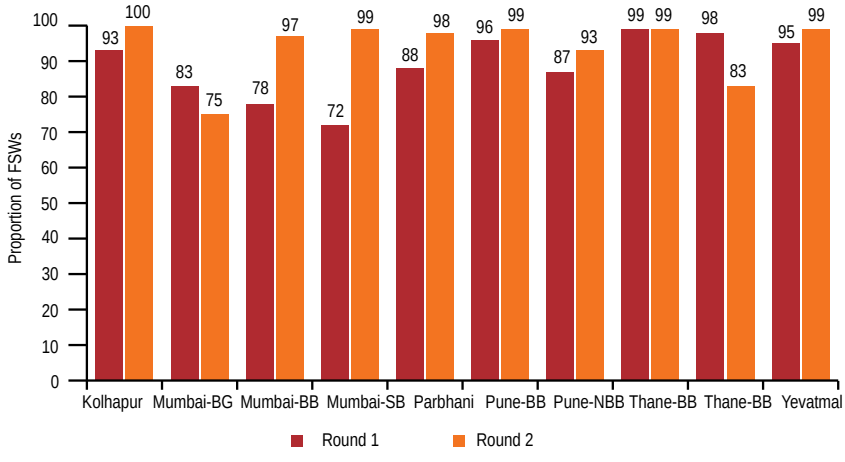


Figure 3.13: Consistent condom use with regular clients

(Maharashtra)

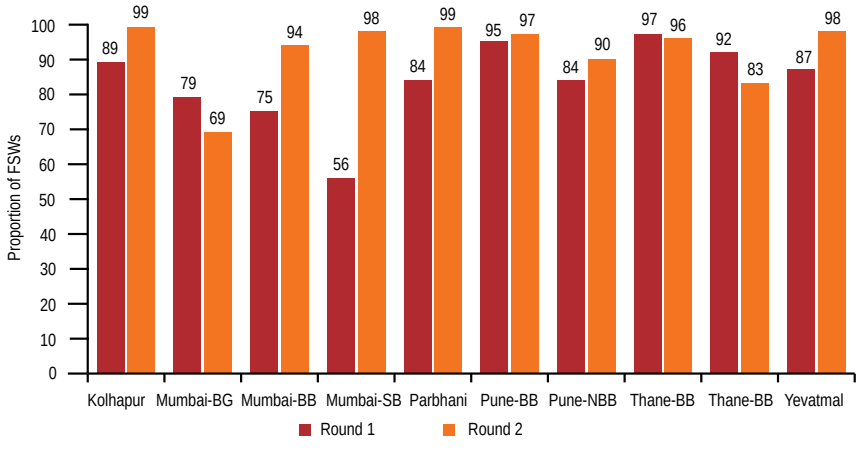


Figure 3.14: Consistent condom use with occasional clients

(Tamil Nadu)

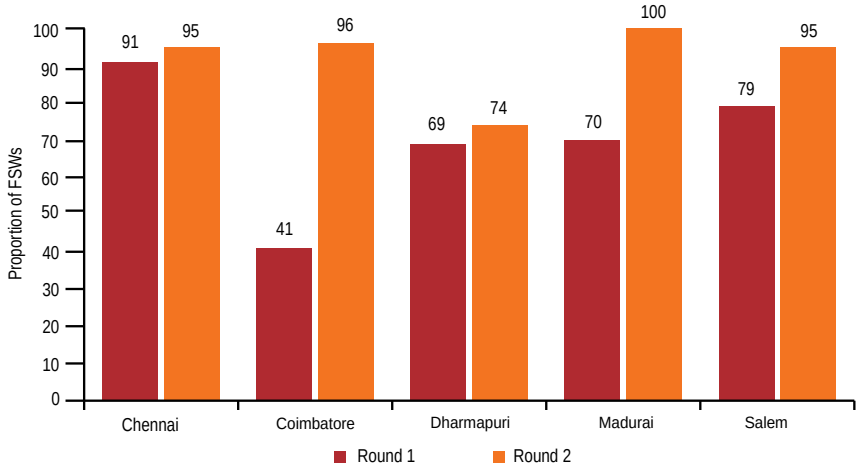


Figure 3.15: Consistent condom use with regular clients

(Tamil Nadu)

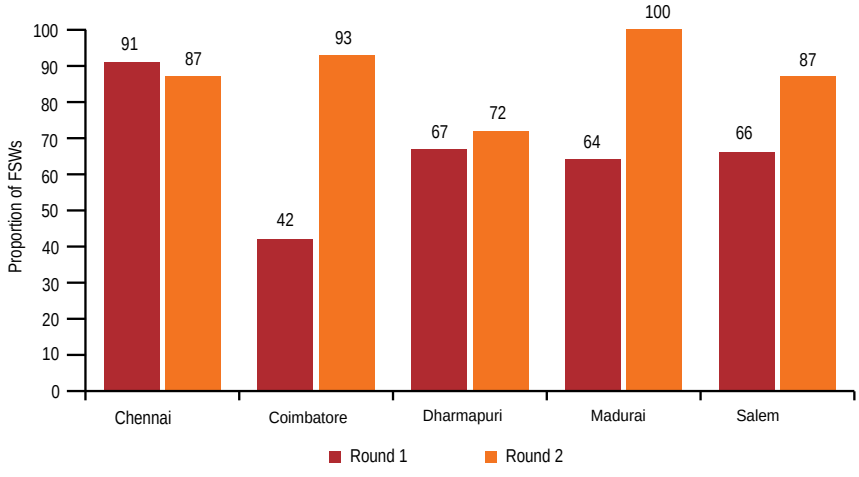


Figure 3.16: Consistent condom use with occasional clients

(Karnataka)

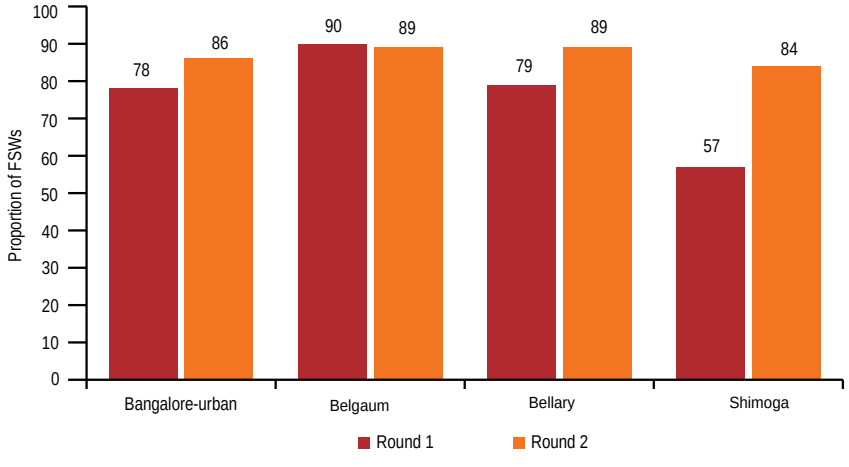


Figure 3.17: Consistent condom use with regular clients

(Karnataka)

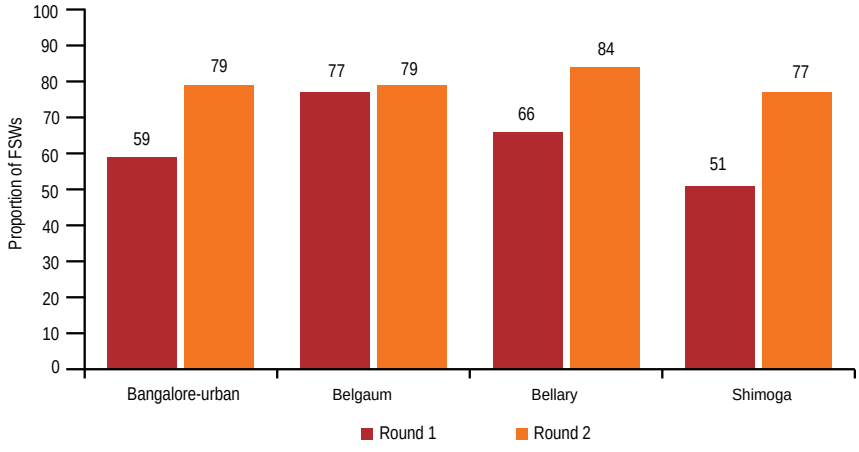
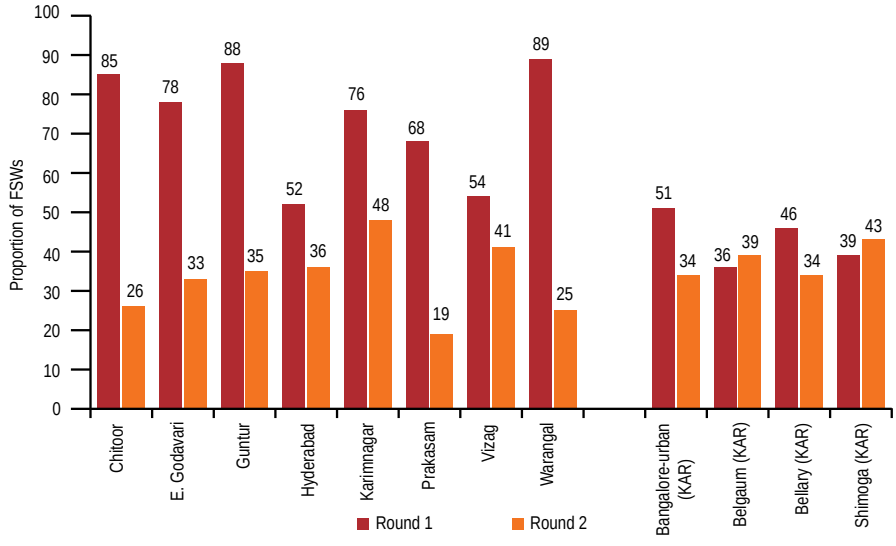


Figure 3.18: History of STI symptoms

(Andhra Pradesh and Karnataka)



3.11 STIs/HIV

3.11.1 Proportion reporting STI symptoms: This sub-section presents information about self-reported STI symptoms (current prevalence and prevalence during last 12 months preceding the survey). The reported proportion of FSWs suffering from at least one of the three STI symptoms (vaginal discharge, abdominal pain, or ulcer) declined in all districts in Andhra Pradesh (R1-52% to 89%, R2-19% to 48%), Karnataka (R1-36% to 51%, R2-34% to 43%) and in most districts in Tamil Nadu (except Chennai and Salem) in round two when compared with round one. However, in Maharashtra, the proportion of FSWs who reported suffering from STIs increased in round two for all districts except Kolhapur (R1-34%, R2-31%) and ranged from 15% to 34% in round one as against 23% to 48% in round two. In Dimapur, 79% of the FSWs in round one and 66% in round two reported having STI symptoms. Similarly, current prevalence of STIs among FSWs decreased in Andhra Pradesh (R1-33% to 76%, R2-10% to 30%), Karnataka (R1-29% to 40%, R2-12% to 24%), and Tamil Nadu (R1-2% to 37%, R2-6% to 36%) districts but increased marginally in Maharashtra (R1-9% to 24%, R2-12% to 29%) (Figures 3.18-3.21; Summary Data Sheet F3).

Figure 3.19: History of STI symptoms

(Maharashtra, Tamil Nadu and Nagaland)

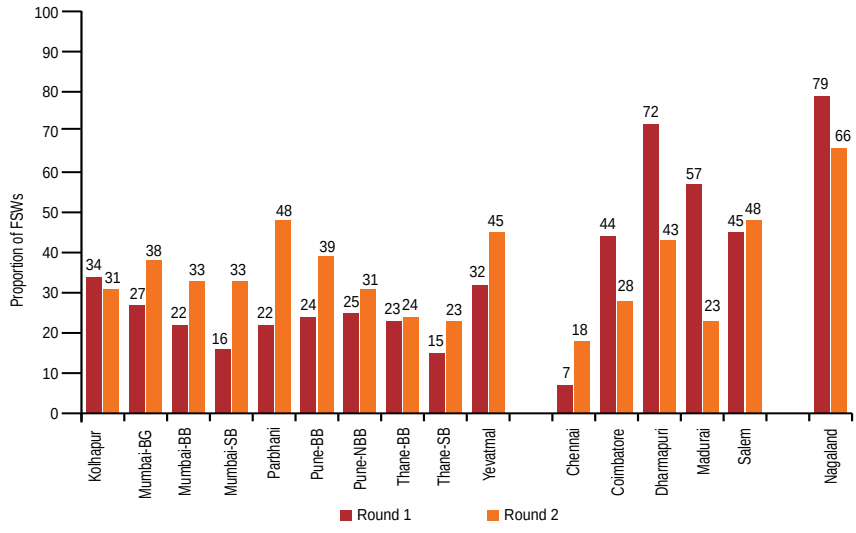


Figure 3.20: Current STI symptoms

(Andhra Pradesh and Karnataka)

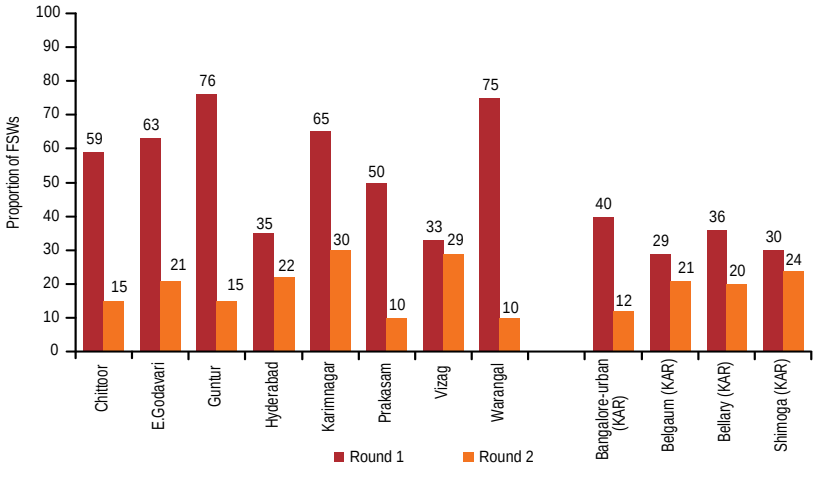
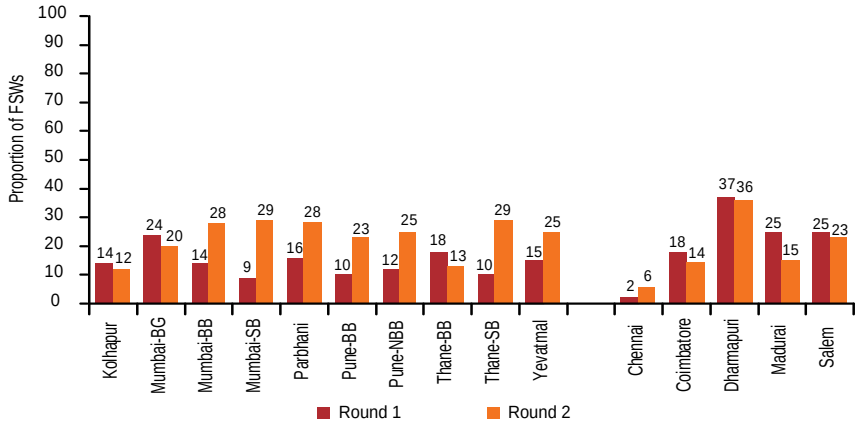


Figure 3.21: Current STI symptoms

(Maharashtra and Tamil Nadu)



3.11.2 Treatment seeking for most recent STI symptom: Among the respondents who reported having STI symptoms, a high proportion in most districts sought trained medical care (R1-54% to 96%, R2-35% to 100%). More than two-thirds of FSWs in round two from Andhra Pradesh, above 50% from Maharashtra, 91% to 96% from Karnataka, and above 95% from Tamil Nadu reported to have sought trained care for the treatment of STIs. A high proportion also reported to have opted for preventive measures ranging from 28% to 74% in Andhra Pradesh; 1.7% to 90% in Maharashtra; 42% to 79% in Karnataka; and 55% to 94% in Tamil Nadu (Summary Data Sheet F3).

3.11.3 Proportion ever tested for HIV: A higher proportion of respondents in round two than round one reported testing for HIV. As compared with round one, FSWs having undergone an HIV test varied across the districts in round two and ranged from 50% to 86% in Andhra Pradesh; 56% to 96% in Maharashtra; 60% to 77% in Karnataka; and 67% to 84% in Tamil Nadu. HIV testing was lowest in Dimapur in both rounds, and 29% of FSWs reported undergoing an HIV test in round two. A majority of the respondents reported collecting the test results in all states except a few districts in Maharashtra in round two, and a considerable increase was observed between the two rounds as depicted in the accompanying graphs (Figures 3.22-3.25; Summary Data Sheet F4).

Figure 3.22: Prior HIV testing status

(Andhra Pradesh)

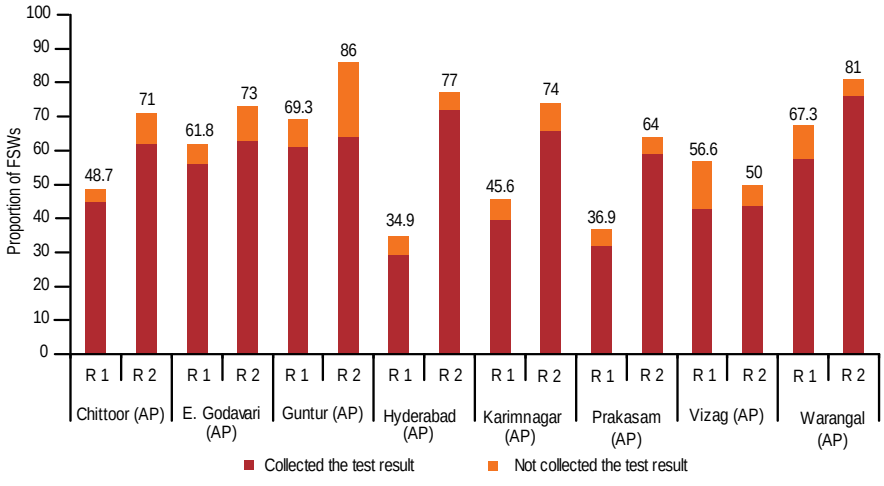


Figure 3.23: Prior HIV testing status

(Maharashtra and Nagaland)

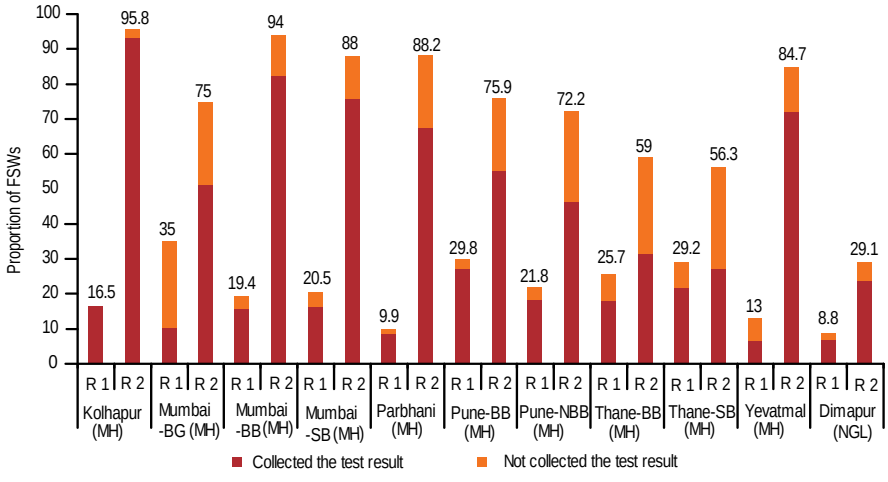


Figure 3.24: Prior HIV testing status

(Tamil Nadu)

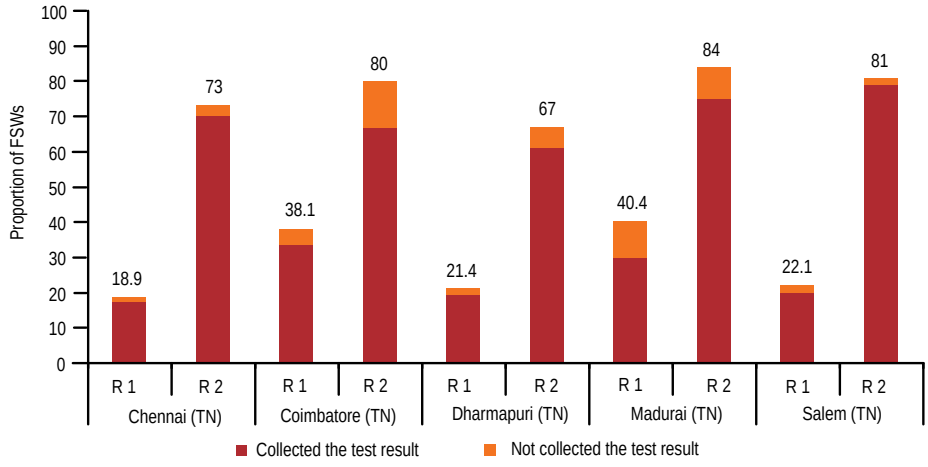
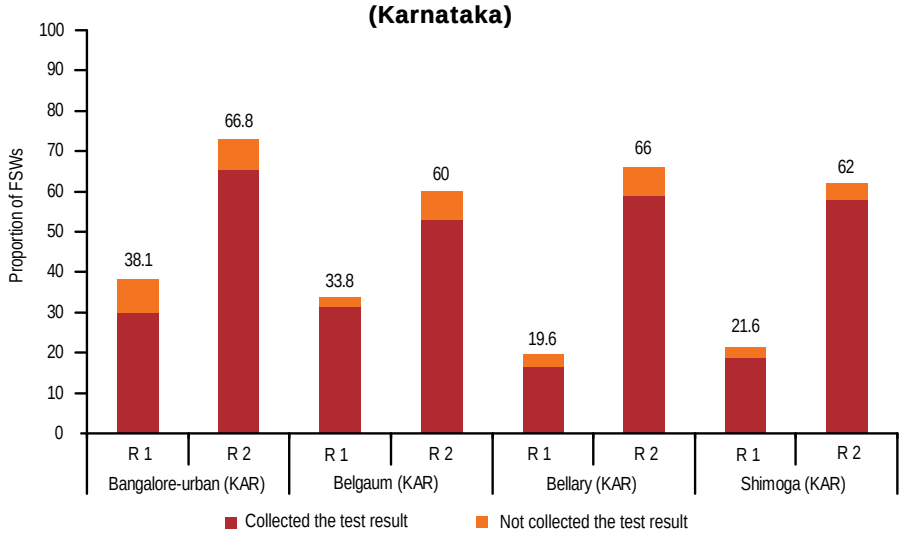


Figure. 3.25: Prior HIV testing status

(Karnataka)



3.12 STI/HIV Prevalence

3.12.1 Prevalence of STI: Having "any STI" was defined as testing positive for any one or more of the following: reactive syphilis serology (rapid plasma reagin [RPR] positive (any titre) and *treponema pallidum hemaggutination* assay [TPHA] positive], positive *N. gonorrhoeae* or *C. trachomatis* NAT test. STI prevalence among FSWs reduced compared to round one in all districts except East Godavari (R1-18.9%, R2-26.9%), Bangalore (urban) (R1-19.4%, R2- 19.9%), Belgaum (R1-14.2%, R2-15.5%), and Bellary (R1-11.2%, R2-12.9%). The highest STI prevalence in round two was reported in Dimapur (R1-39.1%, R2-31.0%), followed by East Godavari (R1-18.9%, R2-26.9%), Hyderabad, and Pune (BB) with a prevalence of 23.0% each. The lowest prevalence was reported in Coimbatore (R1-14.5%, R2-1.9%) and Prakasham (R1-7.6%, R2-3.2%). The prevalence of any STI, in round two, in Andhra Pradesh ranged from 3.2% to 26.9%, and the corresponding proportions in Maharashtra, Karnataka, and Tamil Nadu ranged from 5.1% to 20.9%, 7.5% to 19.9%, and 1.9% to 5.6%, respectively. Among FSWs, the individual prevalence of syphilis (R1-2.1% to 51%, R2-0.4% to 17.9%,), *N. Gonorrhoea* (R1-0.0% to 8%, R2-0.0% to 11.5%) and *C. Trachomatis* (R1-0.9% to 22.6%, R2-0.2% to 19.5%) varied widely across the different districts (Figures 3.26-3.28; Summary Data Sheet F7).

Figure 3.26: STIs prevalence in FSWs
(one or more of syphilis, *N. gonorrhoeae* or *C. trachomatis*)

(Andhra Pradesh)

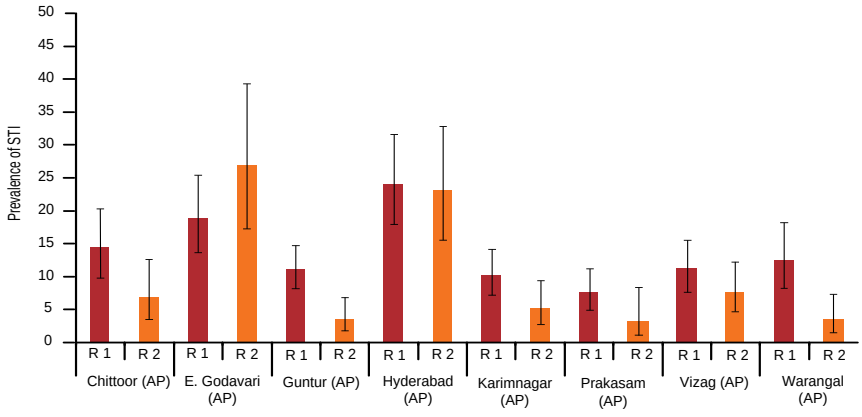


Figure 3.27: STIs prevalence in FSWs
(one or more of syphilis, *N. gonorrhoeae* or *C. trachomatis*)

(Maharashtra)

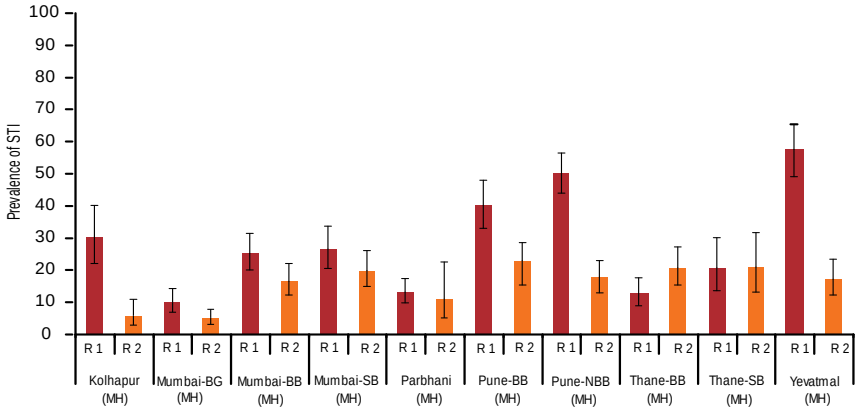
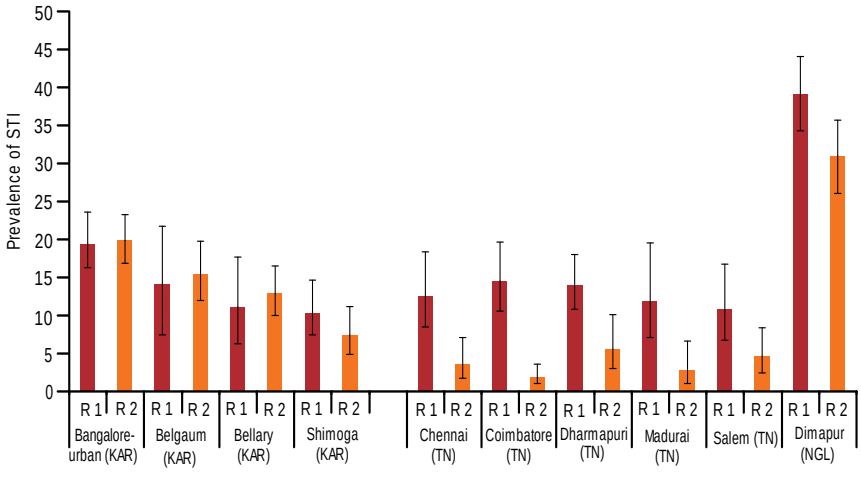


Figure 3.28: STIs prevalence in FSWs
(one or more of syphilis, *N. gonorrhoeae* or *C. trachomatis*)

(Karnataka, Tamil Nadu and Nagaland)



3.12.2 HSV-2 antibody prevalence: HSV-2 estimates for both rounds one and two have been revised and unweighted estimates (except for Karnataka in R1 with weighted estimates) have been presented in the report. In Karnataka (in R1) all samples were tested for HSV-2, whereas, in the rest of the states for each district, an HSV-2 antibody test was performed on a random sample of 10% of stored serum specimens. In round two, the prevalence of HSV-2 ranged from 39% to 87.8% in Andhra Pradesh (as against 53.7% to 82.9% in round one) and 37.5% to 58.9% (31.7% to 75.6% in round one) in Tamil Nadu. This proportion in Maharashtra ranged from 50% to 100% in round one and was between 63% and 88.9% in round two. The highest sero-prevalence in Maharashtra was reported in Yevatmal, Pune (NBB), and Mumbai (BB) in round two. The HSV-2 sero-prevalence in Dimapur was 44.7% in round two as against 52.6% in round one. This proportion in Karnataka for R1 ranged from 59.7% to 83.8%, and HSV-2 testing was not undertaken in R2 (Summary Data Sheet F7).

3.12.3 HIV prevalence: In Andhra Pradesh, FSWs in Karimnagar district had the lowest HIV prevalence (6.5%) in round two, and the highest prevalence was reported in East Godavari (23.3%). Prevalence of HIV among FSWs in Guntur, Hyderabad, Chittoor, Warangal, and Prakasham was below 15.0%, and for the remaining districts HIV prevalence ranged between 18.0% and 23% in round two. However, in Andhra Pradesh when compared with round two, HIV prevalence in round one ranged from 8.0% to 26.3%. A majority of the districts in Maharashtra had prevalence of HIV above 20.0% in round two with the exception of FSWs in Mumbai (BG), Parbhani, and Thane (SB). Prevalence of HIV in Mumbai (BB and SB) and Thane (BB) was above 30% in round two, and when compared with round one, HIV prevalence in those districts had increased. In Karnataka, compared to round one, a decline in HIV prevalence was observed in all districts, and the prevalence in round two ranged from 8.0% to 27.3% as against 9.7% to 33.9% in round one. Prevalence of HIV in Tamil Nadu was low compared to other states in round two, and ranged from 2.4% to 8.8%; whereas, it was between 2.2% and 12.5% in round one. HIV prevalence in Dimapur was almost identical in both rounds (R1-11.6%, R2-11.4) (Figures 3.29-3.31; Summary Data Sheet F7).

3.13 IBBA Mysore

The IBBA survey of FSWs at Mysore in round one was the first study before the IBBA was implemented for the other districts of Karnataka. The R1 survey was carried out during August 2004 and R2 in December 2006. Clusters were formed after estimating the number of FSWs and by applying the capture and recapture method for selection of respondents. IBBA procedures and questionnaires in R1 were finalized after gaining experience in Mysore. For want of uniformity in the method, this report does not include data from Mysore in various tables and figures.

In all, 429 of the eligible FSWs in R1 and 425 in R2 consented to participate in the survey, and completed the behavioural interview and gave both blood and urine samples. The mean age of the FSWs was 30 years in R1 and 31 in R2. Only one-fourth of the FSWs in both R1 and R2 could read and write. A majority of the FSWs in Mysore (R1-95%, R2-83%) were ever married. Mean age at started selling sex was 26 years in R1 and 25 in R2. All the FSWs interviewed in R1 were street-based as against 91% in R2.

The reported mean number of clients on a typical day was 2.5 and this average was 8 to 9 during a typical week in both rounds. In Mysore, 93% of the FSWs in R1 and 99% in R2 had occasional clients. The proportion having regular clients was 90% in R1 as against 73% in R2. Usage of condoms with occasional clients during the last sex act was 65% in R1 and 87% in R2. This proportion with regular clients was 52% and 73% in R1 and R2, respectively. One-fifth of the FSWs were using condoms consistently every time with both types of clients in R1; whereas, in R2 this proportion varied and 67% of respondents used condoms consistently with occasional clients and 47% with regular clients. More than two-thirds of the FSWs (68%) had regular non-commercial sexual partners in R1 which declined to 39% in R2. Consistent condom usage among them was 1% in R1, and increased to 27% in R2.

In R1, the proportion positive for syphilis was 24.8%, and 5.4% of the FSWs tested positive for *N. gonorrhoeae* and 10.8% for *C. trachomatis*. This proportion in R2 was 11.4%, 5.5%, and 7.8%, respectively. Positives for any one or more of the STIs were 33.7% in R1 as against 21.4% in R2. Prevalence of HIV in FSWs of Mysore was 26% in R1 and 24.3 in R2. Almost similar proportions of respondents in both rounds (R1-32.6%, R2-37.2%) were HIV positive among "any STI" positive.

Figure 3.29: HIV prevalence in FSWs

(Andhra Pradesh)

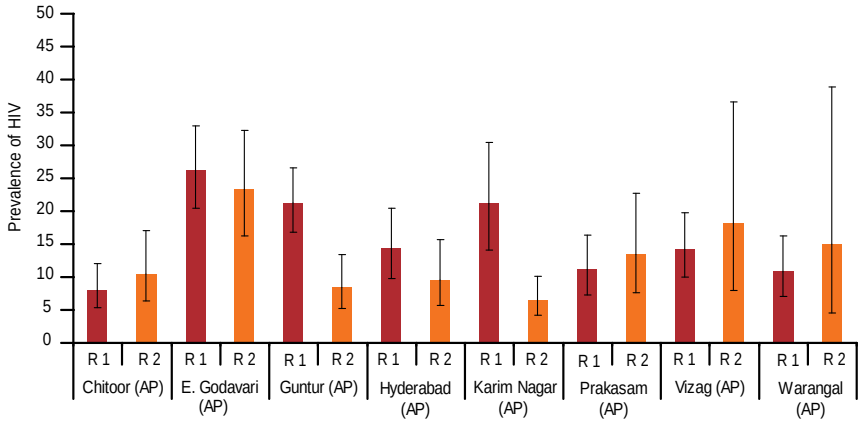


Figure 3.30: HIV prevalence in FSWs

(Maharashtra)

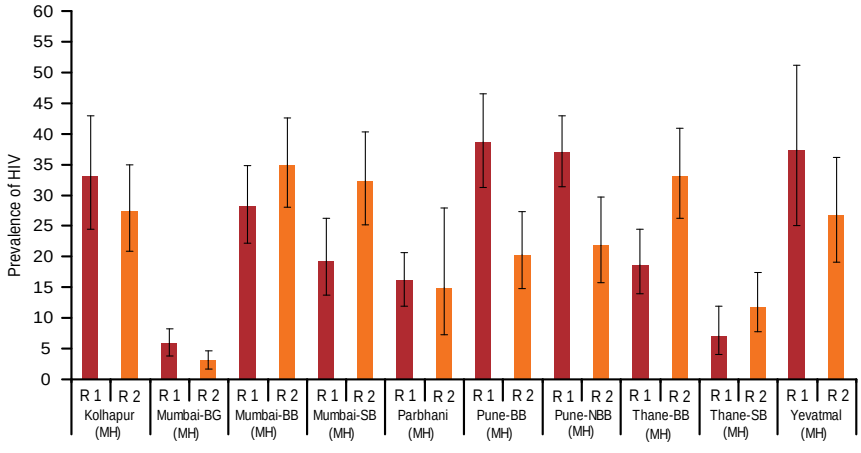
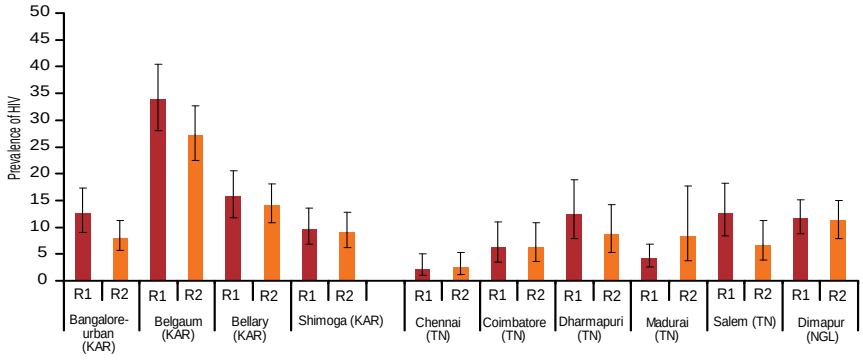


Figure 3.31: HIV prevalence in FSWs

(Karnataka, Tamil Nadu and Nagaland)



4

CHAPTER

High-risk Men Who Have Sex with Men (MSM) and Hijra (Transgender)

4.1 Introduction: Men who have sex with men (MSM) are yet another important "high-risk" community among whom prevalence of HIV/AIDS has been observed to increase over time. Given their high prevalence they are one of the target groups under Avahan and HIV prevention interventions under NACP-III. Similar to round one, data collection for IBBA round two was also carried out in four districts each in Andhra Pradesh (East Godavari, Guntur, Hyderabad, and Visakhapatnam) and Tamil Nadu (Chennai, Coimbatore, Madurai, and Salem); five districts in Karnataka (Bangalore-urban and the districts of Bellary, Belgaum, Shimoga, and Mysore combined together as one domain), and the Mumbai-Thane and Pune districts in Maharashtra. The round one survey for high-risk MSM was carried out between March 2006 and April 2007 and the round two survey during January 2009 and 2010. The survey covered high-risk MSM and hijra communities as "combined" groups in the districts of Andhra Pradesh, Karnataka, and in the Pune district of Maharashtra. The group covered at Mumbai-Thane (combined) was exclusively of the high-risk MSM category. In Tamil Nadu, the groups surveyed were both high-risk MSM and male sex workers (MSWs). Hijras (Transgender) were covered as a separate group in Tamil Nadu and hence reported separately.

4.2 Mapping: A two-stage cluster sampling design was adopted for all districts. Fixed-location and time-location clusters were the primary sampling units in East Godavari district. In all other districts, only time-location clusters were considered and recruitment of high-risk MSM for the survey was predominantly from public places. In IBBA rounds one and two a total of 8,615 high-risk MSM (R1-4,735, R2-3,880) were interviewed (Figures 4.1 and 4.2).

4.3 Participation Rates: Overall, a total of 58% of the eligible respondents in round two consented to participate in the survey from Andhra Pradesh, Tamil Nadu, and Maharashtra as against 71% in round one. They completed the behavioural interview and gave biological (both blood and urine) samples. In round two, the participation rates ranged from 55% to 71% in Andhra Pradesh (R1-53% to 78%); 52% to 58 % in Tamil Nadu (R1- 64% to 91%); and 70% and 76% for Mumbai (R1-73%) and Pune (R1-80%) in Maharashtra. In Karnataka, participation rates in R1 were 56% for high-risk MSM in Bangalore (urban) and 87% for the other four districts combined (Table 4.1).

Figure 4.1: Type of locale where MSM were recruited

(Andhra Pradesh and Maharashtra)

Figure 4.2: Type of locale where MSM were recruited

(Karnataka and Tamil Nadu)

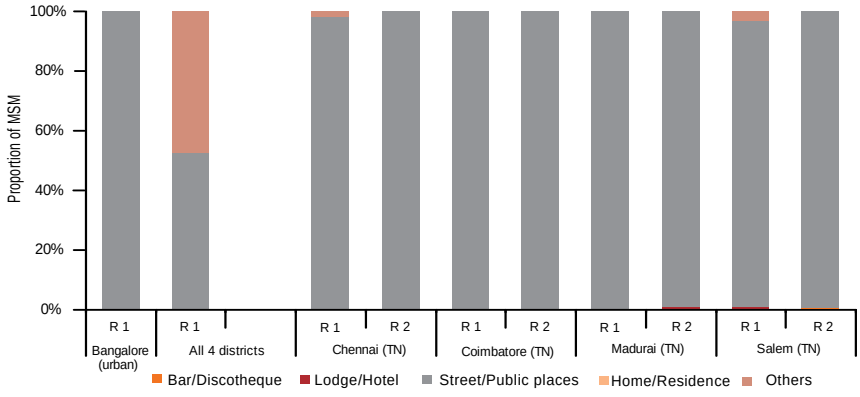


Table 4.1: Participation rates by district of high-risk MSM

State & District	Round 1		Round 2	
	Completed questionnaire and biological specimen collection	Participation rate (%)	Completed questionnaire and biological specimen collection	Participation rate (%)
Andhra Pradesh				
East Godavari	405	72	400	71
Guntur	407	78	404	67
Hyderabad	403	53	405	61
Visakhapatnam	406	71	399	55
Karnataka				
Bangalore (urban)	310	56	NA	NA
All 4 districts	537	87	NA	NA
Maharashtra				
Mumbai-Thane	400	73	373	70
Pune	253	80	279	76
Tamil Nadu				
Chennai	406	64	403	58
Coimbatore	410	68	408	57
Madurai	402	91	406	52
Salem	403	75	403	52

NA-Not available

Table 4.2: HIV prevention services received by high-risk MSM from any agency by district

State & District	Contacted by a peer/ORW last month (%)		Visited an NGO clinic last 3 months (%)		Received condom from peer/ORW (last year) (%)		Received information on STI from peer/ ORW (last year) (%)	
	R 1	R 2	R 1	R 2	R 1	R 2	R 1	R 2
Andhra Pradesh								
East Godavari	77	76	48	75	76	76	76	75
Guntur	10	78	4	78	10	78	9	78
Hyderabad	52	82	22	81	52	82	45	80
Visakhapatnam	95	56	35	55	93	57	93	56
Karnataka								
Bangalore (urban)	69	NA	NA	NA	67	NA	67	NA
All 4 districts	88	NA	NA	NA	85	NA	NA	NA
Maharashtra								
Mumbai-Thane	57	50	22	44	67	56	59	54
Pune	40	59	6	49	47	59	40	60
Tamil Nadu								
Chennai	58	84	55	70	59	85	59	85
Coimbatore	78	91	74	88	76	91	77	91
Madurai	62	100	58	99	61	100	63	100
Salem	60	92	61	87	63	92	64	92

NA-Not available

4.4 HIV Prevention Services Received from Any Agency: Services received from "any agency" were assessed based on four indicators: (1) contacted by peer/outreach worker (ORW) [in the last month], (2) visited the NGO clinic [in the last three months], (3) received condom from peer/ ORW [in the last year], and (4) received information on STI [last year]. As compared to round one, better service coverage was seen in round two and a higher proportion of high-risk MSM in Andhra Pradesh (R1-4% to 95%, R2-55% to 82%) and Tamil Nadu (R1-55% to 78%, R2-above 60%) reported receiving any one of the aforesaid services from different agencies functional in the area. The corresponding proportion for Maharashtra was 44% to 60% in round two as against 6% to 67% in round one. The R1 estimates for Karnataka ranged between 65% and 90% (Table 4.2; Summary Data Sheet M2).

4.5 Demographic Profile: The key demographic information considered for this report included age, literacy, marital status, and current living status. The mean age of respondents surveyed in Andhra Pradesh and Maharashtra in round two ranged from 26 to 29 years, and it was 28 to 32 years in Tamil Nadu (also for Karnataka in R1). When compared to round one, a marginal increase in the mean age of respondents was seen in most districts except East Godavari, Hyderabad, and Madurai. The proportion of high-risk MSM who could read and write was also high in round two in all IBBA districts compared to round one, ranging from 74% to 99% as against 58% to 91% in round one. The proportion who reported as ever married in round two varied across the states and ranged from 27% to 53% in Andhra Pradesh; 18% to 41% in Tamil Nadu; and 22% and 23% for Pune and Mumbai, respectively, in Maharashtra. Also, the proportion of ever married decreased in all districts compared to round one in Andhra Pradesh and in Coimbatore and Madurai in Tamil Nadu. However, in Salem an increase in the proportion of ever married high-risk MSM was observed in round two. In Karnataka, the proportion of high-risk MSM ever married was 20% and 57%, respectively, in Bangalore (urban) and in the rest of the four districts in R1. The respondents were also asked if they were living with a sex

partner. The proportion of MSM who were living with a sex partner was reported to be highest in Guntur (52%) followed by East Godavari (49%), and lowest in Madurai (16%). In comparison to round one, an increase was observed in the proportion of high-risk MSM living with a sex partner in East Godavari, Chennai, and both districts in Maharashtra. Circumcision seems to be less common among high-risk MSM in all states, and a low proportion of high-risk MSM in both rounds (R1-1% to 33%, R2-2% to 19%) reported to be circumcised (Figures 4.3 and 4.4; Table 4.3; Summary Data Sheet M1).

4.6 Self-identification/Typology: High-risk MSM broadly identified themselves as panthis (masculine male sexual partners or any male who is masculine and seems to be a potential sexual (insertive) partner), kothis (a group that includes same-sex-attracted males of all ages whose gender behavioural traits are primarily feminine and are mostly receivers), double-deckers (refers to someone who penetrates as well as receives), bisexuals (high-risk MSM who do not have a specific identity related to their sexual orientation or behaviour, indulge in sexual acts with both male and female partners), and hijras (separate group of transgender and trans-sexual women with a long tradition in India are called hijras in North India and aravanis in Tamil Nadu, South India.) in the different states depending on their sexual orientation. Similar to round one, a majority of the high-risk MSM in Tamil Nadu identified themselves as kothis, followed by panthis and double-deckers in round two. However the scenario in Andhra Pradesh between the two rounds has changed; there was decline in high-risk MSM who identified as bisexuals and considerable increase in those who identified themselves as kothi, panthi, and double-decker. The groups surveyed in the two districts of Maharashtra were of mixed category and included mostly high-risk MSM who identified themselves as kothis and bisexuals. About 14% of high-risk MSM identified themselves as hijras in Pune and their proportion decreased in comparison to round one. Between 1% to 5% of respondents were identified as hijras across the four districts of Andhra Pradesh in round two, and their proportion has marginally increased in comparison to round one. In Karnataka high-risk MSM in Bangalore were dominated by kothis and hijras; whereas, in the remaining four districts they were mainly kothis and double-deckers in R1 (Figures 4.5 and 4.6).

Figure 4.3: Ever married and current living status of high-risk MSM

(Andhra Pradesh and Maharashtra)

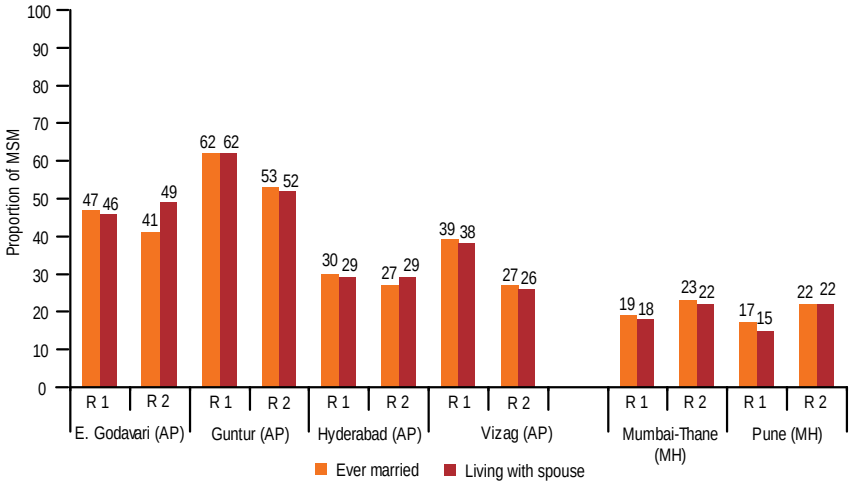


Figure 4.4: Ever married and current living status of high-risk MSM

(Karnataka and Tamil Nadu)

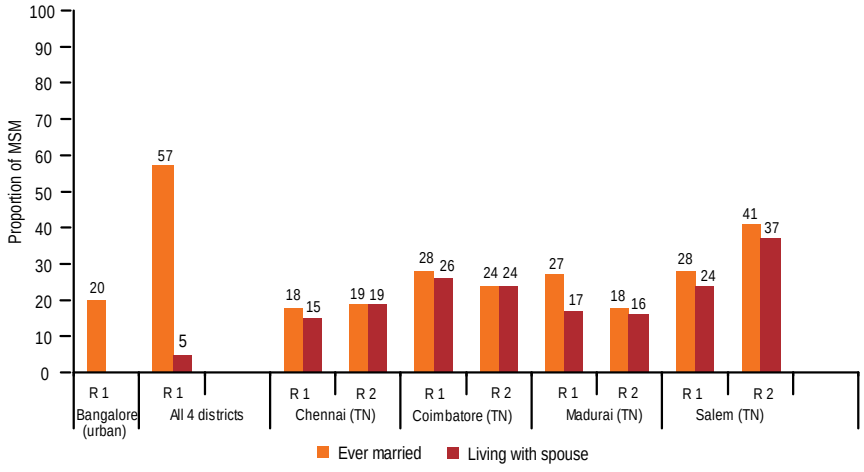


Table 4.3: Demographic profile of participating high-risk MSM by district

State & District	Mean age (Years)		Can read and write (%)		Ever married (%)		Living with sex partner (%)		Circumcised (%)	
	R 1	R 2	R 1	R 2	R 1	R 2	R 1	R 2	R 1	R 2
Andhra Pradesh										
East Godavari	30	27	74	81	47	41	46	49	4	2
Guntur	27	29	58	77	62	53	62	52	20	18
Hyderabad	28	26	76	83	30	27	29	29	19	8
Visakhapatnam	26	27	82	74	39	27	38	26	1	4
Karnataka										
Bangalore (urban)	27	NA	79	NA	20	NA	ND	NA	11	NA
All 4 districts	31	NA	71	NA	57	NA	5	NA	19	NA
Maharashtra										
Mumbai-Thane	24	26	89	97	19	23	18	22	33	19
Pune	25	26	91	94	17	22	15	22	21	7
Tamil Nadu										
Chennai	27	29	84	99	18	19	15	19	11	7
Coimbatore	29	31	86	92	28	24	26	24	7	8
Madurai	29	28	80	89	27	18	17	16	7	7
Salem	29	32	62	83	28	41	24	37	7	4

NA-Not available

Figure 4.5: Self-identification of high-risk MSM

(Andhra Pradesh and Maharashtra)

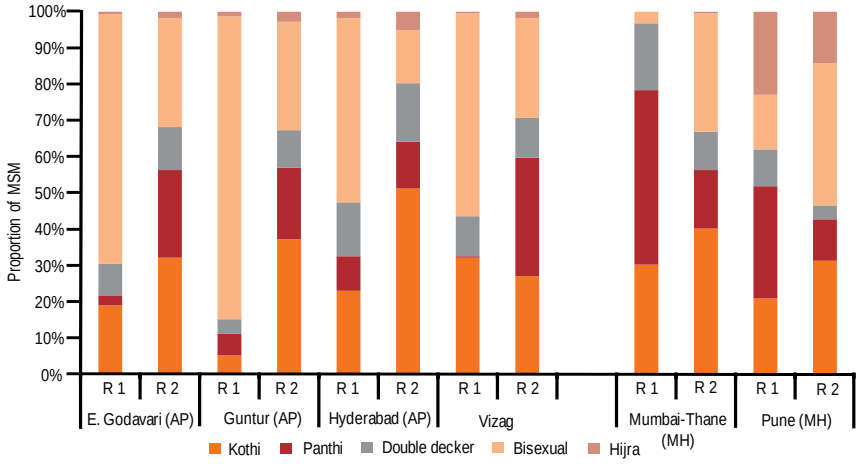


Figure 4.6: Self-identification of high-risk MSM

(Karnataka and Tamil Nadu)

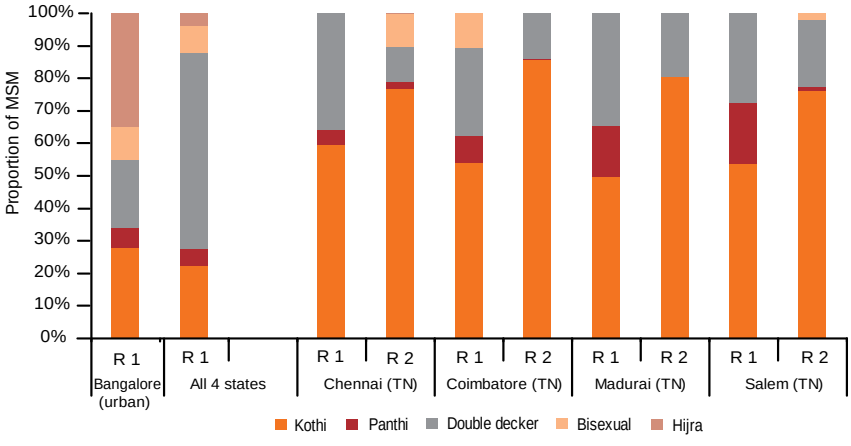
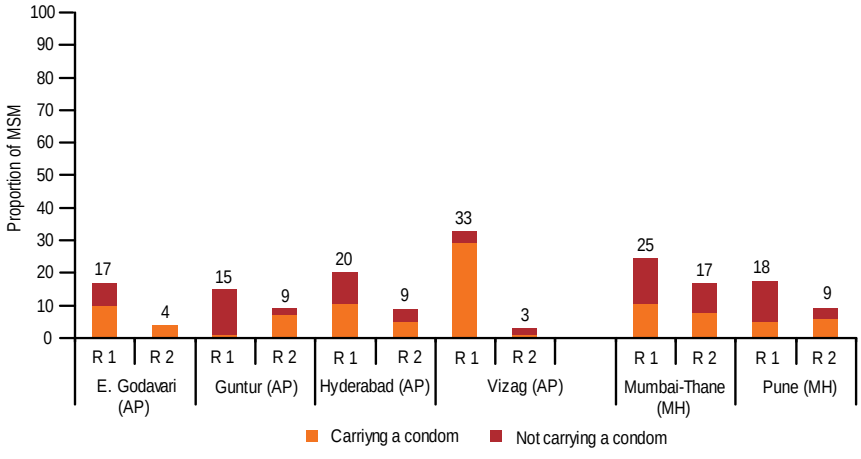


Figure 4.7: High-risk MSM wanted to use a condom but did not use it – last month

(Andhra Pradesh and Maharashtra)



4.7 Condom Use: The proportion of high-risk MSM who wanted to use a condom but did not use during last sex varied across the district surveyed and ranged from 3% to 51%. The highest proportion was reported by respondents from Salem and the lowest from Vishakhapatnam. The reason for not using a condom most commonly mentioned by high-risk MSM were partner did not want, condom not available, and trusting the partner in the four states (Figures 4.7 to 4.10).

Figure 4.8: High-risk MSM wanted to use a condom but did not use it – last month

(Karnataka and Tamil Nadu)

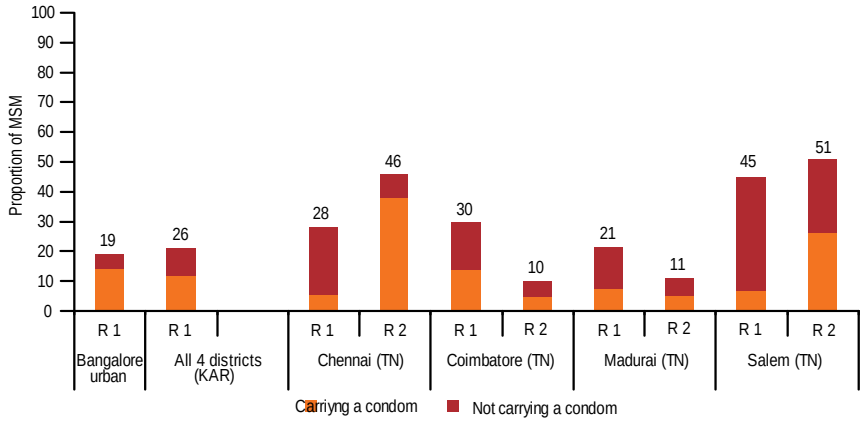


Figure 4.9: Reasons given by high-risk MSM for not using a condom

(Andhra Pradesh and Maharashtra)

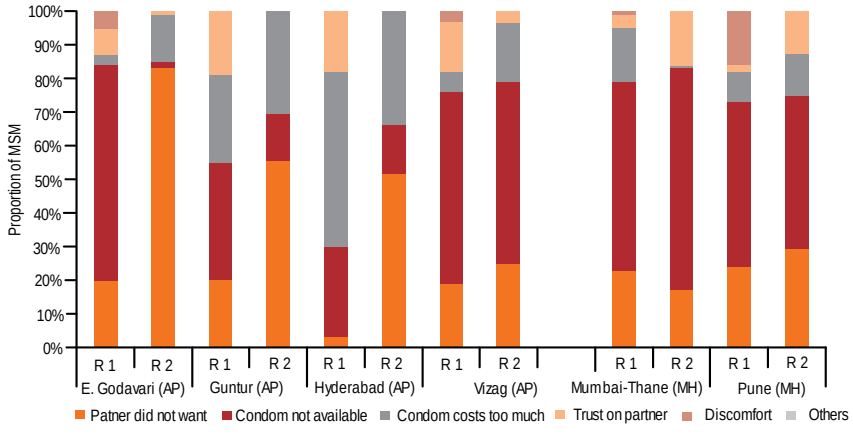
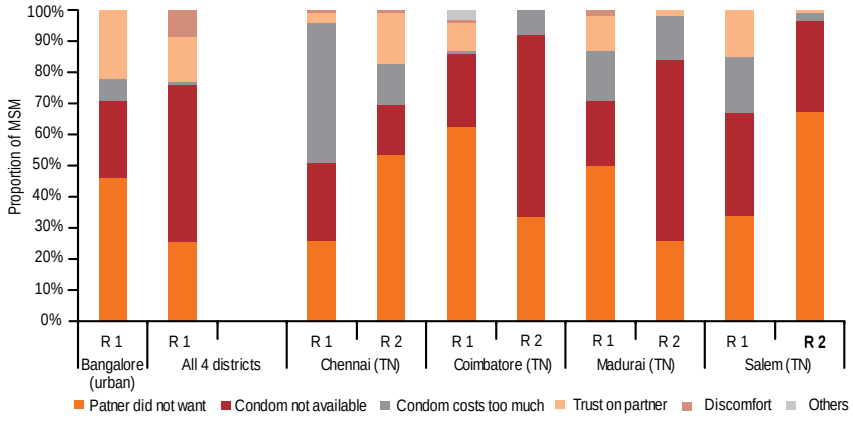


Figure 4.10 Reasons given by high-risk MSM for not using a condom

(Karnataka and Tamil Nadu)



4.8 STI Knowledge: STI knowledge was assessed based on the ability of the respondent to correctly identify at least three of the seven most common symptoms associated with STIs including: genital or anal ulcer/sore, discharge from rectum, pain during defecation, burning pain on urination, urethral discharge, swelling in groin area, and cannot retract foreskin. In IBBA round two, almost 90% of high-risk MSM in all districts except Vishakhapatnam (57%) and Pune (75%) had heard of STIs as against 74% to 99% in round one. Among those who had heard of STIs, a high proportion of high-risk MSM reported having knowledge of three or more STI symptoms in all districts with estimates ranging from 60% to 98% in round two; whereas, it was between 38% and 81% in round one. In R1, from Karnataka 47% of high-risk MSM in Bangalore and 76% in rest of the districts had heard of STI, but 30% and less knew of three or more symptoms of STIs (Summary Data Sheet M3).

4.9 HIV/AIDS Awareness, Knowledge, and Risk Perception: This section details information regarding knowledge, risk perception, and HIV testing status of high-risk MSM. Knowledge about HIV among high-risk MSM in the districts surveyed was high and more than 90% of MSM (except for MSM in Bangalore in R1) in both rounds reported that they had heard of HIV/AIDS. Knowledge of HIV prevention methods was also high among the high-risk MSM surveyed in both rounds with more than four-fifths of the respondents in Andhra Pradesh and Tamil Nadu being aware that consistent condom use could reduce the risk of contracting HIV. In Maharashtra, this proportion in round two was 79% for Mumbai-Thane; whereas, it was 69% in round one. In Pune, a similar proportion of respondents (85%) reported having knowledge of HIV prevention methods. This proportion in Karnataka in R1 was 47% for Bangalore and 54% for rest of the districts. Further, between 40% and 75% of respondents in round one and 49% to 83% of respondents in round two from Andhra Pradesh, Tamil Nadu, and Maharashtra were aware that any healthy looking person may have HIV and that a person could not get HIV/AIDS through mosquito bites or sharing clothes and utensils. The corresponding proportion for Karnataka in R1 was 32% in Bangalore and 25% in other districts (Summary Data Sheet M4).

4.10 Regular Partners: In general, the trend suggests that between the two IBBA rounds, the proportion of MSM who reported having regular male partners increased (R1-18% to 83%, R2-49% to 100%) in most districts surveyed (except Vishakhapatnam, Coimbatore, and Salem). Among the states, the proportion of high-risk MSM who reported having regular male partners in round two ranged from 49% to 70% in Andhra Pradesh and 67% to 100% in Tamil Nadu. In Maharashtra, 60% of high-risk MSM in Mumbai and 55% of high-risk MSM in Pune reported having regular male partners. This proportion in Karnataka was almost 40% in R1. The reported condom use (last time) with regular male partner varied widely in round two (62% to 98%) when compared to round one (60 to 88%), and this proportion ranged from 70% to 93% in Andhra Pradesh; it was above 90% in Maharashtra, between 62% to 98% in Tamil Nadu, and above 80% in Karnataka (in R1). Consistent condom use with regular male partners also increased across most of the districts (except Chennai and Salem) in the three states and ranged from 28% to 95% in round two as against 3% to 52% in round one. In all the districts covered in round two, consistent condom use was reported to be highest in Madurai (95%) followed by Pune and Vishakhapatnam (92% each) and lowest in Salem (20%). In Karnataka (in R1) consistent condom use was 73% and 56% in Bangalore (urban) and the rest of the districts, respectively (Summary Data Sheet M5).

4.11 Paying Male Partners: Male partners who paid the respondent to have sex with him were defined as paying male partners. As compared to round one, the proportion of high-risk MSM who reported having paying male partners increased (R1-26% to 90%, R2-28% to 100%) in almost all districts surveyed, and in round two it ranged from 28% to 64% in districts of Andhra Pradesh; 78% to 100% in Tamil Nadu; and 40% in Mumbai and 64% in Pune. Condom use during last sex preceding the survey with a paying male partner remained high in both rounds (R1-73% to 92%, R2-78% to 98%). It was reported to be highest in Coimbatore and Madurai (98% each) and lowest in Mumbai-Thane (78%) in round two (Figure 4.11; Summary Data Sheet M5).

4.12 Paid Male/Hijra Partners: Male/hijra sexual partners to whom the respondent paid to have sex were defined as paid male/hijra partners. In most of the districts, except Vishakhapatnam, Madurai and Salem, the proportion of high-risk MSM reported to have paid male/hijra partners varied and ranged from 4% to 45% in round two as against 12% to 49% in round one. Consistent condom use with paid male/hijra partners in round two increased in all districts when compared with round one and within states ranged from 86% to 98% in Andhra Pradesh; 17% to 91% in Tamil Nadu; and it was 36% (Mumbai-Thane) and 82% (Pune) in Maharashtra (Figure 4.12; Summary Data Sheet M6).

4.13 Paid Female Partners: Less than two percent of high-risk MSM in round two reported having paid female partners in Andhra Pradesh (except Vishakhapatnam -- 23%) and Tamil Nadu. In Maharashtra, 6% of high-risk MSM in Mumbai-Thane and 20% in Pune reported having paid female partners. When compared with round two, the proportion of high-risk MSM who reported having paid female partners was comparatively higher in round one and ranged from 7% to 64% in the different districts (Summary Data Sheet M6).

4.14 Non-commercial Male/Hijra Partners: The proportion of respondents who reported having other non-commercial male/hijra partners ranged from 21% to 98% in round two; whereas, this proportion was between 34% and 89% in round one. The districts where a majority of the respondents reported having other non-commercial partners were Madurai (98%), Guntur (97%), and East Godavari (95%). A huge variation was observed in the reported proportion of consistent condom use with non-commercial male/hijra partners in the different IBBA rounds (R1-1% to 79%, R2-23% to 100%) as depicted in the graphs (Figure 4.13; Summary Data Sheet M7).

Figure 4.11: Condom use with paying male partners (last time)

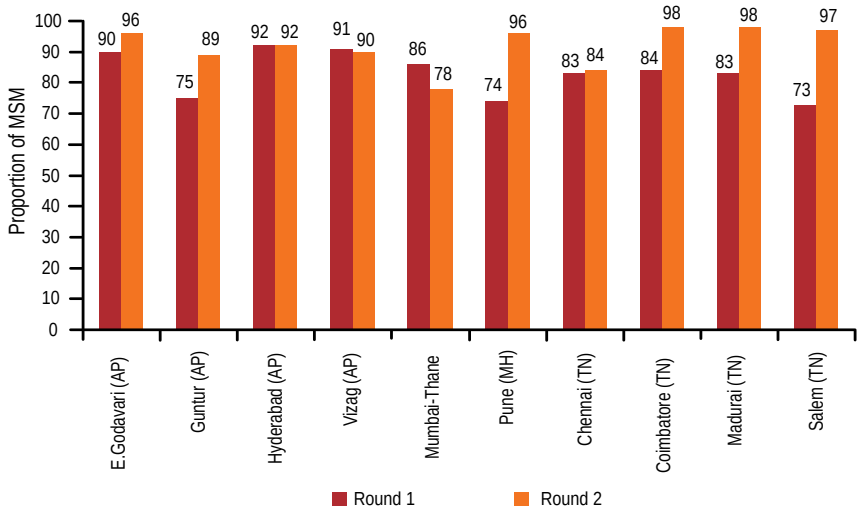


Figure 4.12: Consistent condom use with paid male/hijra partners

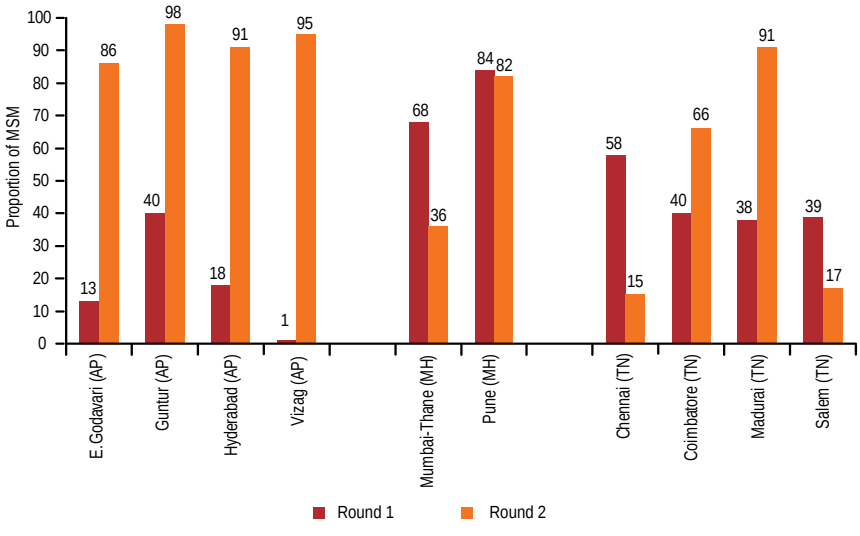


Figure 4.13: Consistent condom use with non-commercial male / hijra partners

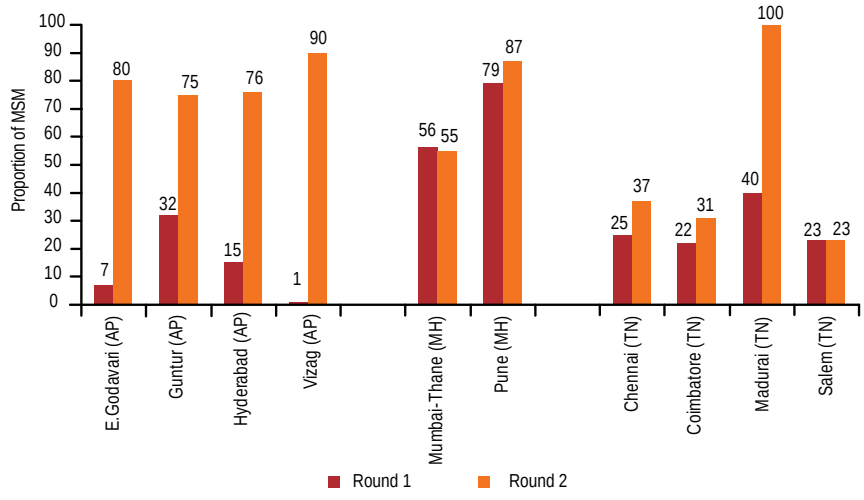


Figure 4.14: Reported STI symptoms by high-risk MSM – last year and current

(Andhra Pradesh and Maharashtra)

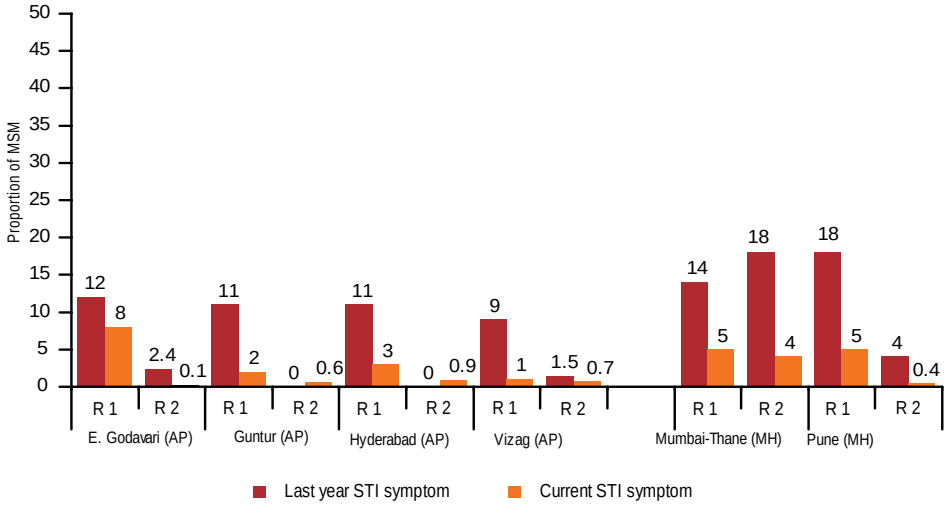
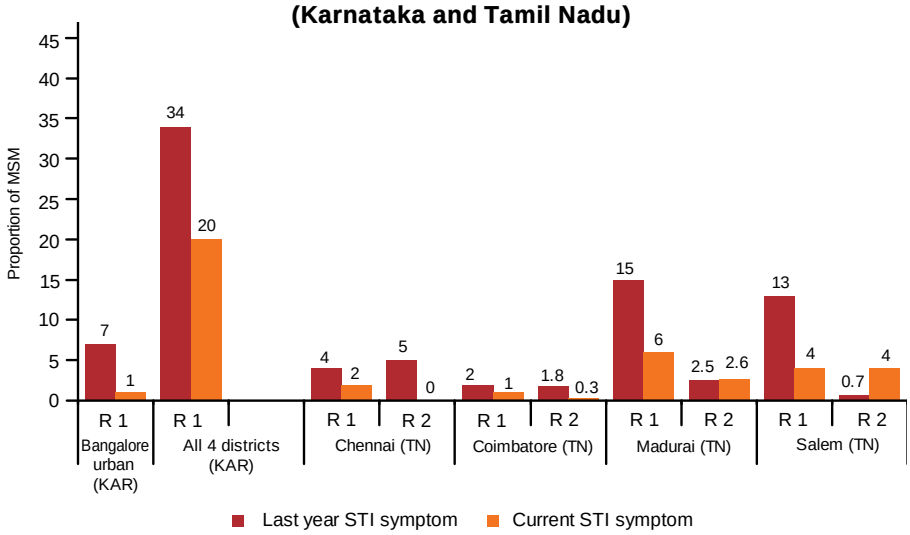


Figure 4.15: Reported STI symptoms by high-risk MSM – last year and current

(Karnataka and Tamil Nadu)



4.15 STIs/HIV

4.15.1 Proportion reporting STI symptoms: Self-reported prevalence of STIs was recorded in the IBBA and a similar proportion of respondents in both rounds (R1-2% to 18%, R2-0.7% to 18%) (except for high-risk MSM in Karnataka [34%] for R1) reported suffering from STI symptoms. In Andhra Pradesh (round two), only high-risk MSM from Vishakhapatnam (1.5%) and East Godavari (2.4%) reported having STI symptoms. Similarly, in Tamil Nadu 0.7% to 5% of high-risk MSM reported suffering from STIs, and in Maharashtra 4% of MSM in Pune and 18% in Mumbai reported STI symptoms. The proportion of high-risk MSM reported to be suffering from STIs during the survey (current) was low in all the districts and less than five percent of high-risk MSM in round two reported having symptoms of STI as against 1% to 20% in round one (Figures 4.14 and 4.15; Summary Data Sheet M3).

4.15.2 Proportion ever tested for HIV: A higher proportion of respondents in round two (61% to 98%) than round one (4% to 57%) reported having undergone HIV testing. This proportion in the different states in round two ranged from 61% to 84% in Andhra Pradesh and 83% to 98% in Tamil Nadu. In Mumbai and Pune, the proportion who undertook HIV testing was between 62% and 78%, respectively. This proportion for high-risk MSM in Karnataka for R1 was 19% and 33%, respectively, for Bangalore (urban) and the rest of the districts. Among the respondents who undertook the HIV test, a majority also reported collecting the test results and a marked increase was seen in this proportion in round two when compared to round one (Figures 4.16 and 4.17) (Summary Data Sheet M4).

Figure 4.16: Prior history of HIV testing of high-risk MSM (Andhra Pradesh and Maharashtra)

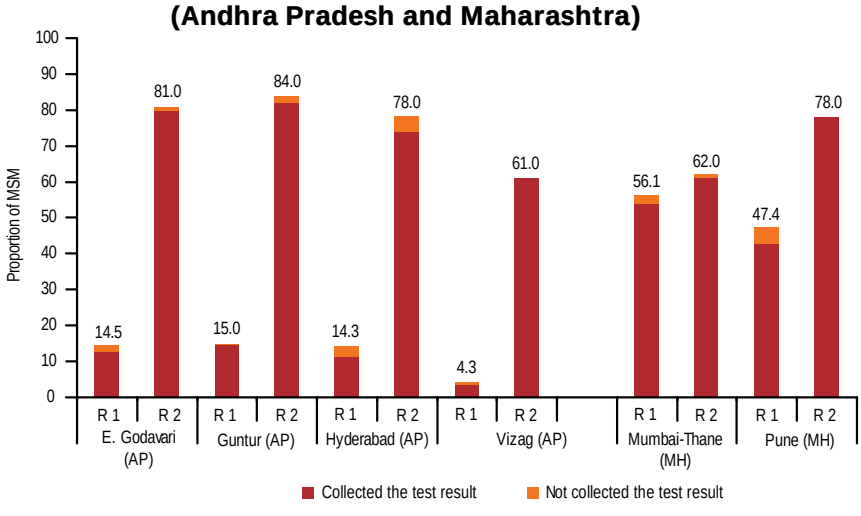


Figure 4.17: Prior history of HIV testing of high-risk MSM (Karnataka and Tamil Nadu)

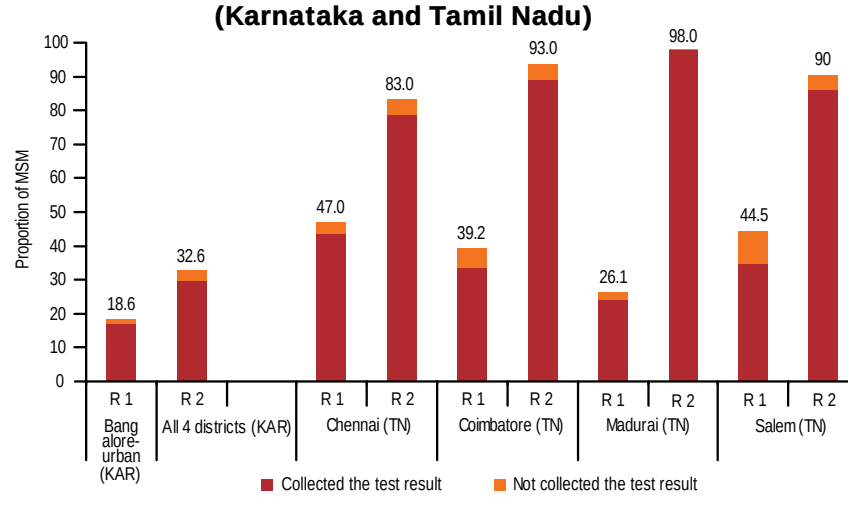


Figure 4.18: STIs prevalence among high-risk MSM
(one or more of syphilis, N. gonorrhoeae or C. trachomatis)

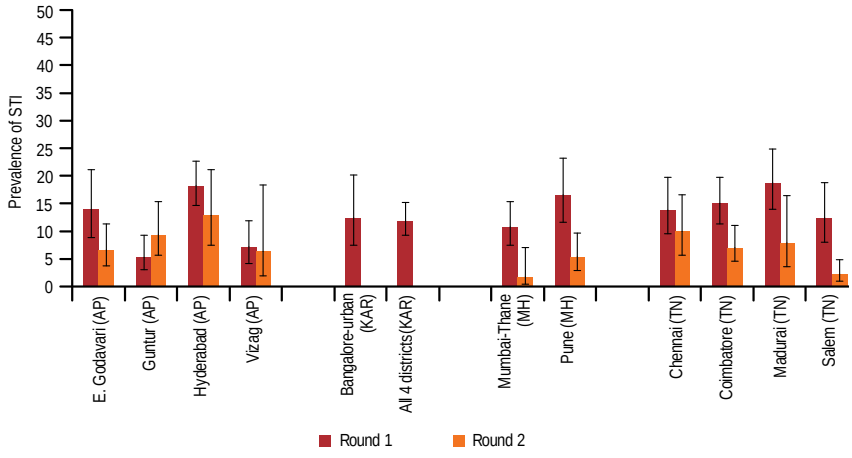
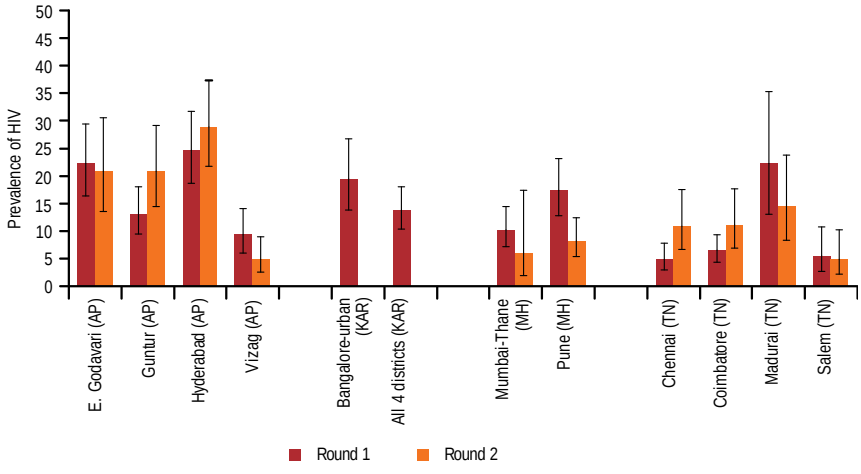


Figure 4.19: HIV prevalence among high-risk MSM



4.16 STIs/HIV Prevalence

4.16.1 Prevalence of STIs: Having "any STI" was defined as being positive in laboratory tests for any one or more of the following: reactive syphilis serology (RPR positive [any titre] and TPHA positive), positive *N. gonorrhoeae* or *C. trachomatis* test from urine specimens. A marginal decrease in the prevalence of STI in round two among high-risk MSM was observed in all three states since round one with the exception of Guntur (9.4%) where an increase was noted. For high-risk MSM in Karnataka in R1, prevalence was 12.5% and 11.9%, respectively, for Bangalore (urban) and the rest of the districts. The prevalence of any STI in round two ranged from 6.6% to 12.9% in Andhra Pradesh and 2.2% to 9.9% in Tamil Nadu. In Maharashtra, the reported prevalence for Mumbai and Pune was 1.8% and 5.4%, respectively. In round one, the prevalence of any STI ranged between 5.3% and 18.8%. Among the different states the individual prevalence of syphilis (R1-3.5% to 17.8%, R2-0.5% to 12.6%), NG (R1-0.0% to 0.9%, R2-0.0% to 0.5%) and CT (0.3% to 4.4%, R2-0.0% to 4.3%) in both rounds was low (Figure 4.18; Summary Data Sheet M8).

4.16.2 HSV-2 antibody prevalence: For each district, HSV-2 antibody was determined on a random sample of 10% of stored serum specimens. HSV-2 estimates for round one have been revised and un-weighted estimates for both rounds one and two are presented in this report. The comparison of estimates between the two rounds shows that the prevalence of HSV-2 in round two in most districts in Andhra Pradesh (except Guntur and Hyderabad), Maharashtra, and Tamil Nadu decreased (R1-24.4% to 76.2%, R2-17.5% to 69%). The round two estimates for

HSV-2 ranged from 38.1% to 69% in Andhra Pradesh and 19.6% to 28.6% in Tamil Nadu. The corresponding proportion in Maharashtra was 17.5% for Mumbai and 30% for Pune (Summary Data Sheet M8).

4.16.3 HIV prevalence: The prevalence of HIV varies considerably in the three states and a declining trend was seen in round two in most districts since round one with the exception of Guntur, Hyderabad, Chennai, and Coimbatore. The highest prevalence of HIV in round two was reported from Hyderabad (28.9%) in Andhra Pradesh followed by Guntur and East Godavari districts, which had similar prevalence (20.8%). The lowest prevalence was reported from Salem (4.8%) in Tamil Nadu. HIV prevalence in Andhra Pradesh ranged between 4.9% and 28.9% in round two as against 9.3% and 24.7% in round one. In Tamil Nadu, prevalence of HIV was low in all districts (except Madurai) in round one and ranged from 4.8% to 22.3%; whereas, in round two it ranged from 4.8% to 14.4%. HIV prevalence among respondents in Mumbai-Thane and Pune was 10.2% and 17.4%, respectively, in round one which declined in round two to 6% in Mumbai-Thane and 8.2% in Pune. The prevalence was 19.5% in Bangalore (urban) and 13.8% in the rest of the districts in Karnataka for round one (Figure 4.19; Summary Data Sheet M8).

4.17 Tamil Nadu: Aravani Group (Transgender): About 404 aravanis in round one and 403 in round two from five districts of Tamil Nadu (Chennai, Coimbatore, Dharmapuri, Madurai, and Salem) were covered in both rounds of the IBBA survey. Their identity, sexual orientation, stigmatization, and isolated status often restrict access to information about their sexual behaviour and practices. Surveys like the IBBA are an opportunity to understand this community to address the HIV prevention policy and programmatic needs for ensuring better access, care, and support for HIV prevention. In Tamil Nadu, for the last few years, HIV prevention programmes for this community are run by various organizations. Avahan has also targeted this community with the objective of scaling up of HIV/AIDS prevention. A two-stage cluster sampling design was adopted. Fixed-location and time-location clusters were the primary sampling units.

The mean age of the aravanis in the districts surveyed in both rounds was identical (29 years). More than 90% of aravanis in round two and 68% in round one were literate. One-fourth of them reported to be married in both rounds. However, only 7.6% of aravanis reported cohabiting with their sexual partners in round two as against 18% in round one. The mean age when they entered the sex trade was reported to be 18 years in both rounds. Five percent of aravanis in round one and 12% in round two were circumcised.

Aravanis identified themselves as *aqua* (not undergone castration and who wears women's or men's attire) and *nirvana* (undergone castration and are in women's attire). Forty-two percent of this study population in round two had identified themselves as *nirvana* as against 63% in round one, and the others were *aqua* (Figure 4.20).

Services received from "any agency" were assessed based on four indicators as in the case of MSM groups (Section 4.4). A higher proportion of aravanis in round two than round one reported to have been visited by a peer/ORW (R1-74%, R2-83%), received condoms (R1-74%, R2-81%), or having received information on STIs (R1-74%, R2-82%). However, a considerable decline was seen in the proportion of respondents who reported to have visited the NGO clinics (R1-75%, R2-45%).

More than 95% of aravanis in round two and 89% in round one reported that they had heard of STIs. Those having knowledge of three or more symptoms of STIs was also high (above 80% in both rounds). Less than 5% of the aravanis, in both round one and two, reported to have suffered from STIs in the last one year and also had symptoms in the recent past. Almost all aravanis reported to have sought trained care for treatment of STI in round two as against 60% in round one. Two-fifths of the respondents, in both rounds one and two, also reported using condoms and abstaining from sex for prevention of STIs.

Almost all the aravanis in both rounds reported that they had heard of HIV/AIDS and between 93% and 99% in rounds one and two believed that HIV/AIDS could be prevented. Further, more than 90% of the aravanis in both rounds were aware that consistent condom use could reduce the risk of contracting HIV. Also, 68% of the aravanis in round two and 43% in round one were aware that any healthy looking person may have HIV, and a person could not get HIV/AIDS through mosquito bites or sharing clothes and utensils. One-fourth of the respondents felt that they were at risk of being infected with HIV/AIDS as against 14% in round one. The respondents were also asked if they had ever taken an HIV test and the proportion

who reported having undergone HIV tests almost doubled between the two rounds.

Two-thirds of the respondents in both rounds one and two reported having regular partners. The reported condom use during last sex with regular partners decreased marginally (R1-73%, R2-61%) in round two; whereas, every time condom use with the regular partners was reported by a higher proportion of respondents in round two than one (R1-34%, R2-47%). Ninety percent of the aravani in round two and 74% in round one also had paying male partners besides regular partners. The reported every time condom use was comparatively higher with paying male partners than with regular partners, and 61% of aravanis in round two and 50% in round one reported using condoms consistently. Less than 2% of the aravanis reported having paid male/hijra partners. The reported condom use with these partners was high in both rounds (above 85%). Two-fifths of the respondents had other non-commercial male/hijra partners and the reported every time condom use was above 52% in round two and 20% in round one (Figures 4.21 and 4.22).

Figure 4.20: Aravani – Typology

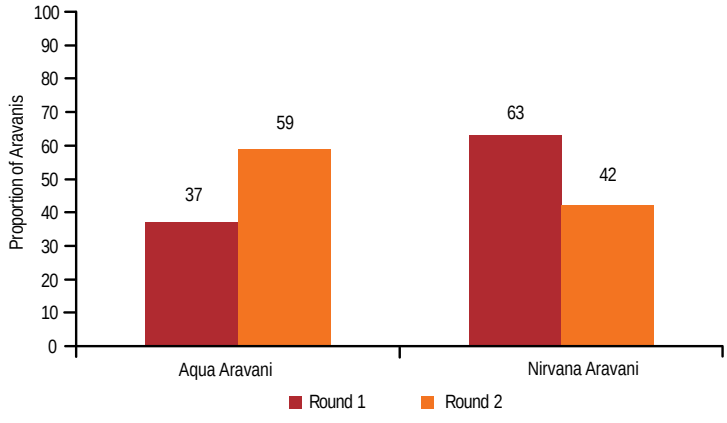


Figure 4.21: Type of sexual partners

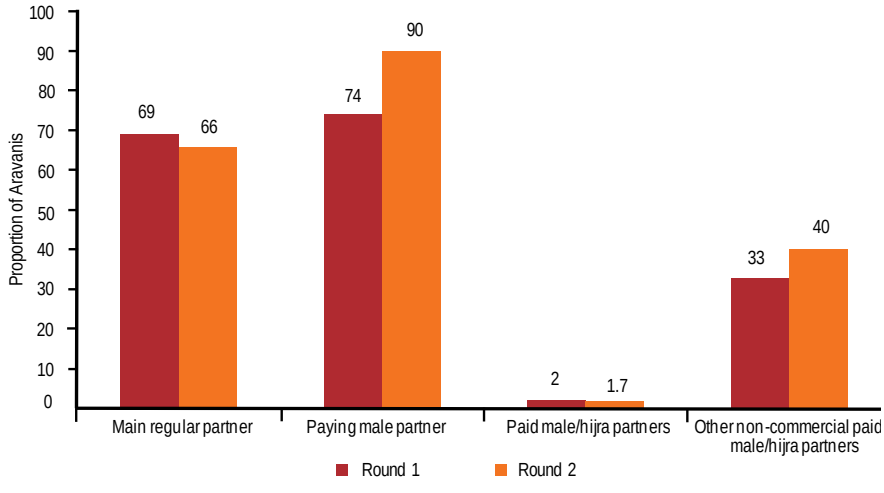
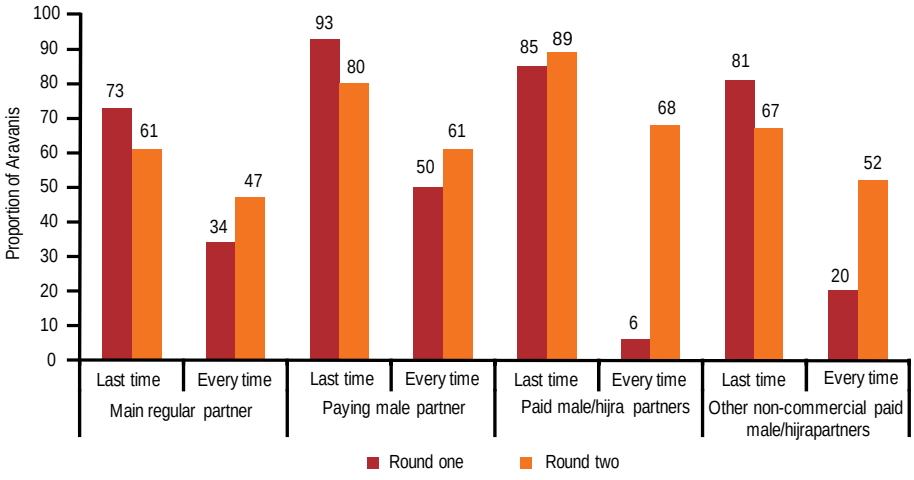


Figure 4.22: Condom use with different type of partners



Positivity of reactive syphilis serology among the aravanis was 16.6% in round one and 4.2% in round two. None of the respondents tested positive for *N. gonorrhoeae* or *C. trachomatis*. Prevalence of HSV-2 (10% sample) antibody was 46.2% in round one and 42.9% in round two. Prevalence of HIV declined and was 9.8% in round two as against 12% in round one. HIV positive among those positive for any STI (positive for reactive syphilis serology, *N. Gonorrhoeae*, or *C. Trachomatis* – one or more) shows a declining trend and was 8.3% in round two as against 30.9% in round one. Detailed results are given in Summary Data Sheets H1 to H8.

5 CHAPTER

Injecting Drug Users

5.1 Introduction: HIV among injecting drug users (IDUs) continues to show an increasing trend and in states like Maharashtra, Manipur, Tamil Nadu, Punjab, and Delhi, the estimated prevalence of HIV among IDUs was above 10% (NACO, 2007). The IBBA round one and two surveys were conducted among IDUs from Maharashtra (Mumbai-Thane combined) and the north-east (Churachandpur and Bishnupur in Manipur; Phek and Wokha in Nagaland). The round one survey, which was initiated in January 2006, was completed in all states by August 2007. To assess changes in the pattern of high-risk sexual behaviour and STI/HIV prevalence, the IBBA was repeated after a gap of two years. The round two surveys were carried out between November 2009 and February 2010 in Maharashtra and between April and June 2009 in both the districts of Manipur and between May and July 2009 in Nagaland. The sample size for each district was approximately 400 and respondent driven sampling was the method used to sample eligible respondents. A total of 2,075 IDUs in round one and 1,977 in round two were interviewed in the IBBA. The number of seeds recruited at each site is shown in Table 5.1.

Table 5.1: Seeds recruited by district

State and District	Number of seeds	
	R1	R2
Maharashtra		
Mumbai-Thane	37	21
Manipur		
Bishnupur	8	4
Churachandpur	6	4
Nagaland		
Phek	9	8
Wokha	9	6

5.2 HIV Prevention Services: Services received from "any agency" during the past six months were assessed based on five indicators: (1) contacted by NGO/programme worker, (2) given information on STI/HIV/AIDS, (3) visited the NGO clinic, (4) received condoms, and (5) received needles/syringes (Table 5.2). In Maharashtra, the reported proportion of IDUs having received any of these services ranged from 11% to 60% as against 20% to 54% in round one. Considerable improvement in service coverage was observed in Maharashtra in round two when compared to round one, except the proportion of IDUs reported to have received condoms (R1-20%, R2-11%). In the north-east, the service coverage improved in all districts in round two in Manipur and Nagaland, except Wokha (R1-22% to 32%, R2-12% to 17%) where a considerable drop was observed in the proportion of respondents reported to have received the aforesaid services. In Bishnupur, the service coverage ranged from 41% to 56% in round one, and it was between 48% and 64% in round two. The corresponding proportions for Churachandpur varied between 37% and 88% in round one and 51% to 96% in round two. Similarly the service coverage in Phek ranged from 34% to 49% in round one and 78% to 86% in round two (Summary Data Sheet D16).

5.3 Demographic Profile: This section presents information about demographic profiles of IDUs surveyed and the discussion is centred on the indicators age, literacy, marital status, and occupation. In Maharashtra, a majority of the IDUs who participated were between 26 and 36 years in age and a very similar age pattern was observed in both rounds with marginal change in the age distribution. IDUs from the north-east who participated in the survey in rounds one and two were between 20 and 30 years in age. Literacy level among IDUs from Maharashtra in round two improved when compared to round one, and 55% of respondents reported that they could read and write and only 6% reported being unemployed in round two as compared to 22% in round one. However, more than 90% of respondents from Manipur in both rounds reported that they could read and write, and the proportion reported to be unemployed was 26% in Bishnupur and 56% in Churachandpur. In Nagaland, more than four-fifths of the respondents in both districts reported that they could read and write, and marginal improvement in the level of literacy was observed in round

two when compared to round one. Unemployed respondents decreased in Phek (R1-48%, R2-24%), but the scenario in Wokha (R1-63%, R2-64%) remained the same with a high proportion of respondents reported to be unemployed in both rounds (Table 5.3, Summary Data Sheet D1).

5.4 Frequency of Injection: The respondents were asked about the injection use patterns and were segregated into four groups: those injecting at least once daily; at least once weekly; at least once monthly; and less than once during a month. Similar to round one, a higher proportion of respondents from Mumbai-Thane and Churachandpur in round two also reported injecting drugs on a daily basis than respondents from other districts. However, a shift in the drug use pattern was observed in Bishnupur and Phek in round two with a higher proportion of respondents reported to have injected drugs at least once weekly than round one. In Wokha, a larger proportion of respondents reported injecting infrequently in round two than in round one where a higher proportion reported injecting frequently on a daily or weekly basis. A reduction in the proportion of respondents who reported to have injected drugs on a daily basis was observed in round two in all districts except Churachandpur where the proportion of respondents who reported to have used drugs on a daily basis was still high (Figure 5.1). (Summary Data Sheet D6).

Table 5.2: Coverage of IDUs by HIV prevention services received from any agency (last 6 months)

State & District	Contacted by NGO/programme worker (%)*		Given information on STI/HIV/AIDS (%)*		Visited the NGO clinic (%)*		Received condoms (%)*		Received needles/ syringes (%)*	
	R 1	R 2	R 1	R 2	R 1	R 2	R 1	R 2	R 1	R 2
Maharashtra										
Mumbai-Thane	36	50	35	53	NA	NA	20	11	54	60
Manipur										
Bishnupur	56	58	48	50	45	48	41	53	52	64
Churachandpur	52	51	37	64	69	91	48	67	88	96
Nagaland										
Phek	49	80	46	79	48	86	47	78	34	80
Wokha	30	17	22	13	27	12	32	17	30	15

* Based on subset of respondents applicable for that analysis.
NA-Not available

Table 5.3: Demographic profile of participating IDUs

State & District	Current age distribution (years) (%)										Can read and write (%)		Ever married (%)		Unemployed (%)	
	18-20		21-25		26-30		31-35		36 or above							
	R 1	R2	R 1	R2	R 1	R2	R 1	R2	R 1	R2	R1	R 2	R1	R2	R1	R 2
Maharashtra																
Mumbai-Thane	4	3	21	19	21	31	22	17	33	30	38	55	42	44	22	6
Manipur																
Bishnupur	17	5	40	33	21	32	14	18	8	13	96	94	30	39	41	26
Churachandpur	11	3	37	20	32	36	14	26	6	15	92	96	31	56	38	56
Nagaland																
Phek	43	28	35	41	19	21	2	6	2	3	91	95	12	22	48	24
Wokha	23	8	35	29	29	32	9	16	4	15	80	86	26	43	63	64

5.5 Place of Injection: Respondents were asked about the place where they injected most commonly in round two. However in round one two most common places were enquired. More than 90% of respondents from Mumbai-Thane in both rounds one and two reported that they inject in public places including bus terminals, public toilets, in the street or in a park, or in any other open space like railway tracks. In the north-east injecting in public places was reported by only a small proportion of respondents in round one; whereas, in round two one-third of the respondents reported to have injected in public places. In addition, the other preferred places for injecting drugs were their own home or the home of their injecting partner (Figure 5.2; Summary Data Sheet D5).

5.6 Age at First Using Drugs and First Injecting Drugs: In all districts surveyed in rounds one and two, it was observed that drug use was initiated at a younger age (below 20 years); whereas, initiation of *injecting* drugs was slightly delayed and reported to be after age 20 years. A considerable decline in the age at starting drugs was observed among those less than 20 years of age in round two as compared to round one in most districts. Age at starting first injection use in most districts was reported to be between the age of 19 and 26 years. In Maharashtra, half of the respondents in round two reported to have started injecting drugs after age 26 years. The corresponding proportion for Bishnupur, Churachandpur, and Wokha was 21%, 26%, and 42%. However a different trend was observed in Phek with a higher proportion of respondents reported to have initiated injecting drugs in the age group 17-21 years in round two. A majority of the drug users transitioned from drug use to injecting drug use within a period of one or two years as reported by respondents in the districts surveyed. The duration between first drug use and first injecting drug use in round two depicts that 20% of respondents in Maharashtra reported to have initiated injecting drug use within the first year of starting drug use. The corresponding proportion for Bishnupur and Phek in the same duration was 47% and 50%. Almost one-third of the respondents in Bishnupur and Churachandpur reported that drug use and use of injectable drugs started simultaneously (Figures 5.3 and 5.4; Summary Data Sheets D2, D3, and D4).

5.7 Types of Drugs Injected: In Round one of the survey, the respondents were asked about three most frequently injected drugs in the past one year. However, in Round II information about only the most commonly used drugs was enquired. Both in rounds one and two, heroin was the most commonly reported drug injected in Maharashtra and Manipur (R1-75% to 98%, R2-80% to 98%). However, in Nagaland, Spasmoproxivon was far more commonly used (R1-99% to 100%, R2-92 to 97%) than heroin or any other drug. Only a small proportion of respondents (less than 2%) mentioned injecting other drugs such as Fortwin, Nitrazipam, or Diazipam (Figure 5.5; Summary Data Sheet D5).

Figure 5.1: Frequency of injections among IDUs

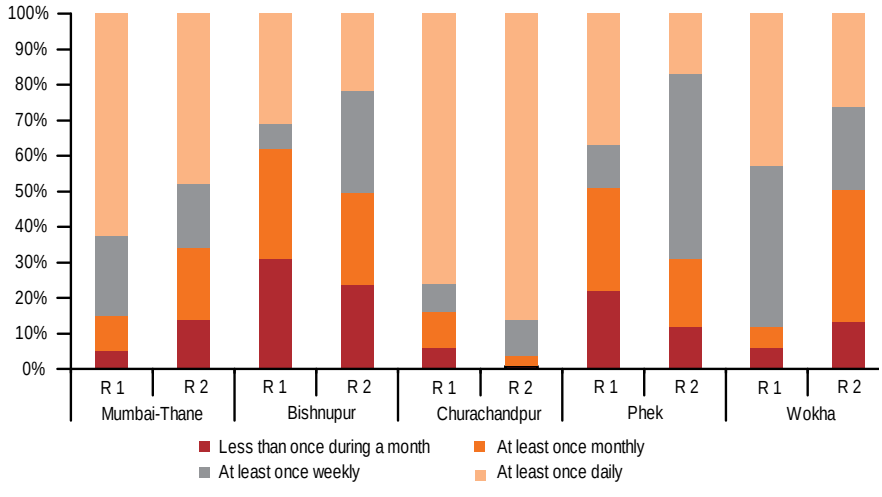


Figure 5.2: Most common places for injection

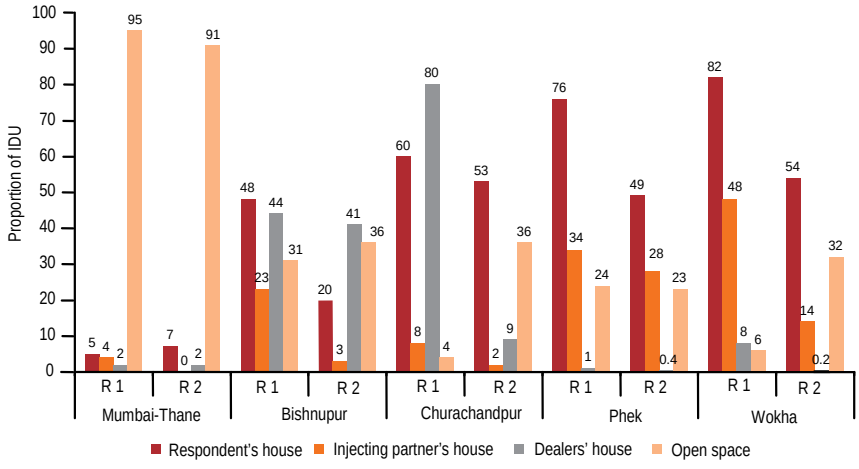


Figure 5.3: Age at first injection drug use

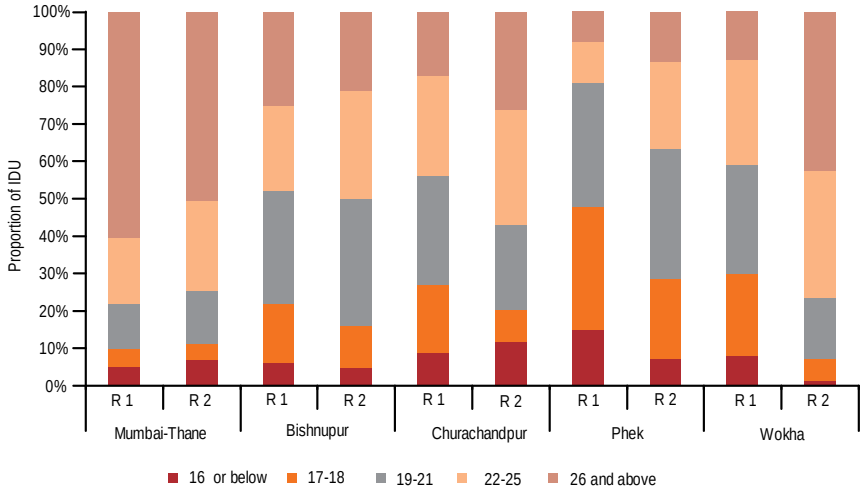


Figure 5.4: Duration between first drug use and first injecting drug use (in months)

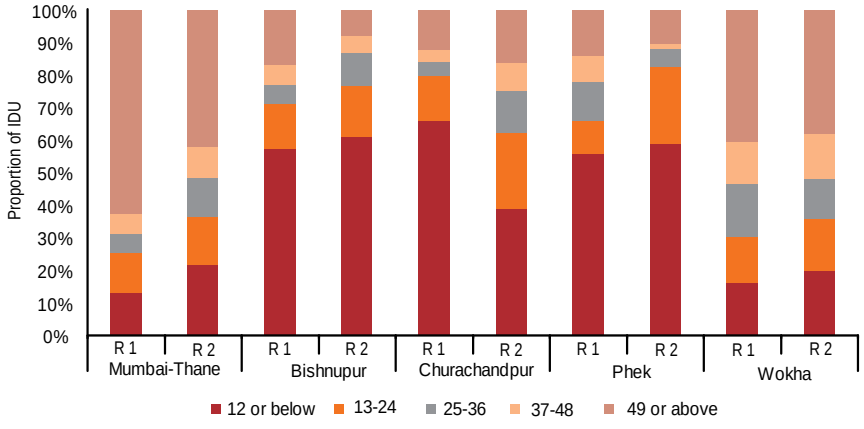


Figure 5.5: Most commonly reported drugs injected by IDUs (last year)

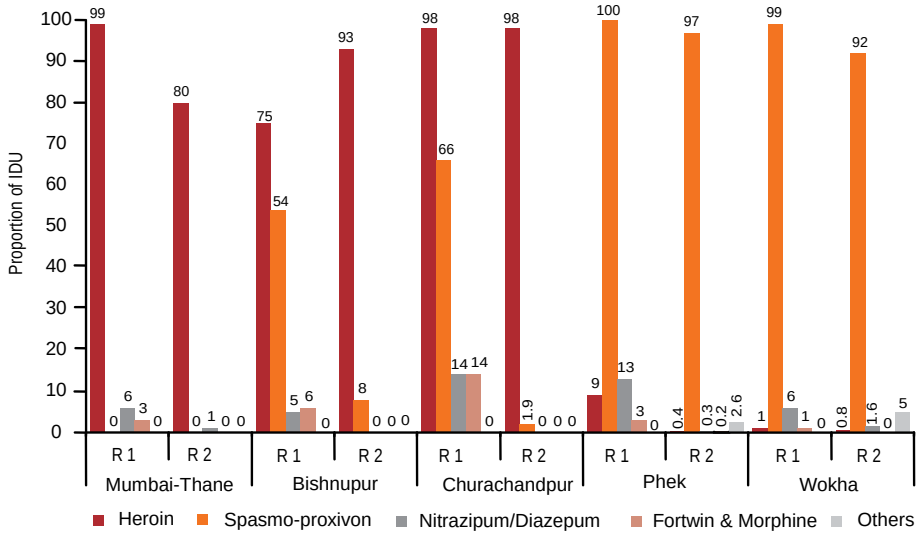
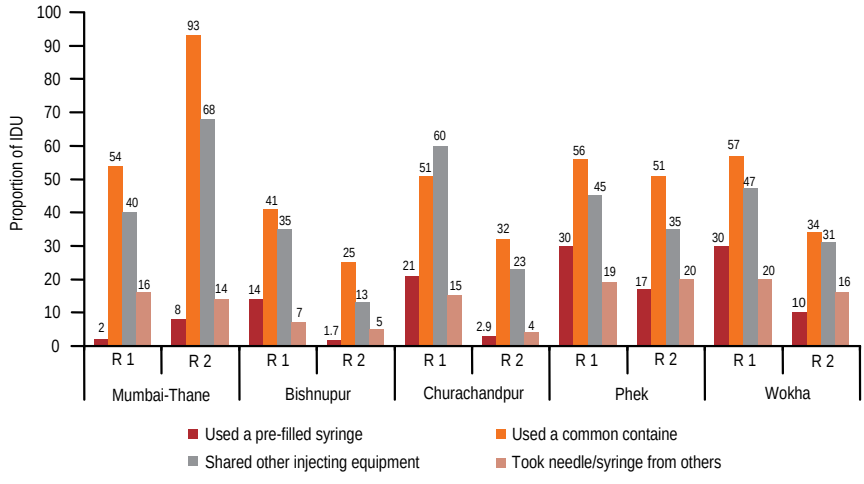


Figure 5.6: Use of non-sterile injecting equipments during last injecting episode



5.8 Injecting/Sharing Practices: This section provides information on use of non-sterile injecting equipments, one of the main causes for increased risk of HIV exposure among IDUs. The respondents were asked about injecting practices during their last injecting incident. Use of pre-filled syringes was not commonly reported, and fewer than 20% of respondents in round two and 30% in round one reported using a needle that they took from someone else after that person injected with it the last time they injected. Respondents also reported passing the needle/syringe to others after injecting themselves (R1-13% to 40%, R2-1.9% to 23.2%). Use of a needle/syringe exclusively by the respondent was also inquired about and respondents in round two who reported using a needle/syringe exclusively were 46% in Mumbai-Thane, 13.9% for Phek, and 23.2% for Wokha. This proportion in round one for these districts was 33%, 28%, and 54%, respectively. In Manipur, the corresponding proportion in round two was 15.2% for Bishnupur and 29.8% for Churachandpur as against 16% and 60% in round one. A large proportion of respondents, ranging from 51% to 80% in round two, as against 30% to 78% in round one, reported to have injected with a brand new needle. Use of common containers and injecting equipment was also commonly observed among IDUs. In round two in Maharashtra, 93% of respondents reported using common containers. This proportion in districts from Manipur and Nagaland ranged from 41% to 57% in round one, but a declining trend was seen in round two with the estimated proportion ranging from 25% to 52%. Use of common injecting equipment

among IDUs in the north-east reduced in round two (13% to 35%) as compared to round one (35% to 60%), and a lower proportion of respondents reported using common injecting equipment (Figure 5.6; Summary Data Sheets D7 and D8).

5.9 Sexual Risk: To assess the sexual risk behaviour, IDUs were asked about commercial and non-commercial partners they had in the past one year preceding the survey. In most of the districts, in round one, a considerable proportion of IDUs reported not being sexually active; whereas, this proportion in round two declined. Only 26% of respondents in round two in Maharashtra reported having no partners as against 48% in round one. The corresponding proportion in the north-east ranged from 16% to 54% in round one and 3% to 30% in round two. More than one-third of the IDUs from the north-east in round two had regular partners, and this proportion had increased since round one (R1-22% to 32%, R2-35% to 44%). IDUs from Phek (R1-33%, R2-49%) and Wokha (R1-38%, R2-31%) in both rounds reported having both regular and non-regular partners. The trend in Maharashtra differed and 42% of respondents in round two reported having only paid partners as against 20% in round one. A similar pattern followed in Bishnupur with 24% of respondents having only paid partners in round two.

Condom use with non-paid main regular female/casual partners was assessed, and the proportion reported to have used condoms during last sex act with a non-paid regular female partner varied widely and ranged from 28% to 55% in round two and was between 17% and 55% in round one. The reported condom use with casual partners seems to have increased marginally since round one (R1-34% to 70%) in most districts and ranged between 41% and 81% in round two (Figures 5.7 and 5.8; Summary Data Sheets D10, D11, and D12).

Figure 5.7: IDU had Commercial and Regular Partners (last year)

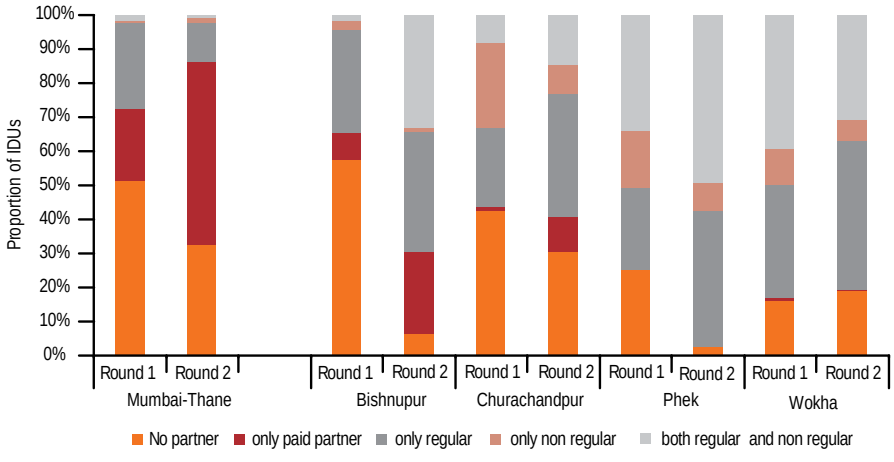
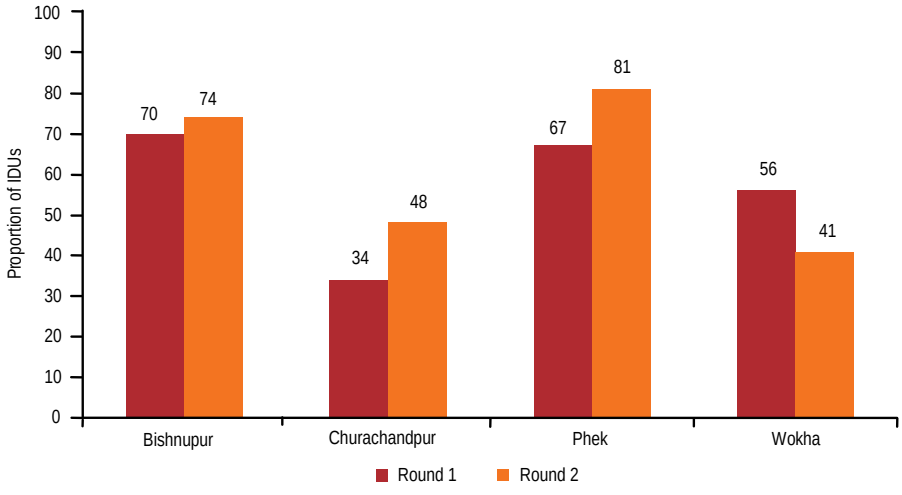


Figure 5.8: IDUs reporting last time condom use with other non-paid female partners



5.10 STI Knowledge: STI knowledge was assessed based on the ability of the IDU to correctly identify at least three of the six most common STI symptoms (urethral discharge, burning/pain on urination, genital ulcer/sore, swelling in groin area, warts around genital area, and cannot retract foreskin). In Maharashtra 48% of the IDUs in round two and 37% in round one had heard of STIs; among them only 9% in round two and 4% in round one could correctly identify at least three of the most common STI symptoms. More than three-fourths of the IDUs in Manipur in both rounds had heard of STIs; among them, 11% (R1) and 18% (R2) of IDUs in Bishnupur and 19% (R1) and 47% (R2) in Churachandpur could correctly identify at least three symptoms. In Nagaland, as compared to round one (R1-Phek-78%; Wokha-45%) knowledge levels seem to have improved in round two, and 91% in Phek and 54% in Wokha had heard of STIs. The proportion of respondents in round two who could correctly identify three or more symptoms was 32% in Phek (0.7% in round one) and 13% in Wokha (2% in round one) (Figure 5.9; Summary Data Sheet D13).

5.11 Proportion Reporting STI Symptoms: The proportion of respondents who reported to be suffering from any STI symptoms (urethral discharge, ulcer, swelling, burning pain, or cannot retract foreskin) in the year preceding the survey ranged from 7% to 30% in round one and 4% to 12% in round two. Out of those who reported suffering from STIs in round two, less than 10% from Maharashtra, 45% in Churachandpur, and 79% in Bishnupur reported having sought trained care in round two, and this proportion in round one was comparatively lower (Figure 5.10; Summary Data Sheet D13).

Figure 5.9: Knowledge about STIs

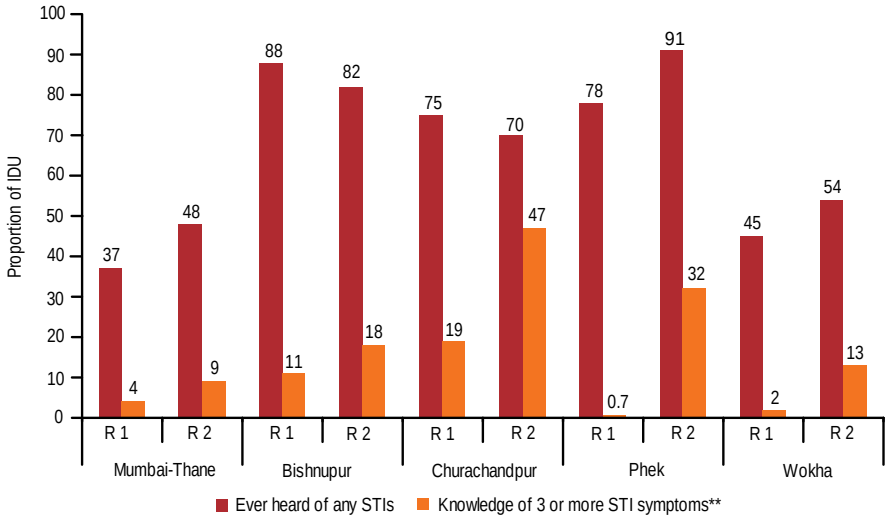
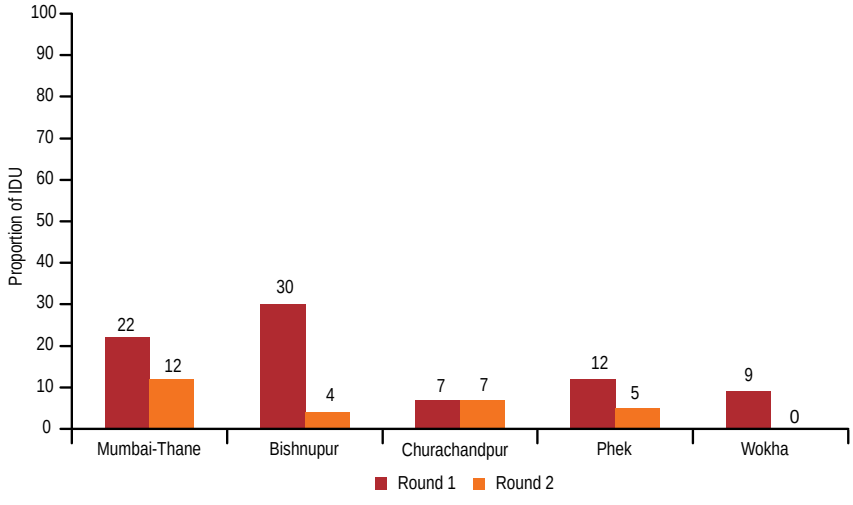


Figure 5.10: IDUs reported STI symptoms



5.12 HIV/AIDS Awareness: While more than 90% of respondents in round one reported to have heard of HIV, it varied in round two (56% and 97%). This proportion in round two was 70% in Mumbai-Thane, 88% in Bishnupur, 97% in Churachandpur, 96% in Phek, and 56% in Wokha. In round two, between 33% and 64% of IDUs reported feeling at risk of being infected with HIV; whereas, only 20% to 41% reported so in round one (Summary Data Sheet D15).

5.13 Proportion Ever Tested for HIV: A higher proportion of respondents in round two (10% to 54%) than round one (6% to 26%) reported having undergone an HIV test. This proportion in round two was highest in Churachandpur (54%) and lowest in Wokha (10%) (Figure 5.11; Summary Data Sheet D15).

5.14 STIs/HIV Prevalence

5.14.1 Prevalence of STIs: Having "any STI" was defined as being positive in laboratory tests for any one or more of the following: reactive syphilis serology (RPR positive [any titre] and TPHA positive), positive *N. Gonorrhoeae*, or positive *C. trachomatis* NAT test. The estimated STI prevalence, in Maharashtra, was 5.4% in round one and 8.7% in round two. The prevalence in Manipur was 5% for both districts in round two but varied in round one (7.4% in Bishnupur and 3% in Churachandpur). In Nagaland, the prevalence of STI in Phek was comparatively higher in round two (26%) than round one (18.4%); whereas' in Wokha a reduction was seen in round two (22.5%) since round one (29.7%). The individual prevalence of NG was less than 2% in both rounds. Prevalence of CT in Nagaland ranged between 5.6% and 12.5% in the two rounds and prevalence in Wokha had reduced to half in round two since round one. Among the three STIs, syphilis was the predominant one in all the districts and ranged from 2.7% to 16.6% in round two as against 0.9% to 19.5% in round one (Figure 5.12; Summary Data Sheet D17).

5.14.2 HIV prevalence: The prevalence of HIV among IDUs in Maharashtra was 16.5% in round one and 14.8% in round two. In Manipur, a higher prevalence than round one was noted in Churachandpur (R1-32.2%, R2-39.9%). HIV prevalence in Nagaland was similar in both rounds and was less than 2% in the surveyed districts (Figure 5.13).

5.14.3 Hepatitis B and hepatitis C: Prevalence of hepatitis B among IDUs in the north-eastern districts in round two (7.5% to 11.6%) was higher than in round one (4.8% to 6.8%). In Mumbai-Thane, the prevalence was 10.8% in round one and 8.3% in round two.

The prevalence of hepatitis C in both round one and two was comparatively higher than hepatitis B in Maharashtra and Manipur and ranged between 46% and 92% in round two and 53% and 78% in round one. In Nagaland, when compared to round one, a marginal increase was seen in the prevalence of hepatitis C in both Phek (R1-5.4%, R2-8.7%) and Wokha (R1-16.7%, R2-20.8%) (Summary Data Sheet D17).

Figure 5.11: IDUs reported ever had undergone HIV test

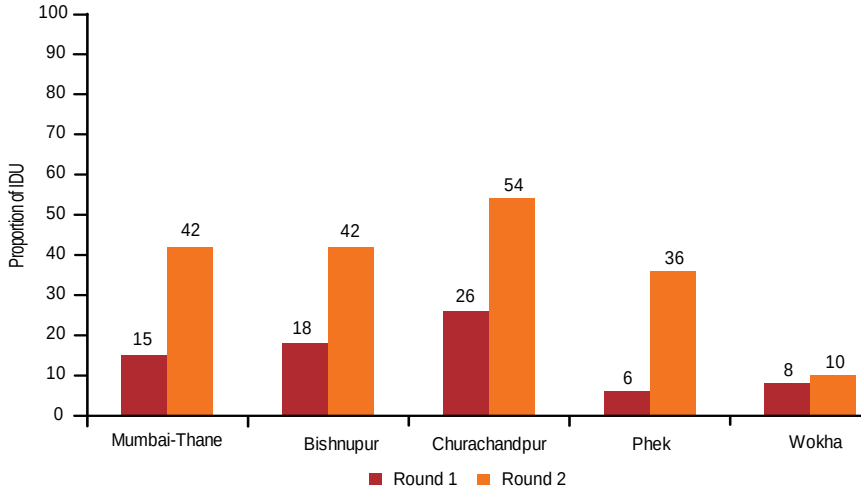


Figure 5.12: STI prevalence among IDUs
(one or more of syphilis, *gonorrhoeae* or *clamydia*)

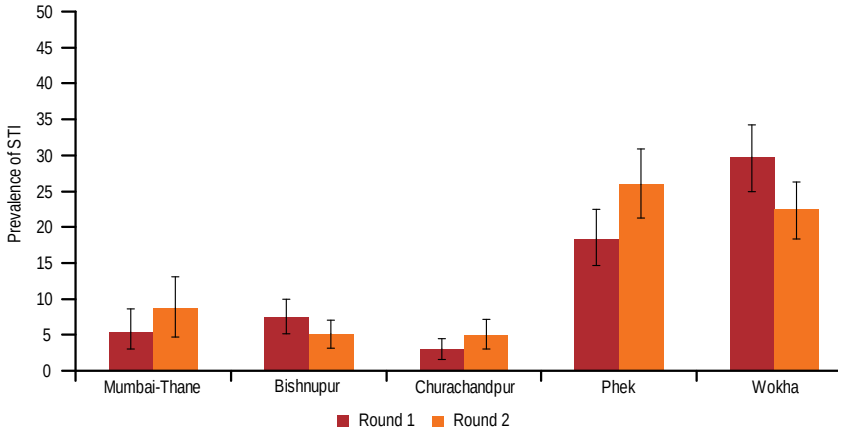
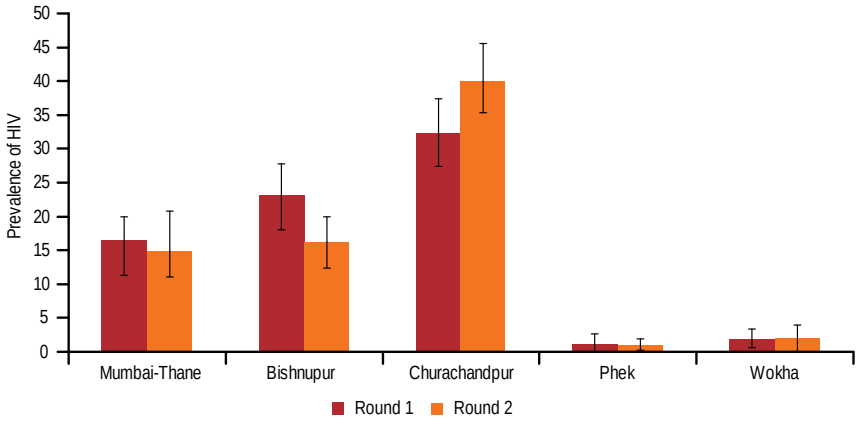


Figure 5.13: HIV prevalence among IDUs



6
CHAPTER

Clients of Female Sex Workers

6.1 Introduction: Clients of female sex workers are an important target population and very few studies undertaken in the past have reliable and representative data to consider for planning and implementation of programmes for HIV prevention among this group. Considered as the bridge population, clients of sex workers play a major role in the spread of the HIV infection from a small group of sex workers to the larger number of sexual partners including their spouses, and regular and casual sex partners. In IBBA rounds one and two, data from clients of female sex workers were collected from five districts of Andhra Pradesh, four districts of Maharashtra, Karnataka, and three districts of Tamil Nadu. The data collection for the IBBA round one survey which started in October 2006 was completed by December 2007 in all states, and the survey for the IBBA round two was carried out between April and September 2009 in Andhra Pradesh, October 2009 and January 2010 in Maharashtra, and June and September 2009 in Tamil Nadu. In Karnataka, the round one survey was carried out between September and December 2007. The sample size for each district was approximately 400 and time-location cluster sampling was the method used to sample eligible respondents at female sex workers' solicitation sites, with clients being identified by the interview team with the help of sex workers, community liaisons, pimps, and other key informants in the area.

6.2 Participation Rates: A total of 6,757 clients of sex workers in round one and 4,803 in round two were interviewed. The overall participation rate was 43% in round one and 49% in round two. The participation rates in round one (24% to 51%) and two (32% to 65%) varied across the surveyed districts, and in round two ranged from 39% to 63% in Andhra Pradesh, 32% to 59% in Tamil Nadu, and 46% to 65% in Maharashtra. This proportion in Karnataka for round one ranged from 68% to 89% (Table 6.1).

6.3 Exposure to Prevention Programmes: A high proportion of clients of sex workers in most districts in rounds one and two reported having exposure (heard/seen/read) to advertisements on condoms (R1 and R2-above 80%) and STIs (R1-40% to 99%, R2-45% to 97%). Comparatively a very low proportion of respondents in round two (6% to 36%) reported having heard/seen/read advertisements on the Key clinic for STI treatment when compared with round one (7% to 84%). Further, less than 5% of the respondents in both rounds reported to have visited the Key clinics for STI treatment.

The state-wide trend depicts that in Andhra Pradesh, a higher proportion of clients in round one (above 95%) than round two (above 80%) reported having heard/seen/read advertisement on condoms. The proportion of respondents having information on STIs (R1-93% to 99%, R2-52% to 88%) and Key clinics (R1- 34% to 83%, R2-11% to 28%) declined marginally in round two compared to round one.

In Tamil Nadu the proportion of respondents having heard/seen/read advertisement on condoms (R1-79% to 92%, R2-95% to 100%) and STIs (R1-45% to 86%, R2-68% to 96%) increased compared to round one. In contrast, the proportion reported to have information on Key clinics declined (R1-36% to 84%, R2-1.9% to 36%).

As observed in the other states, in Maharashtra also the proportion of respondents who reported having exposure to information on STIs (R1-40% to 82%, R2-45% to 75%) and Key clinics (R1-7% to 67%, R2-6% to 15%) declined in round two (in most districts) when compared to round one. And the proportion of respondents having exposure to advertisements on condoms, increased in all districts, since round one (R1-85% to 99%, R2-93% to 99%).

In Karnataka the proportion of clients having exposure to prevention services in R1 ranged between 45% and 94%, and less than 2% of respondents reported to have visited a Key clinic for STI treatment (Table 6.2; Summary Data Sheet C2).

6.4 Demographic Profile: This section presents information on the socio-demographic profile of the clients surveyed. The mean age of respondents in round two was not very different from those surveyed in round one and ranged

between 28 and 32 years. A majority of the clients interviewed were literate (R1-58% to 88%, R2-57% to 95%) and the proportion of clients who could read and write in round two ranged from 65% to 95% in Andhra Pradesh; 57% to 87% in Maharashtra; and 89% to 95% in Tamil Nadu. Between 69% and 81% respondents from Karnataka in R1 were literate. Respondents in the client survey represented men in different occupations, which varied significantly, and districts in Tamil Nadu were dominated by non-agricultural labourers and businessmen in both rounds. However, in Andhra Pradesh, Karnataka (R1 only), and Maharashtra there was a mix of agricultural and non-agricultural labourers, businessmen, truck drivers, and semi-skilled labourers. Further, most of the respondents in both IBBA rounds in all states were either married and living with their spouses or unmarried and reported having either a steady/unsteady partner (Table 6.3; Figures 6.1-6.4; Summary Data Sheet C1).

6.5 Occasional and Regular FSW Partners of Clients: The respondents were asked about their regular (women whom they bought sex from repeatedly and whom they recognized well) and occasional (women whom they bought sex from only once or twice and whom they would not know or recognize) FSW partners. A majority of the clients reported having both occasional and regular FSW partners and interstate variation was observed in the proportion of clients who reported having exclusively occasional or regular FSW partners. In Andhra Pradesh and Maharashtra a considerable proportion of clients reported having exclusively occasional FSW partners; whereas, only a small proportion reported so in Tamil Nadu (Figures 6.5-6.6).

More than three-fourths of the respondents in both IBBA rounds reported having occasional FSW partners; whereas, the proportion who reported having regular FSW partners differed across the states since round one (R1-12% to 86%, R2-45% to 99%). In Andhra Pradesh, 45% to 84% of respondents in round two reported having regular FSW partners as against 59% to 86% in round one. The corresponding proportion in Maharashtra ranged from 20% to 79% in round one and 49% to 65% in round two. However, in Tamil Nadu, compared to the other states an increase in the proportion of clients (R1-66% to 76%, R2-94% to 99%) who reported having regular FSW partners was noted. In Karnataka, clients having regular FSW partners in R1 ranged from 12% to 54% (Summary Data Sheet C5).

Table 6.1: Participation rates by district for clients of FSWs

State & District	Round 1		Round 2	
	Completed questionnaire and biological specimen collection	Participation rate (%)	Completed questionnaire and biological specimen collection	Participation rate (%)
Andhra Pradesh				
East Godavari	409	28	401	44
Guntur	401	24	406	63
Hyderabad	406	32	400	39
Visakhapatnam	402	31	406	46
Warangal	402	33	403	45
Karnataka				
Bangalore	678	68	NA	NA
Belgaum	408	76	NA	NA
Bellary	424	84	NA	NA
Shimoga	426	89	NA	NA
Maharashtra				
Mumbai	394	49	371	54
Parbhani	404	51	395	62
Pune	401	44	404	65
Yevatmal	399	53	400	46
Tamil Nadu				
Chennai	406	42	408	32
Madurai	401	35	402	59
Salem	396	36	407	58

NA-Not available

Table 6.2: Exposure to interventions

State & District	Heard/seen/read advertisement on condoms (last 6 months) (%)		Heard/seen/read advertisement on STI (last 6 months) (%)*		Heard/seen/read advertisement on Key clinic (last 6 months) (%)		Ever visited Key clinic for STI treatment (%)	
	R 1	R 2	R 1	R 2	R 1	R 2	R 1	R 2
Andhra Pradesh								
East Godavari	100	90	95	59	34	16	2	4.4
Guntur	100	84	98	68	75	11	2	0
Hyderabad	100	97	99	81	68	26	0.5	0.1
Visakhapatnam	96	84	93	52	83	28	7	0.4
Warangal	97	88	93	69	60	20	1	0.4
Karnataka								
Bangalore	93	NA	58	NA	40	NA	2	NA
Belgaum	90	NA	45	NA	22	NA	0.2	NA
Bellary	93	NA	66	NA	41	NA	0.3	NA
Shimoga	94	NA	65	NA	39	NA	0.2	NA
Maharashtra								
Mumbai	85	98	82	75	67	14	0.3	0.1
Parbhani	89	93	40	45	7	6	0	0.2
Pune	99	99	76	45	54	15	0.3	0
Yevatmal	95	98	57	46	21	8	0.3	0
Tamil Nadu								
Chennai	79	95	45	96	36	36	0.1	0
Madurai	96	99	86	97	84	25	1	NA
Salem	92	100	51	68	37	1.9	0.1	72

NA-Not available

Figure 6.1: Occupation of clients

(Andhra Pradesh and Karnataka)

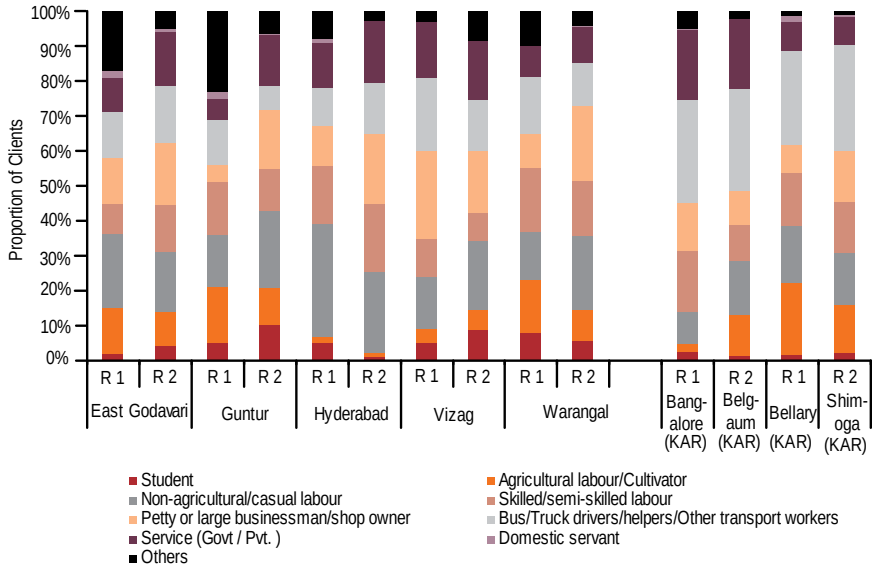


Figure 6.2: Occupation of clients
(Maharashtra and Tamil Nadu)

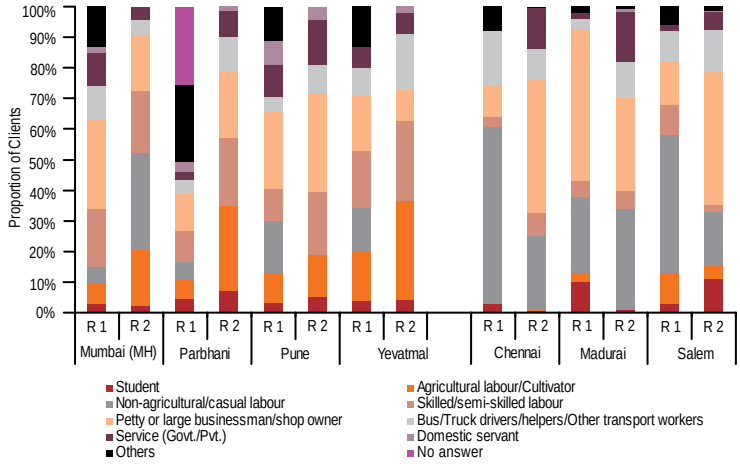


Figure 6.3: Marital status and living status of clients
(Andhra Pradesh)

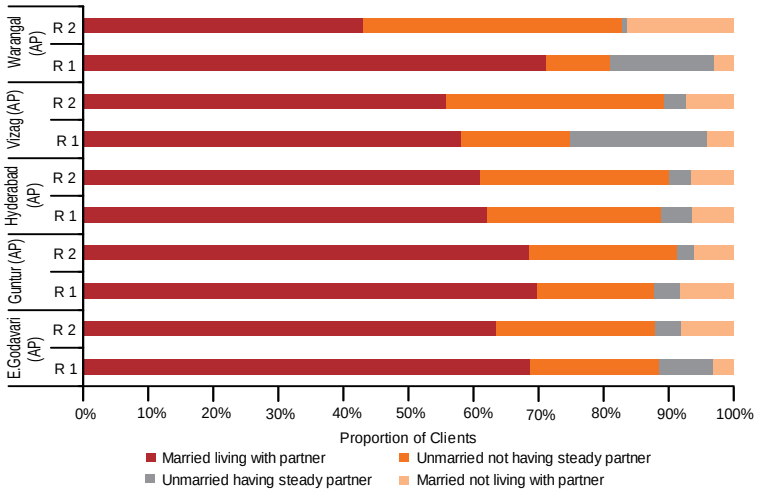


Figure 6.4: Marital status and living status of clients
(Maharashtra and Tamil Nadu)

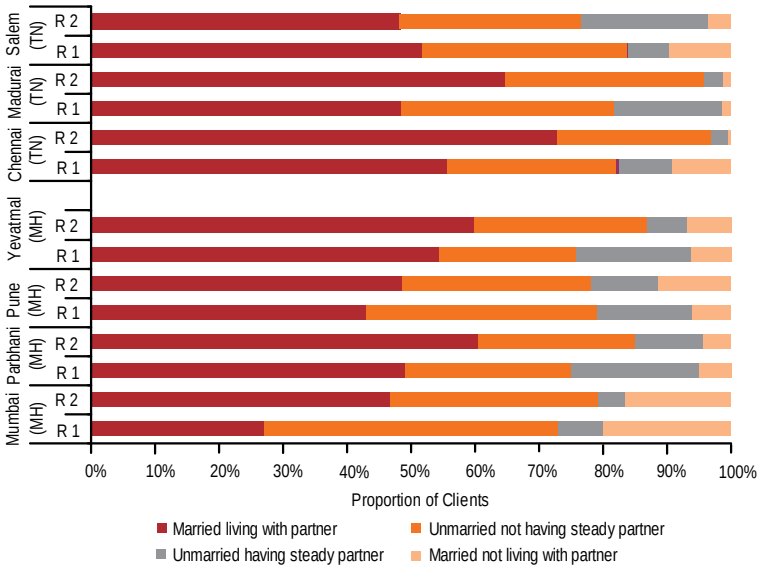


Table 6.3: Demographic profile of participating clients by district

State & District	Mean age (years)		Can read and write (%)		Ever married (%)		Living with sex partner (%)		Mean age when started having paid sex (years)		Circumcised (%)	
	R 1	R 2	R 1	R 2	R 1	R 2	R 1	R 2	R 1	R 2	R 1	R 2
Andhra Pradesh												
East Godavari	30	30	58	65	72	72	96	64	20	20	5	14
Guntur	31	31	63	70	78	74	89	70	19	22	22	23
Hyderabad	31	29	80	89	68	67	91	62	20	22	11	10
Visakhapatnam	28	30	79	78	62	63	94	57	19	22	22	6
Warangal	30	29	88	95	74	60	96	43	19	23	16	12
Karnataka												
Bangalore	31	NA	81	NA	62	NA	66	NA	22	NA	13	NA
Belgaum	30	NA	76	NA	64	NA	68	NA	21	NA	13	NA
Bellary	39	NA	70	NA	66	NA	70	NA	20	NA	12	NA
Shimoga	32	NA	76	NA	62	NA	66	NA	22	NA	11	NA
Maharashtra												
Mumbai	30	31	85	57	47	63	57	49	19	22	37	53
Parbhani	27	29	69	87	54	65	92	62	20	20	21	22
Pune	28	28	87	85	49	60	89	51	22	21	9	13
Yevatmal	29	30	81	83	61	67	90	63	21	22	26	21
Tamil Nadu												
Chennai	32	32	64	95	65	74	86	73	22	22	4	4
Madurai	28	32	81	90	50	66	98	65	21	22	6	6
Salem	32	28	78	89	62	52	85	50	23	21	8	3

NA-Not available

Figure 6.5: Type of FSW partners of clients

(Andhra Pradesh and Karnataka)

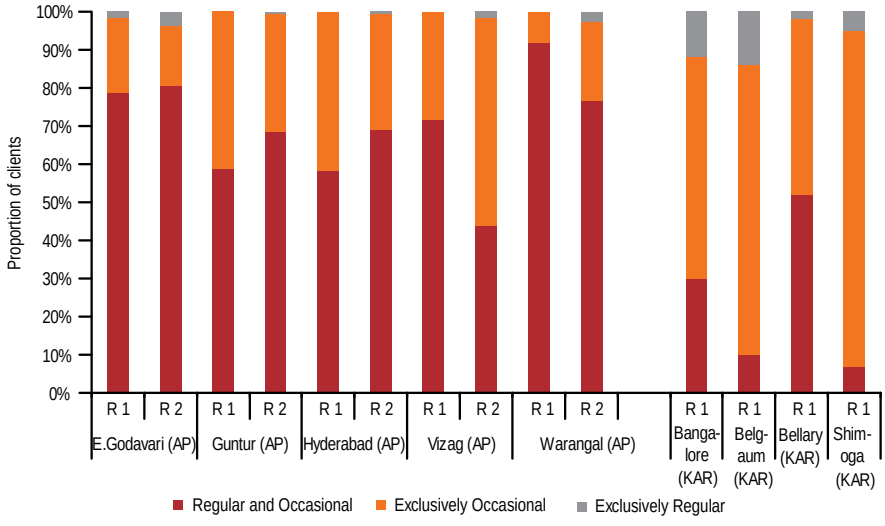
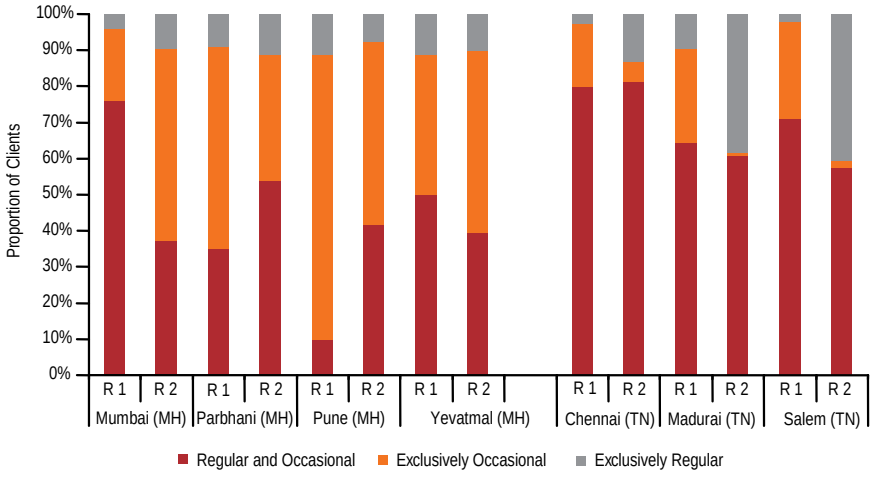


Figure 6.6: Type of FSW partners of clients (Maharashtra and Tamil Nadu)



6.6 Frequency of Buying Sex: The average number of commercial sex acts as reported by respondents in round two ranged from 2 to 7 during a month and 6 to 27 in six months, and wide variations were observed across the different states. Among the states, the lowest numbers of commercial sex acts in the defined time period were reported by clients from Maharashtra followed by Andhra Pradesh and Tamil Nadu. In districts of Andhra Pradesh, the reported sex acts in the past month ranged from 2-5 and it was 12-18 during the past six month period. Similarly for Tamil Nadu, the reported number of commercial sex acts in the said duration ranged from 4-7 (past month) and 20-26 (past six months). In Maharashtra, the average number of reported sex acts was 2-3 in a month and 7-11 in six months (Figures 6.7-6.8).

6.7 Type of Sex Workers Normally Frequented: The clients captured in the IBBA were those who normally picked up sex workers on the street or in brothels. The trend in both rounds was very similar with respect to the location where clients usually picked up sex workers. In Tamil Nadu, similar to round one, respondents were dominated by clients of street-based sex workers. The respondents in Parbhani and Yevatmal in Maharashtra were almost exclusively clients of brothel-based sex workers, while the districts of Andhra Pradesh and Karnataka (R1) had more of a mix of clients of brothel-, home-, and street-based sex workers (Figures 6.9-6.10). It is important to keep in mind that the distribution of clients in this study does not necessarily represent the mix of clients in the district. It was limited by the types of solicitation points in the sampling frame.

Figure 6.7: Number of commercial sex acts reported by clients in Andhra Pradesh (during the last month and last 6 months)

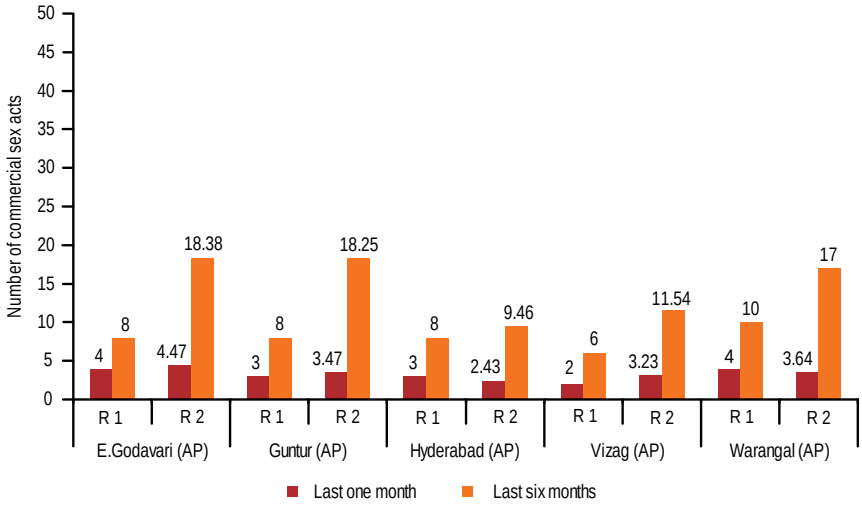


Figure 6.8: Number of commercial sex acts reported by clients in Maharashtra and Tamil Nadu (during the last month and last 6 months)

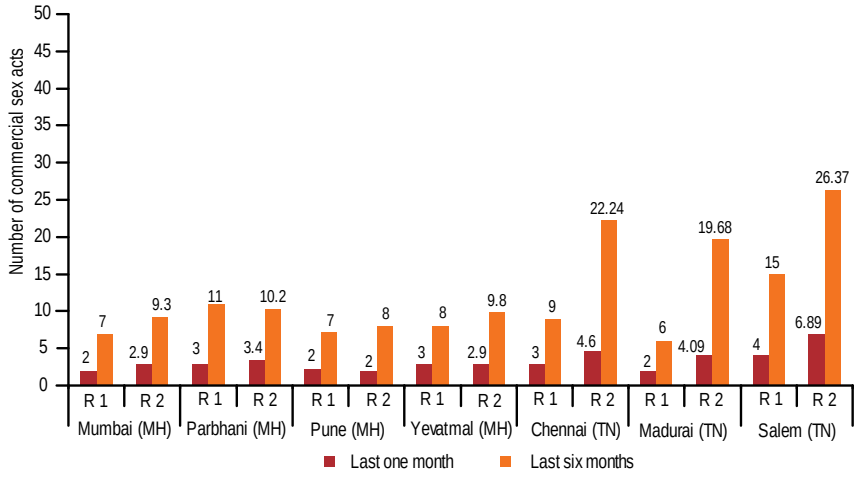


Figure 6.9: Location where clients usually pick up FSWs (Andhra Pradesh and Karnataka)

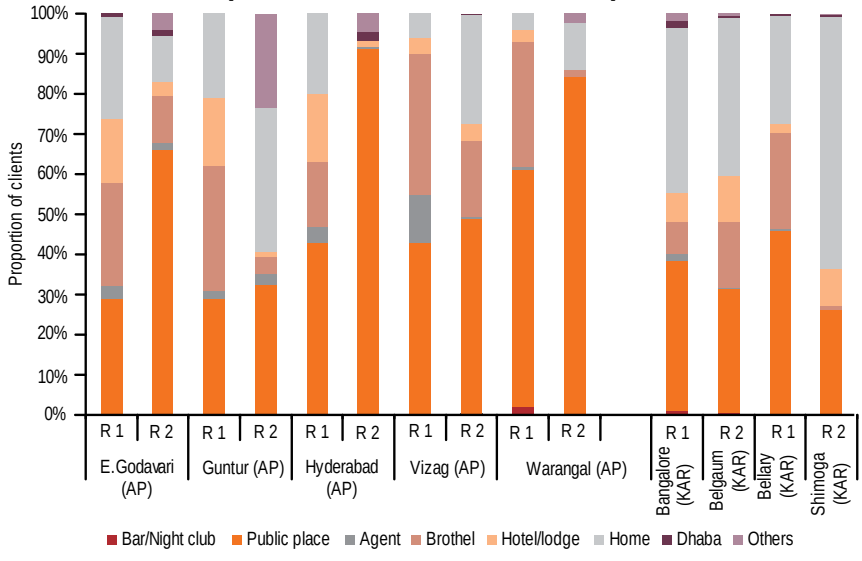
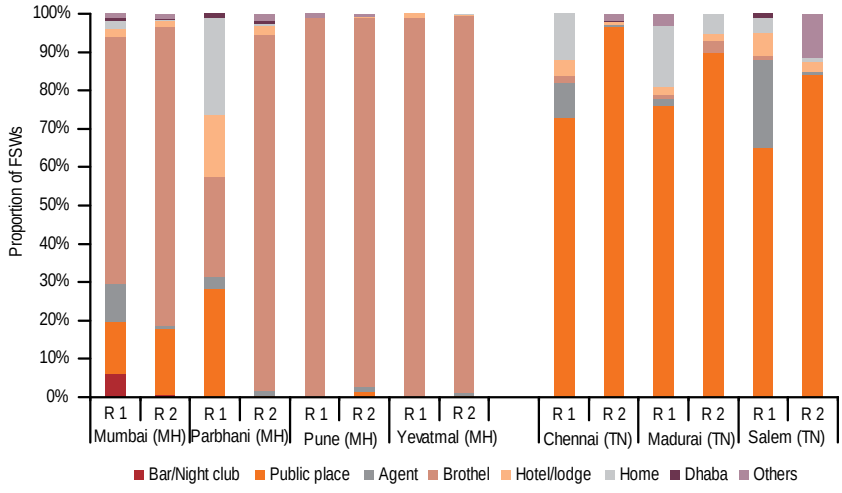


Figure 6.10: Location where clients usually pick up FSWs (Maharashtra and Tamil Nadu)



6.8 Clients as a Bridge Population

6.8.1 Bridging from commercial to non-commercial partners: The transmission of HIV from a high-risk population to a low-risk population depends on the behaviour of the individual, and most clients surveyed in both rounds of the IBBA were not limited to commercial partners but also had spouses and other regular and occasional partners. The proportion of respondents who reported having had a main/steady female partner in round two ranged from 47% to 72% in Andhra Pradesh; 64% to 73% in Maharashtra; and 66% to 76% in Tamil Nadu. Compared to round one (48% to 86%) in most districts the proportion of respondents who reported having had a main steady partner declined in round two (47% to 76%). Further, respondents also reported having sex with other non-paid partners than their spouse. The proportion of respondents in round two who reported having sex with other non-paid partners was highest in Salem (32%) and lowest in Madurai (0.4%), both in Tamil Nadu. While a higher proportion of respondents in round one reported having sex with other non-paid partners, a decline was observed in round two in Andhra Pradesh (R1-21% to 51%, R2-19% to 31%), Maharashtra (R1-14% to 36%, R2-9% to 17%), and Tamil Nadu (R1-14% to 37%, R2-0.4% to 32%). The proportion of clients from Karnataka who reported having main steady partners in R1 was almost 70%; whereas, those having other non-paid partners ranged from 8% to 25% (Figures 6.11-6.12; Summary Data Sheet C5, C6).

6.8.2 Bridging from males to males: While only a small proportion of clients in round one (1% to 16%) reported having male/hijra partners, the proportion in round two increased considerably (5% to 38%). In round two, the proportion of respondents who reported having male/hijra partners ranged from 1.6% to 21% in Andhra Pradesh; 6% to 21% in Maharashtra; and 26% to 38% for Tamil Nadu. In Karnataka with the exception of Bangalore (14%) in rest of the districts in R1 less than 5% of respondents reported having male/hijra partners (Figure 6.13; Summary Data Sheet C7).

6.9 Clients and Condom Use with Commercial Partners

6.9.1 Condom use with occasional commercial partners: Among the respondents who reported having occasional FSW partners, 70% to 80% respondents from Andhra Pradesh in round two reported using condoms every time during sex and this proportion had increased since round one (19% to 38%). The corresponding proportion in Maharashtra varied and ranged from 36% to 75% in round two as against 23% to 64% in round one. In Tamil Nadu, the proportion of respondents who reported using condoms every time during sex ranged from 26% to 65% in round two and was between 30% and 50% in round one. This proportion in Karnataka in round one ranged from 41% to 50% (Figures 6.14-6.15; Summary Data Sheet C5).

6.9.2 Condom use with regular commercial partners: The proportion of respondents who reported using a condom every time during sex with regular commercial partners in Andhra Pradesh ranged from 55% to 81% in round two as against 16% to 26% in round one. In Maharashtra, less than 60% of the respondents in almost all districts except Pune in rounds one and two reported using a condom every time during sex. Consistent condom use in districts of Tamil Nadu varied and this proportion ranged from 18% to 54% in round two as compared with 15% to 26% in round one. In Karnataka, every time condom use with regular FSWs was reported by 33% to 51% of respondents in round one (Figures 6.16-6.17; Summary Data Sheet C5).

Figure 6.11: Type of sexual partners of clients

(Andhra Pradesh and Karnataka)

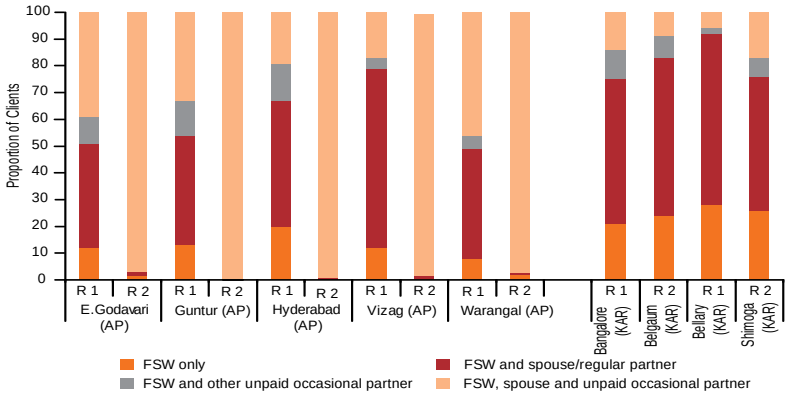


Figure 6.12: Type of sexual partners of clients

(Maharashtra and Tamil Nadu)

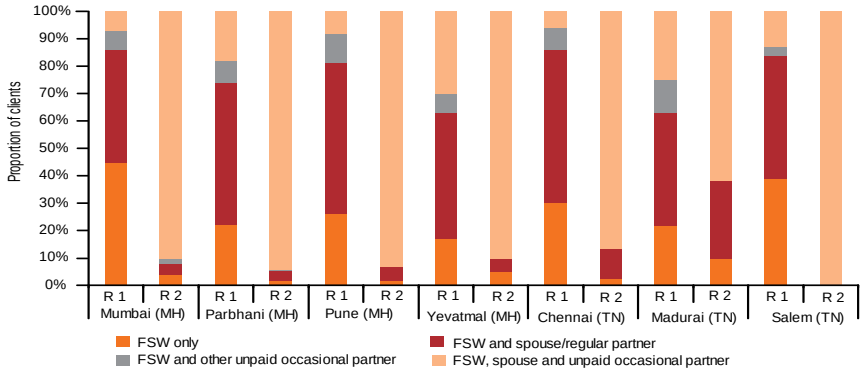


Figure 6.13: Clients reporting sex with male / hijra

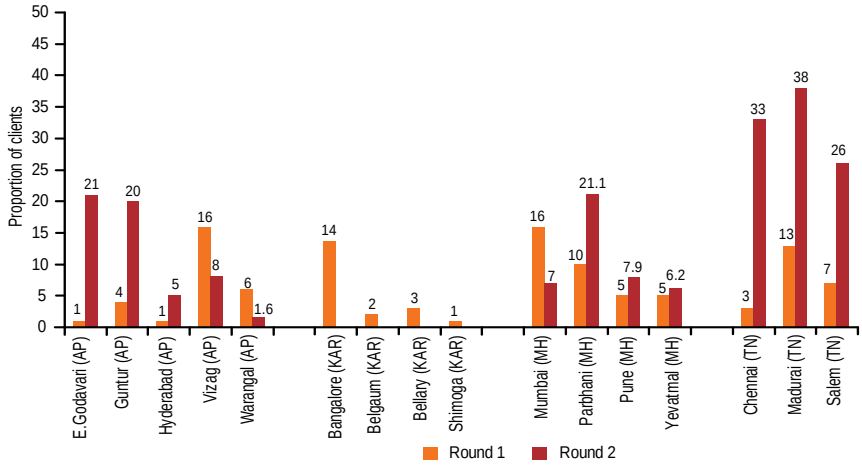


Figure 6.14: Condom use with occasional FSWs by clients

(Andhra Pradesh and Karnataka)

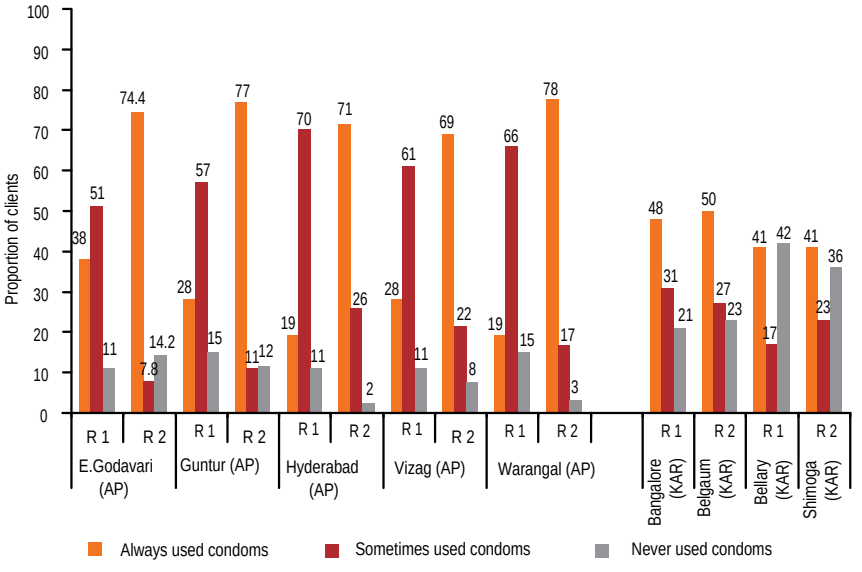


Figure 6.15: Condom use with occasional FSWs by clients

(Maharashtra and Tamil Nadu)

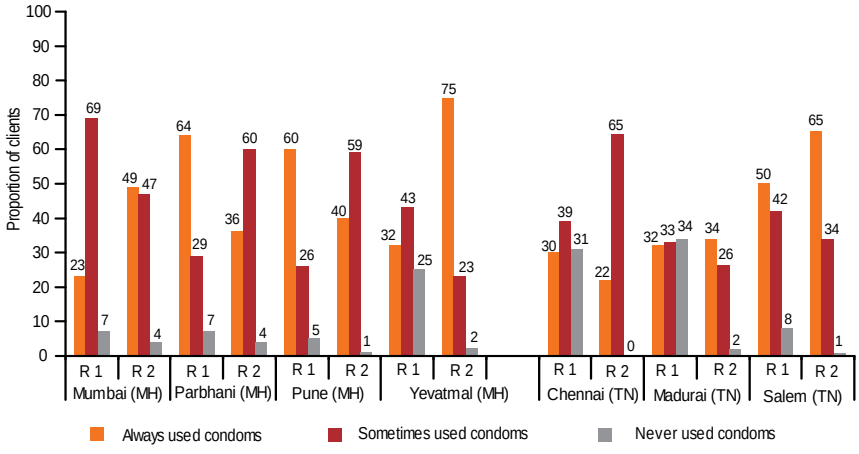


Figure 6.16: Condom use with regular FSWs by clients

(Andhra Pradesh and Karnataka)

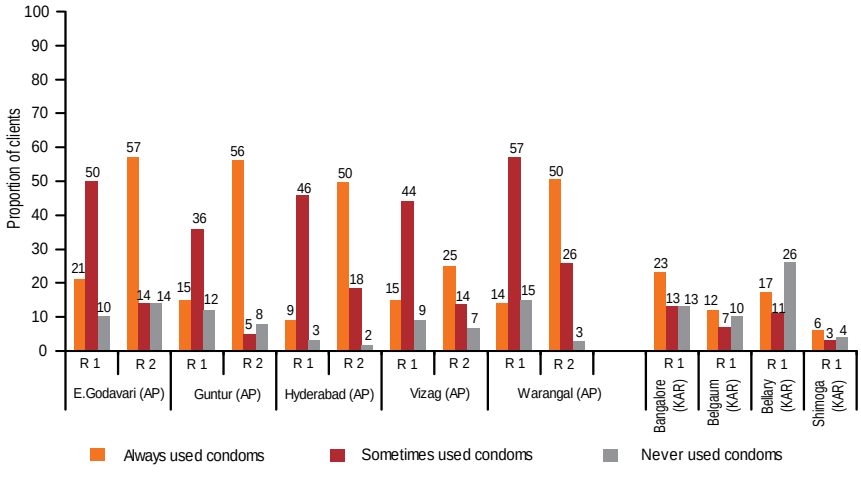
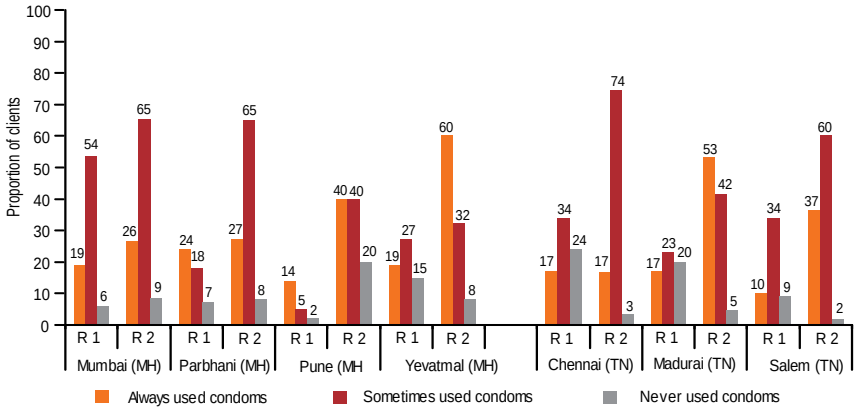


Figure 6.17: Condom use with regular FSWs by clients

(Maharashtra and Tamil Nadu)



6.9.3 Reasons for not using condoms: As in round one, respondents who didn't use condoms mentioned "non-availability of condoms", "do not like using condoms", "partner didn't want", and "thought of but did not remember using it" as the main reasons for not using condoms in the states of Andhra Pradesh, Karnataka, and Tamil Nadu. In addition to the reasons mentioned above, respondents from Maharashtra also reported "never having seen a condom" as a reason for not using a condom during sex (Figures 6.18-6.19).

6.10 Self-reported STIs and Treatment Seeking Behaviour: Less than one-third of the respondents in round one and almost one-fifth in round two from Andhra Pradesh reported suffering from STIs with any of these symptoms, such as any urethral discharge, ulcer, swelling, burning pain, or cannot retract foreskin. The corresponding proportion for Maharashtra and Tamil Nadu in round two ranged from 26% to 38% and 3.2% to 22.5%, respectively, as against 21% to 53% (Maharashtra) and 5% to 12% (Tamil Nadu) in round one. In Karnataka, the reported proportion was 16% to 33% in round one. Among those who reported suffering from STIs, a majority sought trained care for treatment of STIs. The proportion reported to have sought trained care ranged from 40% to 92% in Andhra Pradesh, 39% to 53% in Maharashtra, and 35% to 71% in Tamil Nadu. The corresponding proportion in round one for the different states ranged between 7% and 90% (Figures 6.20-6.22; Summary Data Sheet C3).

Figure 6.18: Reasons cited by clients for not using condoms with any FSWs (last time)

(Andhra Pradesh and Karnataka)

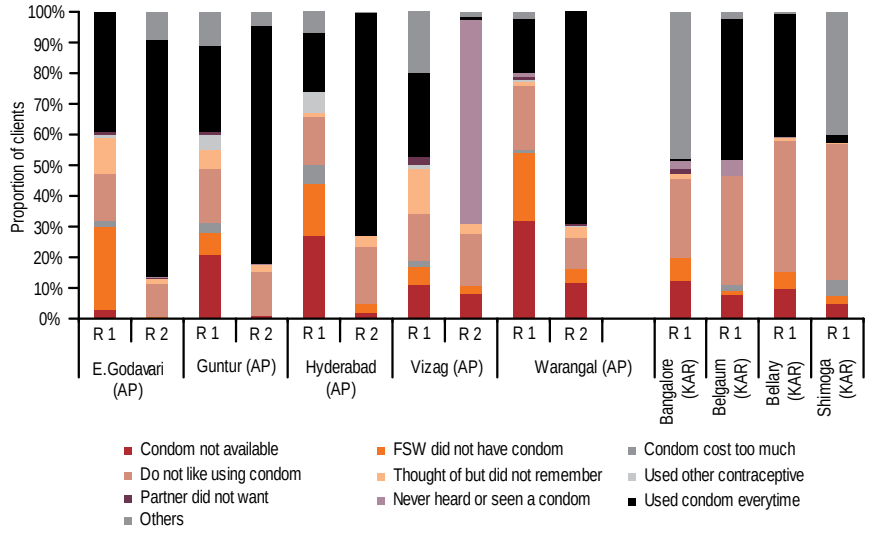


Figure 6.19: Reasons cited by clients for not using condoms with any FSWs (last time)

(Maharashtra and Tamil Nadu)

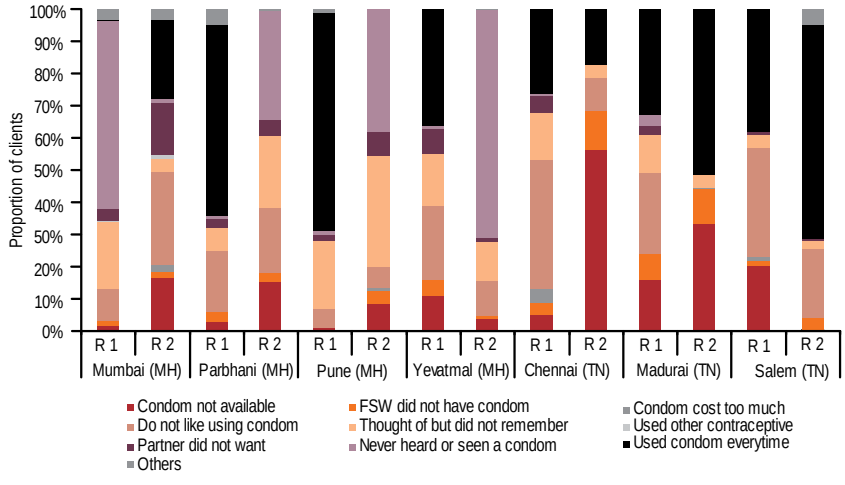


Figure 6.20: STI symptoms reported by clients (last year)

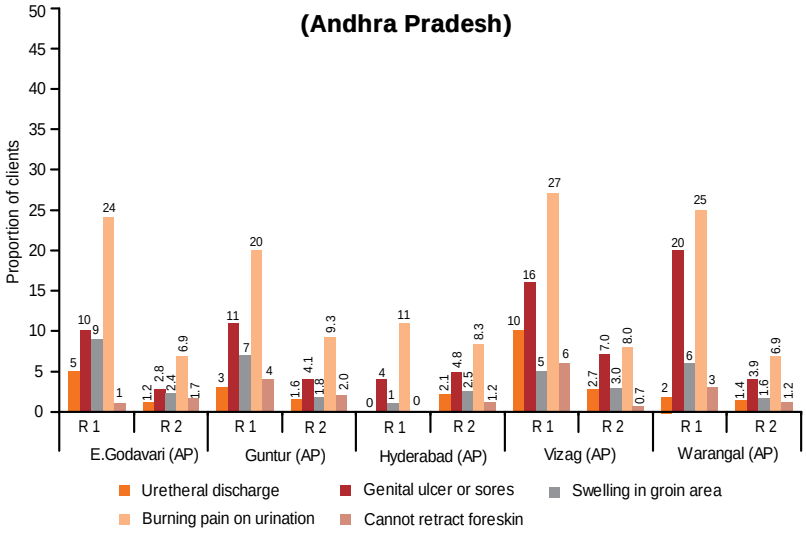


Figure 6.21: STI symptoms reported by clients (last year)

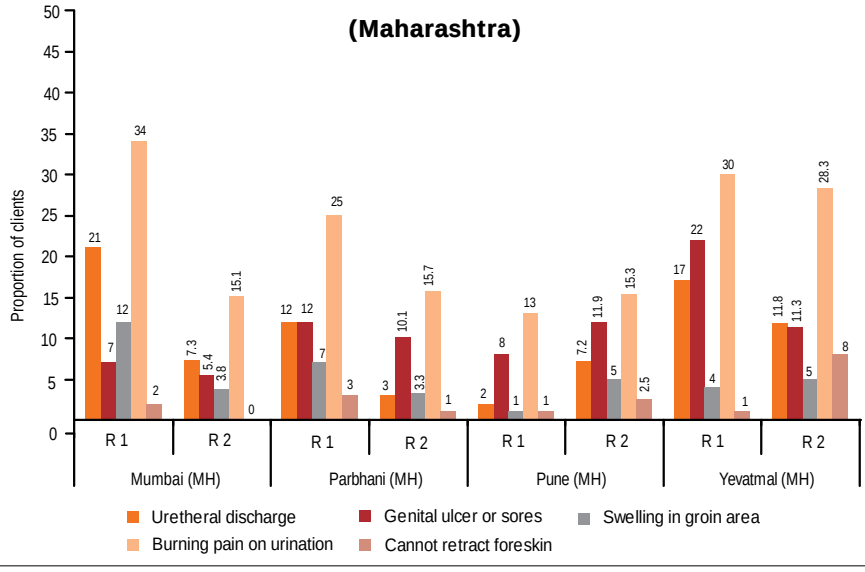
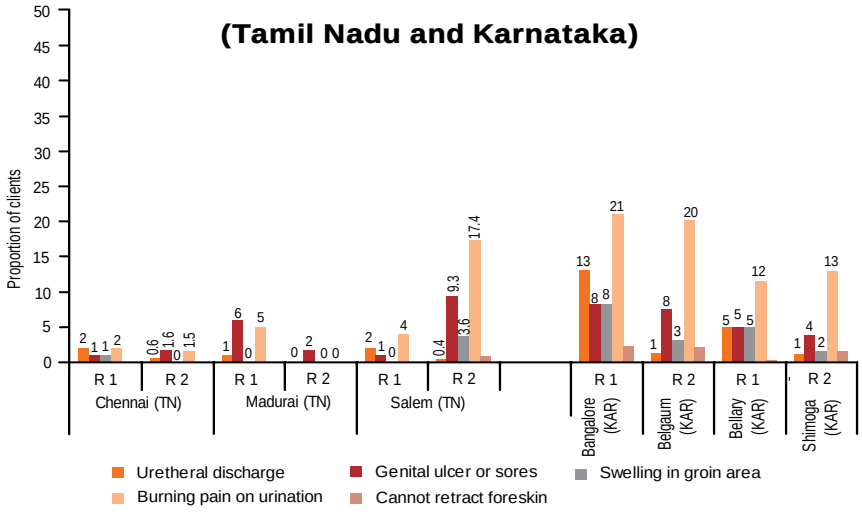


Figure 6.22: STI symptoms reported by clients (last year)



6.11 HIV/AIDS Awareness and Testing: This section details clients' information regarding knowledge, risk perception, and HIV testing status. Awareness about HIV/AIDS was found to be high in all districts surveyed ranging between 90% and 100% in both rounds. When compared to round one, the proportion of respondents who reported to have felt at risk of being infected with HIV in Andhra Pradesh (R1-22% to 60%, R2-1.8% to 13%) and Tamil Nadu (R1-7% to 46%, R2-6% to 15%) in round two was low. In contrast, the proportion of respondents in Maharashtra who felt at risk of contracting HIV increased marginally in round two (28% to 64%) when compared with round one (41% to 65%). This proportion in Karnataka in round one ranged from 7% to 13%. Among those who had heard of HIV/AIDS, in round two, 27% to 49% in Andhra Pradesh, 14% to 27% in Maharashtra, and 22% to 37% in Tamil Nadu reported to have undergone HIV testing. As compared to round one (8% to 32%), in all districts a considerable increase was observed in the proportion of respondents who reported to have undergone HIV testing in round two (14% to 49%). In Karnataka, between 13% and 17% of respondents in round one reported having undergone HIV testing. A majority of the respondents also reported collecting the test results, and a sharp increase was observed between the two rounds (Figures 6.23-6.24; Summary Data Sheet C4).

Figure 6.23: Clients reporting ever had undergone an HIV test and collecting the result

(Andhra Pradesh and Karnataka)

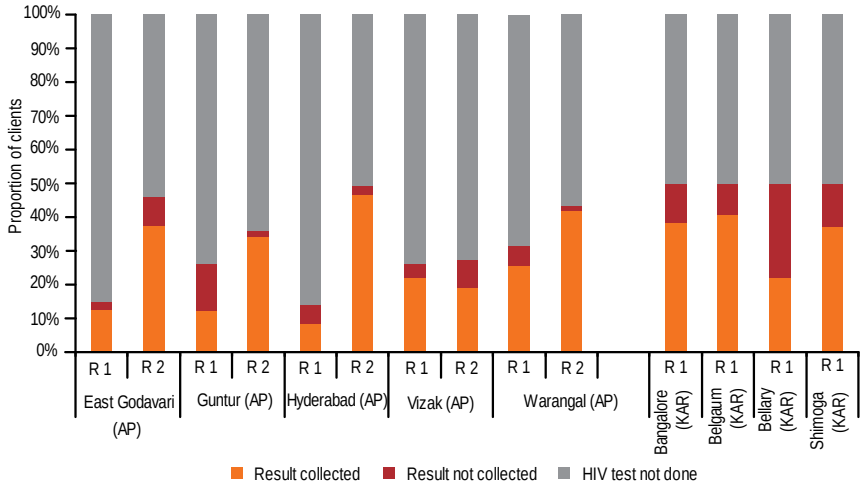
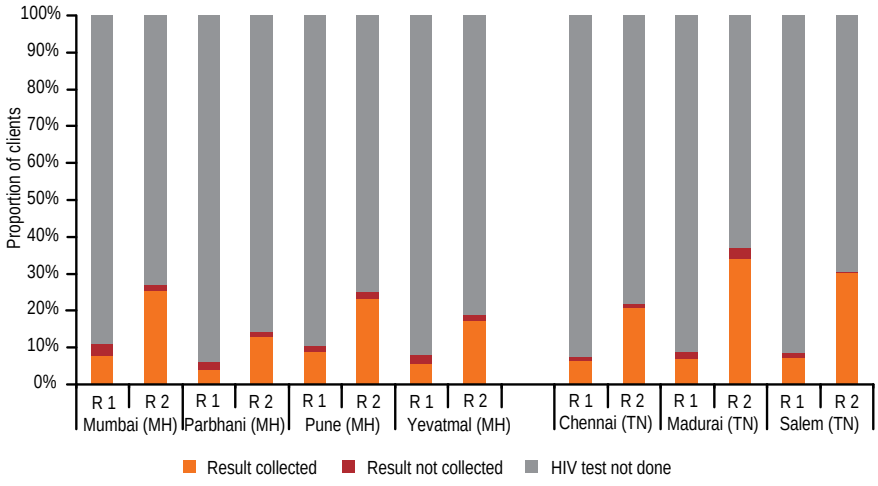


Figure 6.24: Clients reporting ever had undergone a HIV test and collecting the result

(Maharashtra and Tamil Nadu)



6.12 STIs/HIV Prevalence

6.12.1 Prevalence of STIs: Having "any STI" was defined as being positive in laboratory tests for any one or more of the following: reactive syphilis serology (RPR positive [any titre] and TPHA positive), positive *N. Gonorrhoeae*, or positive *C. trachomatis* NAT test. The STI prevalence among clients of sex workers was low in round one (3.5% to 10.6%) and had further declined for most districts in round two (1.1% to 5.1%) except in Chennai (R1-5.9%, R2-8.4%) and Mumbai (R1-8.8%, R2-12.2%) where a marginal increase was noted between the two rounds. In Karnataka, prevalence of any STI ranged between 4.2% and 7.2% in R1. Among the states, STI prevalence in round two varied from 0.1% to 3.1% in Andhra Pradesh; 4.1% to 12.2% in Maharashtra; and 0.4% to 8.4% in districts of Tamil Nadu (Figure 6.25). Prevalence of *N. Gonorrhoeae* or *C. trachomatis* in both rounds one and two was found to be less than 2% (except Mumbai-CT-R1-4.5%, R2- 6.8%). Among the three types of STIs, syphilis was the predominant one in all states (R1-3.1% to 10.1%, R2-0.3% to 8.4%) (Figure 6.25; Summary Data Sheet C8).

6.12.2 HSV-2 prevalence: For each district, HSV-2 antibody was determined on a random sample of 10% of stored serum specimens and un-weighted estimates have been presented. The comparison of estimates between the two rounds (R1-9.7% to 80.4%, R2-8.9% to 39%) shows that the prevalence of HSV-2 in round two decreased for most districts except Warangal where a considerable increase was observed. In round two, the prevalence of HSV-2 antibodies varied from 21.9% to 39% in Andhra Pradesh, 8.9% to 26.7% in Tamil Nadu, and between 12.5% and 29.3% in Maharashtra (Summary Data Sheet C8).

6.12.3 HIV prevalence: The trend of HIV prevalence among clients of sex workers varied widely in round two and ranged from 0.7% in Salem to 11.7% in Yevatmal. In districts of Andhra Pradesh, when compared to round one, HIV prevalence increased in East Godavari (R1-8.3%, R2-9.6%), Guntur (R1-6.6%, R2-7.1%), and Hyderabad (R1-2.4%, R2-3.7%); whereas, it decreased in Vishakhapatnam (R1-8%, R2-5.1%) and Warangal (R1-6.7%, R2-2.8%). HIV prevalence in Andhra Pradesh ranged from 2.8% to 7.1% in round two as against 2.4% to 8.3% in round one. The corresponding proportion in Maharashtra ranged from 2.1% to 11.7% in round two when compared with 6% to 10.9% in round one. The highest HIV prevalence in Maharashtra was reported in Yevatmal (R1-10.9%, R2-11.7%) and the lowest in Parbhani (R1-6.4%, R2-2.1%). In Tamil Nadu, when compared to round one (2% to 4.2%), HIV prevalence in round two ranged from 0.7% to 10.2%. A considerable increase in HIV prevalence was seen in Chennai (R1-2%, R2-8.5%) and Madurai (R1-2.5%, R2-10.2%). In Karnataka, HIV prevalence in round one ranged from 2.4% to 6.2%. Similar to round one, a higher prevalence of HIV among those with "any STIs", was observed in many of the surveyed districts across states, and was indicative of a positive relationship between HIV and having an STI (Figure 6.26; Summary Data Sheet C8).

Figure 6.25: STI prevalence among clients
(one or more of Syphilis, *gonorrhoeae* or *clamydia*)

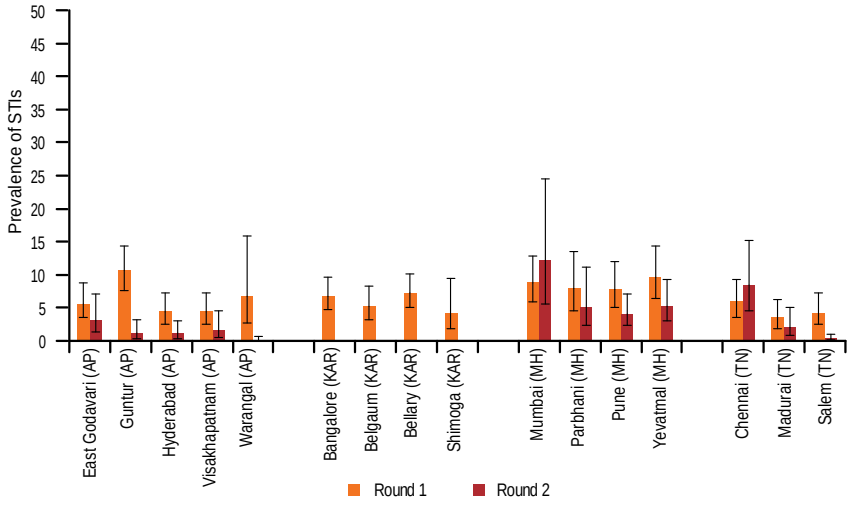
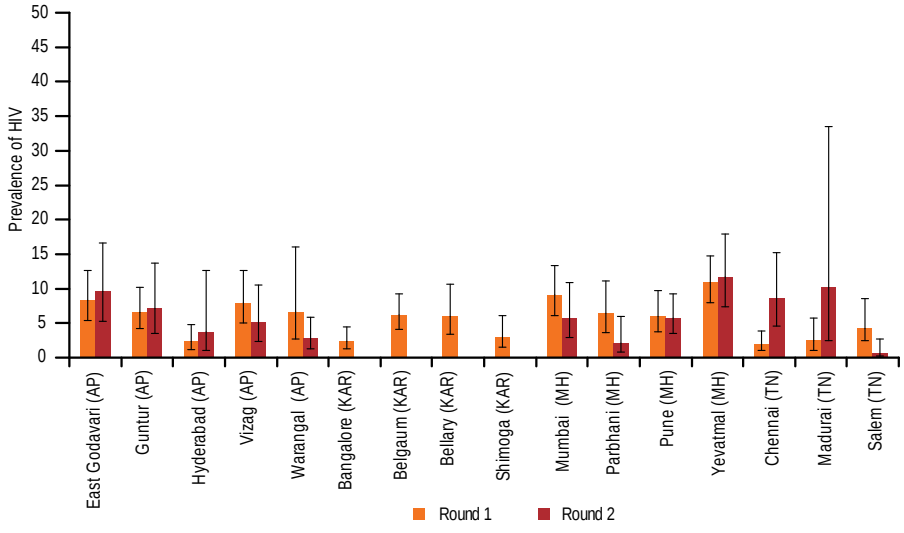


Figure 6.26: HIV prevalence in clients



CHAPTER 7

Long Distance Truck Drivers

7.1 Introduction: In addition to clients of sex workers, long distance truck drivers (LDTDs) are also considered as part of the bridge population who play a major role in the spread of the HIV infection into the general population because of their high mobility, longer duration of stay away from home, and multitude of sexual partners. As in round one, the survey for round two was also conducted among LDTDs who take shipping consignments from one place to destinations located along the national highways traversing more than 800 kms one way before returning to the place of origin on four route categories: North-East (NE), North-South (NS), North-West (NW), and South-East (SE). The IBBA round one survey was undertaken in 2007 (June to September), and the survey for round two took place between September 2009 and January 2010.

7.2 Mapping: A comprehensive Pre-Survey Assessment (PSA) was undertaken in a phased manner in round one to identify and select the transport locations and to understand the local transport dynamics from the point of view of availability of drivers and business cycles of the transport offices that dispatch trucks of a particular route category.

The first phase involved gathering information about the transport locations, from secondary sources such as directories of transporters, unions, and reports of non-government organizations working in the area. In the second phase of PSA-2, macro-level site information was collected by visiting the sites and interacting with local stakeholders, gatekeepers, and community members. In this phase detailed information about the transshipment location (TSL) and satellite sites was also gathered and the whole TSL was mapped to give an overview of the location. The last phase was mainly undertaken to prepare a sampling frame of those transport establishments (TE) that transship goods to and from the TSL to destinations more than 800 kms away on selected route categories.

In round two a similar process was followed as in round one (except phase one), and the same TSLs were selected with the exception of Kandla as very few interviews were completed at this TSL during round one and hence it was dropped in round two.

7.3 Participation Rates: A total of 2,066 LDTDs in round one and 2,085 in round two were interviewed, and the overall participation rate in round two was 76% as against 96% in round one across the different routes surveyed. In IBBA round two, 2,730 LDTDs were approached, out of whom 2,085 consented to participate in the survey and completed the behavioral interview and gave both biological (blood and urine) samples. The participation rate in round two across the different routes ranged from 65% to 94% as against 95% to 100% in round one (Table 7.1).

7.4 Extent of Avahan Coverage: The Avahan programme works with the transport owners and brokers to create a more supportive environment for encouraging safe behaviours among the trucking population. The Transport Corporation of India Foundation (TCIF), a social sector wing of a major cargo transport company, Transport Corporation of India is the lead partner (LP) that manages the project and offers support for advocacy, capacity building, community mobilization, and inter-personal communication.

The Avahan programme has a mandate to reach out to long-distance truck drivers plying along the national highways. This intervention which was initiated in 2004 is referred to as the "*Kavach*" (a Hindi word meaning protection or shield) programme, which is a comprehensive integrated approach for reducing HIV/STI transmission among long-distance truckers along the national highways by: providing diagnosis and treatment of STIs through project clinics; adopting behaviour change communication strategies to encourage the trucking population to adopt safer sexual behaviours and practices; and promoting condom use among the target population.

The high mobility of long distance truckers was the reason for establishing Khushi clinics (a word meaning happiness) overseen by Project Kavach at 36 truck halt points. This intervention was redesigned in 2006 and

is currently operational at 15 major truck halt points in nine Indian states. These sites were selected with the aim of reaching long distance truckers and crew members nationwide through clinics, peer education, and condom distribution. In order to follow up with a trucker who has been served by a Khushi clinic, the project provided a "Khushi passport" – a diary recording their medical history, diagnosis, and medication, which the trucker could produce at any project clinic to avail services.

7.4.1 HIV prevention services received from Khushi clinic: Services received from Khushi clinics were assessed based on the following indicators: contacted by peer/outreach worker (ORW) [in the last month, last year]; visits to Khushi clinic [in the last year]; and received condom from peer/ ORW [in the last year]. A higher proportion of respondents in R2 than R1 reported receiving HIV prevention services from the Khushi clinics. More than half of the respondents in both IBBA rounds from NE (R1-55%, R2-50%) and NS (R1-58%, R2-56%) had heard of Khushi clinics. However, variation in the proportion of truckers having heard of Khushi clinics was seen along NW (R1-36%, R2- 62%) and SE (R1-38%, R2-21%) routes. More respondents from NS (R1-15%, R2-35%) and NW (R1-8%, R2-32%) reported having been contacted by peer educators from Khushi clinics in the last one year than respondents plying on SE (R1-2%, R2-10%) or NE (R1-5%, R2-25%). Between 3% and 10% respondents in R1 and 2% and 19% in R2 reported having received condoms from peer educators. As compared to R1, an increase in proportion of respondents having visited Khushi clinics was also observed in R2 across all four routes (R1-3% to 20%, R2- 4% to 31%) (Table 7.2; Summary Data Sheet T2).

7.5 Demographic Profile: The key demographic information considered for this report included age, literacy, and marital status of the respondent. The mean age of the truck drivers was broadly similar across the four routes surveyed (32 to 35 years) and a marginal increase in mean age was seen in round two compared to round one. The proportion of truck drivers who could read and write was high in both rounds (above 80%). Similar to round one, three-fourths of the respondents in round two also were currently married. The proportion of currently married LDTDs ranged from 71% to 84% for the different route categories, and there was not much difference in the trends between the two rounds (R1-73% to 83%) (Table 7.3; Summary Data Sheet T1).

Table 7.1: Participation rates by routes for truck drivers

Route and TSL	Round 1		Round 2	
	Completed questionnaire & biological specimen collection	Participation rate (%)	Completed questionnaire & biological specimen collection	Participation rate (%)
North-East				
Ghaziabad Transport nagar, UP	415	97	278	75
Sanjay Gandhi Transport nagar, Delhi	083	99	246	77
North-South				
Nelemangala, Bangalore	273	95	374	69
Ghaziabad Transport nagar, UP	146	99	55	92
Sanjay Gandhi Transport nagar, Delhi	120	98	109	94
North-West				
Narol Chowkadi, Ahmedabad	105	99	52	79
Ghaziabad Transport nagar, UP	143	100	21	70
Sanjay Gandhi Transport nagar, Delhi	126	95	63	89
Gandhidham Transport nagar, Kandla	046	100	NA	NA
Kalamboli Transport nagar, Mumbai	094	95	390	86
South-East				
Territybazar, Kolkata	504	98	442	72
Nelemangala, Bangalore	009	100	55	65

NA-Not available

Table 7.2: HIV prevention services received from Khushi clinic by route

Route	Heard of Khushi clinic (%)		Contacted by peer/ORW (%)				Received condom from peer/ORW (last year) (%)		Visited Khushi clinic (last year) (%)	
			Last year		Last month					
	R 1	R 2	R 1	R 2	R 1	R 2	R1	R 2	R 1	R 2
National Highways										
North-East	55	50	5	25	2	6	6	12	14	21
North-South	58	56	15	35	6	5	10	7	20	21
North-West	36	62	8	32	2	12	4	19	11	31
South-East	38	21	2	10	1	2	3	2	3	4

Table 7.3: Demographic profile of participating truck drivers by route

Route	Mean age (years)		Can read and write (%)		Currently married (%)		Mean duration of working as driver (months)	
	R 1	R 2	R 1	R 2	R 1	R 2	R 1	R 2
National Highways								
North-East	32	33	83	87	75	74	117	116
North-South	31	32	90	96	75	71	111	119
North-West	30	32	88	87	73	74	96	102
South-East	34	35	83	95	82	84	129	134

7.6 Nativity: In the IBBA information was collected about the native place and current residence of the respondents in terms of district and state details. Native place was referred to in this study as the place in which the respondent was born or was connected to, though he may not be living in that place continuously. Similar to round one, in the NE, LDTDs in round two were predominately from the states of Uttar Pradesh (63.6%) followed by Bihar/Jharkhand (12.9%). The proportion of truck drivers belonging to Uttar Pradesh has increased and a considerable decrease was seen in respondents belonging to Bihar in round two. The nativity of LDTDs travelling in the NS route was more varied, and the scenario seems to have changed in round two with an increase in the proportion of truck drivers from the states of Uttar Pradesh (26.8%), Gujarat/Maharashtra (12.1%), and Rajasthan (10.5%) as against a higher proportion from Uttar Pradesh, Haryana, Rajasthan, and Punjab in round one. A similar nativity pattern was observed in the NW where respondents were predominantly natives of Uttar Pradesh (47.7%), Bihar (12.7%), and Rajasthan (12.5%). However, LDTDs from the SE route were largely natives of Andhra Pradesh (66.5%) and Tamil Nadu (15.1%) as was also seen in round one with a small proportion also belonging to Rajasthan (6.2%) (Table 7.4).

7.7 Work Profile and Mobility: The duration of working as a truck driver varied between the four routes. Similar to observations from round one, the mean duration estimated for round two also showed that most of the respondents had been working as drivers for the last 8 to 10 years except in SE where it was around 11 years. Respondents in the SE route had longer work experience than truck drivers from the other three routes. A majority of respondents in NE, NS, and NW routes have been driving for 4 to 8 years; whereas, it is more than 12 years for the SE route. The proportion of LDTDs in different time periods has not changed much in between the two rounds for each of the routes (Figure 7.1; Summary Data Sheet T1).

LDTDs spent between 10 and 13 days or less in one round trip (which included driving to the destination, stay at the TSL for unloading and reloading the next consignment, and driving back to the place of origin), and a very similar trend was observed in both rounds with regard to the

amount of time spent. Among the four routes, in the NE and NS a majority of the LDTDs spent between 10 and 12 days or more in one round trip; whereas, LDTDs from SE and NW took less than 10 days or between 10 and 12 days as depicted in Figure 7.2.

Information was also collected on hours spent at destination city or transshipment location before embarking on return journey to the origin city. As compared to round one, most of the respondents in round two reported spending one to two days waiting at destination/TSL for the next consignment as against two to three days in round one. A wide variation was also observed in time spent at the transshipment location between the two rounds as depicted in the graph. The waiting period at TSL generally depends upon peak and lean business cycles. The proportion of truck drivers reporting a waiting period of four and more days increased for SE in round two, which had the lowest reported waiting time in round one (Figure 7.3).

7.8 Sexual Behaviour with Female, Male, and Hijra Partners: The mean age at first paid sex was 21 years for NE, NS, and SE and 22 years for NW in round one, which increased to 22 years (NW and SE) and 23 years (NE and NS) in round two (Summary Data Sheet T1). The respondents were asked about four different types of sex partners – wife, paid female sex partner, non-paid female sex partner, and male or hijra sex partner. The paid female partner was defined as women whom the respondent had paid cash in exchange for having sex in past 12 months. A non-paid female partner was defined as women with whom respondent had sex but was not married to and did not pay cash in exchange for sex in past 12 months. Condom use with these sex partners was assessed. Last time condom use was the reported use of a condom with any type of partner during the last sex act. Consistent condom use was defined as use of a condom at each sex act (every time) with any type of partner.

7.8.1 Wife: When compared with round one, the proportion of LDTDs who reported to have had sex with their wife in the last one month increased in the NE (R1-85%, R2-92%) but decreased in the SE (R1-98%, R2-89%) route category. In the NS and NW not much variation was observed between the two rounds. The condom use in last sex act with wife was low in both rounds and ranged between 2% and 22% in round two across all routes as against 6% and 19% in round one. Consistent condom use with wife was also very low and further decreased in round two when compared with round one (R1-0.5% to 5%, R2-0% to 3%) (Figures 7.4-7.5; Summary Data Sheet T5).

Table 7.4: Native states of truck drivers according to route category

Native State	North-East		North-South		North-West		South-East	
	R 1	R 2	R 1	R 2	R 1	R 2	R 1	R 2
J & K/HP/Uttranchal	4.2	5.8	7.4	6.2	7.4	4.4	0.0	0.0
Punjab	5.6	4.5	10.9	6.7	10.7	1.9	0.0	0.0
Haryana	4.8	6.8	20.9	8.2	22.3	6.1	0.0	0.0
Rajasthan	0.0	1.9	15.7	10.5	24.5	12.5	0.0	0.2
Delhi	0.6	1.6	0.0	5.2	1.2	1.4	0.0	0.0
Uttar Pradesh	47.4	63.6	22.8	26.8	21.4	47.7	0.8	6.2
Bihar/Jharkhand	23.9	12.9	5.7	3.1	4.9	12.7	3.7	3.2
Madhya Pradesh/Chhattisgarh	3.2	1.2	9.1	8.8	2.1	0.3	0.0	0.3
West Bengal/Assam/Tripura	4.2	0.6	0.6	0.1	0.8	0.3	0.4	5.2
Gujarat/Maharashtra	0.0	0.0	2.6	12.1	0.0	8.2	0.2	0.0
Andhra Pradesh/Karnataka	0.0	0.0	0.9	7.7	0.0	3.6	67.8	66.5
Tamil Nadu	0.0	0.0	2.4	0.6	0.0	0.3	25.3	15.1
Others	0.6	1.2	0.0	4.0	0.6	0.5	0.0	3.4

Figure 7.1 Duration of working as a Truck Driver

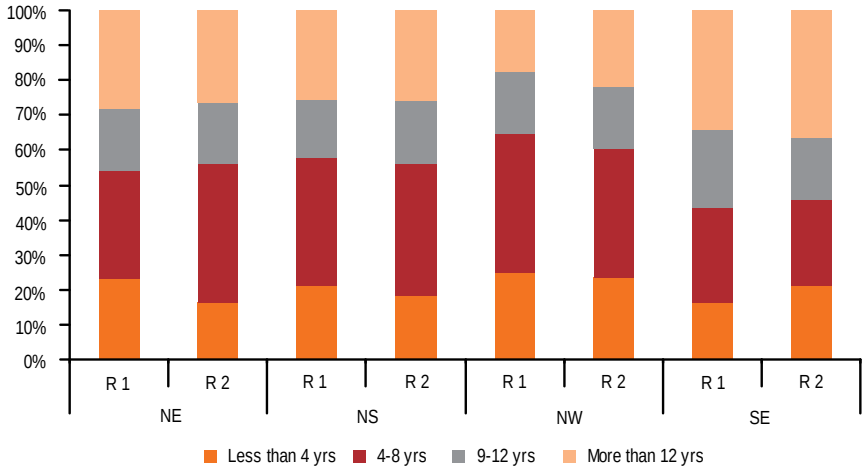


Figure 7.2 Number of days taken for a round trip

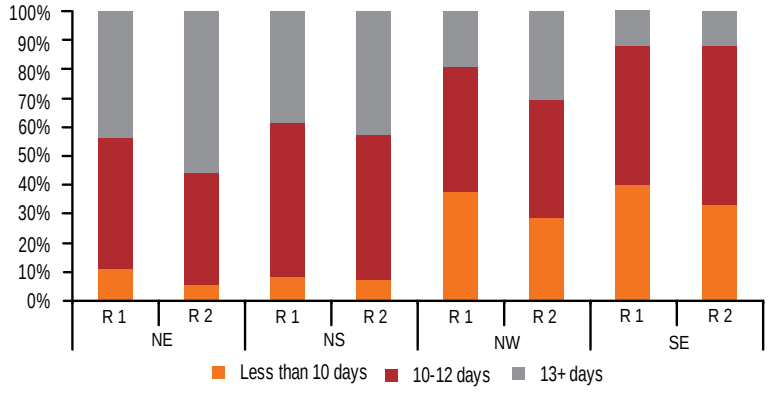
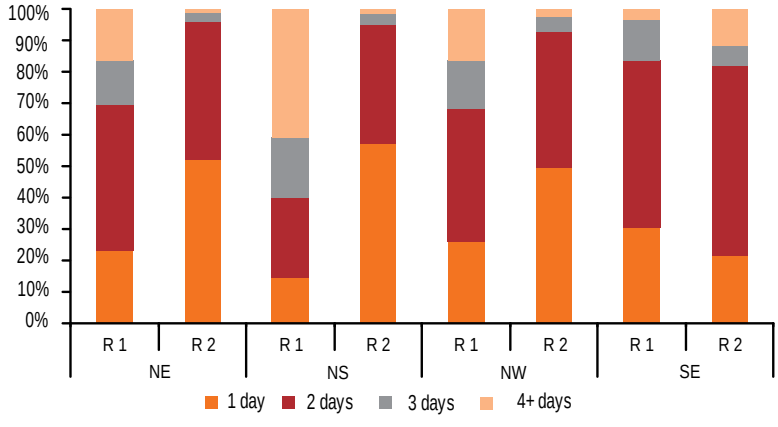


Figure 7.3: Time spent at destination



7.8.2 Paid female partners: The mean number of paid female partners reported by LDTDs in round two reduced for all route categories except NE (R1-5, R2-7) where a substantial increase was observed. However, not much variation was observed in the proportion of respondents who reported having had sex with a paid female partner in the last 12 months across the different route categories since round one (R1-25% to 30%, R2-26% to 29%) with the exception of the SE route where a marked decrease was seen. In the SE in round one, 44% of LDTDs reported having had sex with paid female partners as against 14% in round two. Last time condom use with paid female partner was high in both rounds and improved further in round two ranging from 75% to 96% as against 73% to 92% in round one. Consistent condom use also increased between the two rounds (R1-64% to 74%, R2-66% to 95%) for all route categories except the NE (Figures 7.4-7.5; Summary Data Sheet T6).

7.8.3 Non-paid female partners: LDTDs reported having one or two non-paid female partners across the different route categories and not much variation was observed since round one. The proportion of respondents who reported having non-paid female partners in the last one year ranged from 15% to 34% in round two as compared to 18% to 22% in round one. An increasing trend was observed in condom use during last sex act with a non-paid female partner, and this proportion ranged from 33% to 63% in round two but was between 22% and 36% in round one. A similar trend followed across the different route categories for consistent condom use, and this proportion ranged from 32% to 50% in round two as against 14% to 21% in round one (Figures 7.4-7.5; Summary Data Sheet T7).

7.8.4 Male/hijra partners: While the mean number of hijra partners of LDTDs in round two increased (except NW), the number of male partners decreased when compared with round one among those who reported having a male/hijra partner. In round two, the reported mean number of male partners was just 1; whereas, the number of hijra partners varied between 2 and 3 across the different routes, and the highest was reported in the NE (2.6%). Across the different routes between the two rounds (R1-1% to 5%, R2-0.6% to 5%) a very small proportion of the respondents reported to have had anal sex with male/hijra partners. Consistent condom use during anal sex with male/hijra partners varied from 14% to 74% in round one in the different route categories as against 17% to 41% in round two (Figures 7.4-7.5; Summary Data Sheet T8).

7.9 STI Knowledge: Among the different routes covered, the highest proportion of respondents had heard of STIs in the NW (72%) followed by the NE, NS, and SE at 68%, 53%, and 52%, respectively. When compared with round one (R1-70% to 94%), a considerable decrease in the level of awareness about STIs was observed (R2-52% to 72%). STI knowledge was assessed based on the ability of the truck drivers to correctly identify at least three of the five most common symptoms: urethral discharge, genital ulcers or sores, swelling in groin (scrotal) area, burning pain on urination, cannot retract foreskin. The proportion of LDTDs who could correctly identify three of the most common symptoms of STIs ranged from 6% to 16% in round two as against 5% to 58% in round one. A marked change in the knowledge levels of respondents was observed in the SE route where 58% of LDTDs reported having knowledge about STI symptoms in round one as against 16% in round two (Summary Data Sheet T3).

7.10 HIV Awareness, Knowledge and Risk Perception: Almost all the LDTDs had heard about HIV/AIDS in round one as against 77% to 94% in round two indicating a marginal decline in the level of awareness about HIV/AIDS. Further, a very low proportion of LDTD in both rounds reported feeling at risk of being infected with HIV (R1- 5% to 17%, R2-5% to 12%). Data from both rounds showed that a few of the LDTDs have undergone HIV test anytime in the past. Similar to round one, higher proportion of respondents in round two from SE route had undertaken HIV test (R1-34%, R2-35%) than those plying on other routes (NE-R1-9%, R2-16%; NW-R1-12%, R2-15%; and least by NS-R1-15%, R2-6%) (Summary Data Sheet T4).

7.11 Self-reported STIs

7.11.1 Proportion reporting STI symptoms: The proportion of LDTDs from the different route categories reporting suffering from STIs and having symptoms such as urethral discharge, ulcer, swelling, burning pain, or cannot retract foreskin in the past one year ranged from 3% to 20% in round two as against 5% to 15% in round one (Figure 7.6; Summary Data Sheet T3).

7.11.2 Treatment seeking for most recent STI: Treatment seeking behaviour seems to have changed between the two rounds, and above 40% of the LDTDs on all routes opted for trained care (Avahan, other NGO, government, or private doctors/clinics) for the treatment of STIs. However, only 3% to 11% of respondents reported adopting

Figure 7.4: Last time condom use with wife, paid female partner, non-paid female partner, and male/hijra partner

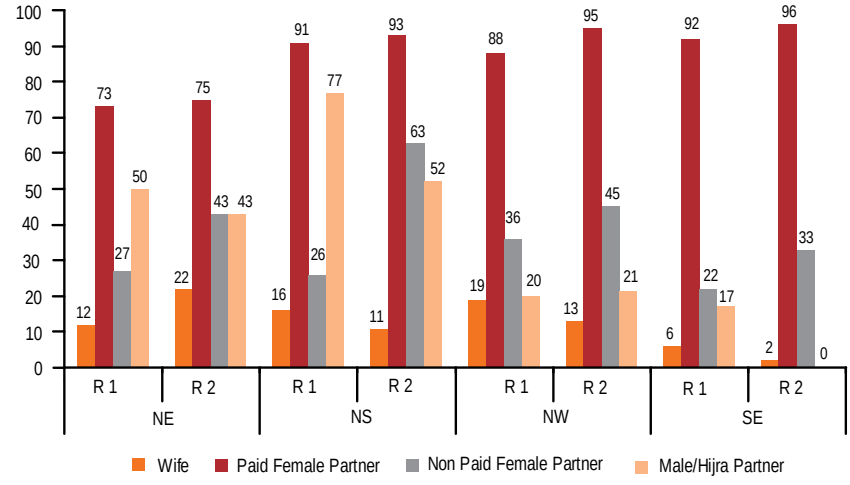


Figure 7.5: Consistent condom use with wife, paid female partner, non-paid female partner, and male/hijra partner

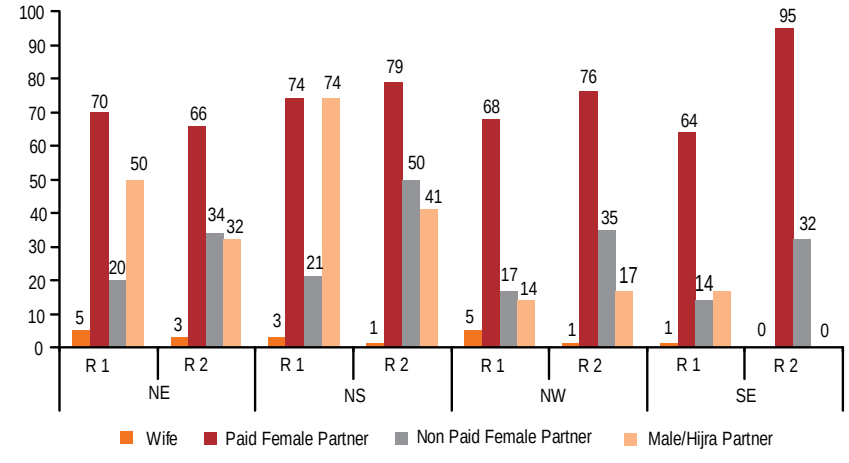


Figure 7.6 History of STI Symptoms reported by Truck Drivers (last year)

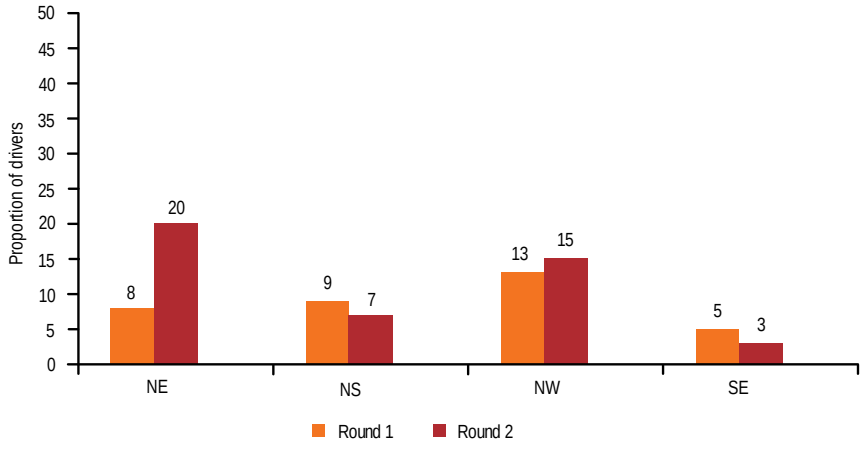


Figure 7.7 STI Prevalence in Truck Drivers
(one or more of Syphilis, N. Gonorrhoea, or C. Trachomatis)

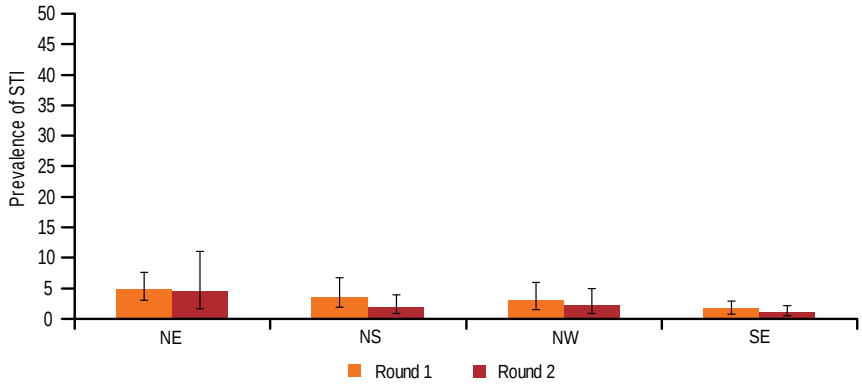
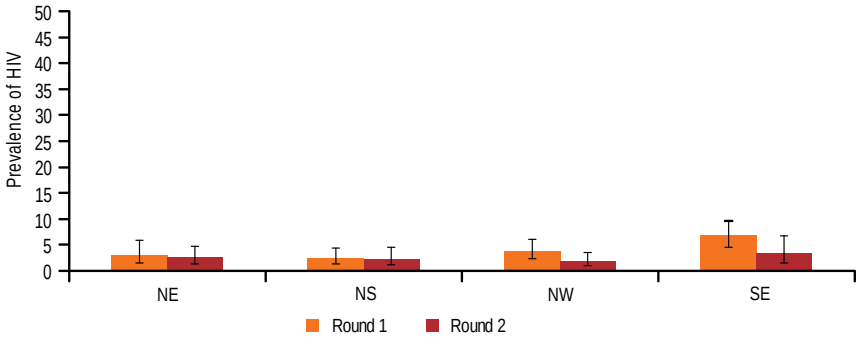


Figure 7.8 HIV Prevalence in Truck Drivers



additional preventive measures for the prevention of STIs (Summary Data Sheet T3).

7.12 STIs/HIV Prevalence

7.12.1 Prevalence of STI: Having "any STI" was defined as testing positive for any one or more of the following: reactive syphilis serology (rapid plasma reagin [RPR] positive [any titre] and *treponema pallidum hemaggutination assay* [TPHA] positive), positive *N. gonorrhoeae* or *C. trachomatis* NAT test. The prevalence of any STI among LDTDs in round one ranged from 1.6% to 4.8% and 1% to 4.4% in round two. A very small proportion of LDTDs had STIs, and the individual prevalence of NG (R1-0.0% to 0.4%, R2-0.0% to 0.3%), CT (R1-0.0% to 0.9%, R2-0.6% to 0.9%), and syphilis (R1-1.2% to 3.7%, R2-0.2% to 3.7%) varied across the different route categories and also not much variation was observed in the prevalence of NG and CT between the two rounds (Figure 7.7; Summary Data Sheet T9).

7.12.2 HSV-2 antibody prevalence: For each route, an HSV-2 antibody test was performed on a random sample of 10% of stored serum specimens. Unweighted HSV-2 estimates for both rounds one and two are presented in the report. The prevalence of HSV-2 ranged from 18.8% to 44.4% in round two as against 12.9% to 38.7% in round one. Similar to round one, the HSV-2 sero-prevalence in the SE was highest (R1-38.7%, R2-44.4%) among all four routes (Summary Data Sheet T9).

7.12.3 HIV prevalence: Among LDTDs, HIV prevalence in round two ranged from 1.9% to 3.3% as against 2.4% to 6.8% in round one. A decreasing trend in HIV prevalence can be noted across all four routes, and the prevalence in the SE route in round two reduced to half when compared with round one (Figure 7.8; Summary Data Sheet T9).

Summary Data Sheets

Table F1: Demographic profile of FSWs

State & District	No. of respondents		Mean age (years)		Can read and write (%)		Ever married (%)		Living with sex partner (%)		Mean age at first selling sex (years)		Typology (public place) (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh														
Chittoor	401	398	30	29	36	53	95	86	80	62	25	25	37	64
			(29.2-30.5)	(28.1-30.6)	(28.9-43.3)	(43.3-62.7)	(92.2-97.2)	(75.7-91.8)	(74.6-83.9)	(53.9-69.9)	(24.1-25.2)	(24.4-26.5)	(28.1-47.3)	(51.9-75.0)
East Godavari	422	401	31	31	33	26	88	88	69	65	23	22	47	69
			(29.9-31.2)	(29.4-31.9)	(25.7-40.6)	(20.4-33.4)	(80.4-92.9)	(81.8-91.7)	(63.0-74.6)	(57.0-72.4)	(22.3-23.5)	(21.0-23.3)	(35.6-58.0)	(57.5-78.6)
Guntur	405	405	31	31	39	37	96	97	77	72	25	25	41	77
			(30.0-31.5)	(28.7-32.2)	(30.8-47.0)	(24.9-51.5)	(92.6-97.2)	(93.6-98.2)	(70.8-82.4)	(56.1-84.1)	(24.0-25.2)	(23.4-26.5)	(31.2-51.3)	(66.5-84.7)
Hyderabad	399	401	30	29	14	46	96	91	76	64	25	25	88	79
			(29.7-31.0)	(27.8-30.9)	(9.3-19.3)	(34.0-59.1)	(92.0-97.6)	(84.9-95.1)	(67.5-82.6)	(49.9-77.1)	(24.8-26.1)	(23.0-25.9)	(76.5-94.1)	(72.0-84.9)
Karimnagar	412	402	29	30	22	42	89	86	73	66.3	23	26	62	82
			(28.5-29.6)	(29.0-31.3)	(15.2-31.1)	(34.5-49.9)	(82.5-93.3)	(76.4-92.1)	(66.8-79.1)	(57.3-74.3)	(22.5-23.5)	(24.5-26.6)	(50.3-72.6)	(74.2-88.3)
Prakasham	404	408	29	30	32	43	96	91	79	70	24	24	46	74
			(28.5-29.7)	(28.8-31.6)	(26.0-38.5)	(32.4-53.4)	(93.2-97.7)	(83.2-94.5)	(74.1-83.0)	(61.0-78.0)	(23.4-24.4)	(23.3-25.3)	(37.2-55.7)	(58.0-85.7)
Visakhapatnam	411	409	30	30	35	48	96	95	76	80	24	27	50	51
			(29.2-30.6)	(28.6-31.1)	(29.2-41.9)	(38.0-59.0)	(92.8-97.7)	(91.1-97.1)	(70.3-80.6)	(73.3-85.3)	(23.0-24.0)	(25.0-28.2)	(39.3-60.5)	(37.4-63.8)
Warangal	417	401	29	30	21	42	81	90	74	80	21	26	56	99
			(28.0-29.3)	(28.9-31.6)	(16.1-26.1)	(30.5-53.9)	(69.0-88.7)	(83.2-94.5)	(64.8-81.0)	(72.5-86.3)	(20.5-21.4)	(25.1-27.0)	(43.8-68.1)	(96.6-99.5)
Karnataka														
Bangalore (Urban)	673	750	31	31	52	50	95	92	48	56	27	27	80	67
			(29.8-31.4)	(29.8-31.2)	(46.9-57.6)	(46.0-54.7)	(92.4-96.2)	(89.1-93.9)	(42.3-54.3)	(51.0-59.9)	(26.0-27.5)	(25.9-26.9)	(75.8-84.1)	(59.2-72.0)
Belgaum	360	412	31	34	18	22	59	79	26	45	22	23	39	65
			(30.26-32.32)	(32.6-34.6)	(13.9-22.5)	(17.6-27.0)	(51.3-66.1)	(73.0-84.4)	(20.6-31.0)	(38.6-50.7)	(21.3-23.4)	(22.2-24.1)	(29.0-48.9)	(55.0-73.6)

Table F1: Demographic profile of FSWs

State & District	No. of respondents		Mean age (years)		Can read and write (%)		Ever married (%)		Living with sex partner (%)		Mean age at first selling sex (years)		Typology (public place) (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Bellary	420	417	31	32	34	23	61	85	33	59	22	23	32	38
			(29.0-31.9)	(30.3-32.7)	(32.0-46.1)	(18.4-29.1)	(50.4-70.8)	(79.7-89.2)	(26.5-39.2)	(50.7-66.5)	(21.3-23.3)	(22.1-23.7)	(24.7-40.7)	(28.6-48.0)
Shimoga	390	408	32	33	39	44	91	97	48	55	26	28	41	49
			(30.7-32.4)	(32.5-34.2)	(32.0-46.1)	(38.3-48.9)	(86.6-94.6)	(94.0-98.4)	(43.2-53.4)	(49.7-59.4)	(25.3-26.8)	(27.2-22.5)	(31.6-50.2)	(39.5-58.4)
Maharashtra														
Kolhapur	115	190	30	31	23	31	85	81	45	45	24	26	64	63
			(27.0-33.3)	(28.5-33.5)	(15.2-32.2)	(24.8-38.1)	(69.0-93.7)	(69.7-88.8)	(33.6-57.4)	(35.2-54.7)	(21.6-26.9)	(23.0-27.9)	(40.9-82.5)	(44.8-78.4)
Mumbai (BG)	338	405	NA	NA	39	48.2	83	87.8	57	53.9	NA	NA	NA	NA
					(32.4-45.5)	(42.2-53.0)	(76.3-88.1)	(83.9-91.0)	(49.6-63.2)	(47.9-59.4)				
Mumbai (BB)	407	395	30	31	15	27	80	86	33	39	22	23	0	0
			(29.5-31.0)	(30.3-32.6)	(10.6-20.2)	(20.1-24.8)	(71.7-86.3)	(80.5-90.3)	(25.7-40.8)	(32.4-46.3)	(21.1-22.1)	(22.5-23.9)		
Mumbai (SB)	394	385	31	32	28	19	90	86	46	54	24	24	100	100
			(30.6-32.1)	(30.6-33.6)	(21.5-34.4)	(13.4-26.8)	(84.6-93.1)	(79.7-90.5)	(38.6-53.2)	(45.9-61.4)	(23.4-24.8)	(23.2-25.5)		
Parbhani	367	303	32	32	14	28	88	92	43	64	25	26	30	35
			(30.9-32.6)	(31.2-32.9)	(10.9-18.3)	(24.2-33.0)	(83.4-92.7)	(82.6-96.6)	(37.0-49.6)	(48.7-77.5)	(24.2-25.4)	(25.7-26.9)	(30.1-43.6)	(18.2-56.5)
Pune (BB)	404	403	29	28	23	24	63	79	24	44	22	22	0	0
			(28.7-30.0)	(26.5-28.5)	(17.2-29.1)	(17.7-32.4)	(55.2-70.1)	(71.3-84.6)	(19.1-30.0)	(36.5-52.6)	(21.1-22.2)	(20.8-23.4)		
Pune (NBB)	257	266	33	33	22	40	89	95	55	52	26	28	73	84
			(31.0-34.9)	(31.7-34.2)	(17.5-27.7)	(34.3-46.3)	(81.8-93.2)	(91.6-96.7)	(49.3-61.0)	(44.8-59.0)	(24.0-27.7)	(26.9-28.9)	(61.4-82.4)	(58.6-94.7)
Thane (BB)	401	384	28	28	36	31	65	79	24	44	22	24	0	0
			(27.1-28.3)	(27.1-29.8)	(30.4-41.5)	(23.9-38.3)	(58.7-70.3)	(72.4-84.3)	(19.8-30.0)	(36.9-51.6)	(21.5-22.5)	(22.1-25.3)		
Thane (SB)	394	395	27	30	56	23	84	86	39	63	24	26	100	100
			(26.4-27.6)	(28.7-31.5)	(47.3-63.5)	(15.2-32.1)	(78.1-89.2)	(79.3-91.4)	(33.3-45.4)	(54.0-70.2)	(23.1-24.1)	(24.9-27.6)		
Yevatmal	153	157	28	30	22	33	86	92	34	40	24	24	2	16
			(24.5-31.6)	(28.0-31.5)	(18.1-26.9)	(3.9-25.4)	(72.0-93.9)	(86.6-95.8)	(23.1-46.8)	(31.2-48.5)	(21.3-26.3)	(22.4-25.9)	(0.3-11.4)	(4.6-42.5)
Tamil Nadu														
Chennai	410	397	33	34	33	66	97	97	67	72	28	28	91	96
			(32.4-33.7)	(32.6-34.5)	(26.8-40.1)	(59.7-72.1)	(94.4-98.4)	(93.8-98.9)	(60.1-72.9)	(65.5-77.0)	(27.7-28.8)	(27.7-29.2)	(84.6-94.8)	(91.8-98.2)
Coimbatore	410	400	33	33	59	70	96	92	79	65	28	29	93	99
			(32.0-33.3)	(31.6-34.4)	(53.4-64.8)	(63.0-76.2)	(92.5-98.3)	(87.4-95.7)	(72.6-84.0)	(57.7-72.0)	(27.2-28.4)	(27.9-30.1)	(87.5-95.9)	(95.3-99.7)

Table F1: Demographic profile of FSWs

State & District	No. of respondents		Mean age (years)		Can read and write (%)		Ever married (%)		Living with sex partner (%)		Mean age at first selling sex (years)		Typology (public place) (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Dharamapuri	408	406	31	32	29	50	98	96	69	55	25	25	85	93
			(30.6-31.8)	(30.6-33.4)	(24.0-34.8)	(39.5-59.6)	(95.5-98.8)	(92.0-97.8)	(61.0-76.1)	(43.9-65.0)	(24.8-25.8)	(24.3-25.9)	(76.0-91.1)	(80.8-97.6)
Madurai	402	396	32	34	45	56	97	92	76	71	26	28	92	94
			(31.3-32.6)	33.0-35.6)	(36.0-54.7)	(46.1-65.8)	(93.4-98.4)	(71.9-98.3)	(69.4-82.0)	(61.0-78.7)	(25.1-26.2)	(26.2-28.7)	(87.0-95.5)	(81.6-98.0)
Salem	402	407	33	35	29	51	98	98	76	64	28	29	83	100
			(32.3-33.6)	(32.8-37.2)	(24.2-35.1)	(35.7-63.5)	(95.7-99.2)	(88.7-99.5)	(69.9-80.7)	(48.3-77.7)	(27.6-28.8)	(26.9-30.9)	(73.7-90.1)	(98.4-99.9)
Nagaland														
Dimapur	426	417	NA	NA	61	45	65	64.3	41	30	NA	NA	NA	NA
					(55.0-67.0)	(38.7-51.5)	(59.4-71.9)	(58.4-70.8)	(36.7-46.4)	(25.1-35.5)				

Note: All types of female sex workers included unless otherwise indicated
BB-Brothel Based; SB-Street Based; NBB-Non-Brothel Based
NA-Not applicable

Table F2: Services received from any agency

State & District	No. of respondents		RI-Received any services						RII-Received any services		
			Contacted by PE or ORW (%)		Visited NGO clinic (%)		Received condoms from PE/ORW (%)	Received information on STI from Peer/ ORW (%)	Ever Contacted by PE/ORW (%)	Ever visited NGO clinic (%)	Received condoms from PE/ORW (%)
			Last year	Last month	Last year	Last 3 months	Last year	Last year			
	RI	RII	RI		RI		RI	RI	RII	RII	RII
Andhra Pradesh											
Chittoor	401	398	91	90	86	83	90	89	71	61	70
			(86.0-93.8)	(85.8-93.6)	(80.6-89.5)	(78.1-87.5)	(85.4-93.4)	(83.8-92.4)	(63.5-77.1)	(52.5-68.5)	(63.2-76.7)
East Godavari	422	401	94	93	83	78	92	91	84	72	82
			(90.5-96.3)	(89.8-95.8)	(76.6-88.3)	(71.0-84.0)	(87.6-95.3)	(86.9-94.1)	(69.7-92.7)	(60.1-81.0)	(66.8-91.3)
Guntur	405	405	95	95	88	84	94	94	88	72	88
			(92.4-97.0)	(92.1-96.7)	(83.1-90.9)	(79.5-88.3)	(91.3-96.5)	(91.5-96.3)	(82.0-92.5)	(62.3-79.6)	(81.9-92.4)
Hyderabad*	399	401	71	67	29	45	61	64	50	43	50
			(62.8-78.0)	(58.6-73.9)	(22.1-36.3)	(37.4-52.0)	(52.3-68.7)	(56.1-70.6)	(38.3-62.5)	(31.9-54.7)	(37.9-62.1)
Karimnagar*	412	402	53	ND	50	ND	60	57	75	68	74
			(45.4-59.8)		(41.2-58.4)		(51.9-67.0)	(49.8-64.7)	(68.4-80.7)	(60.9-74.3)	(67.7-80.1)
Prakasham	404	408	87	84	74	70	86	82	79	75	78
			(80.9-91.0)	(78.4-88.7)	(65.0-81.5)	(61.4-77.2)	(79.7-89.9)	(75.5-86.9)	(61.0-89.7)	(58.9-86.8)	(60.9-89.4)
Visakhapatnam	411	409	91	86	79	59	90	85	56	34	55
			(87.5-94.0)	(81.6-89.5)	(72.6-84.1)	(52.1-64.9)	(85.8-92.7)	(79.3-88.8)	(44.1-67.0)	(26.3-42.7)	(43.2-66)
Warangal*	417	401	70	62	33	54	64	64	56	54	66
			(63.4-76.6)	(54.3-68.4)	(25.8-41.0)	(45.5-61.9)	(56.9-70.9)	(57.2-70.7)	(42.1-68.1)	(40.8-66.3)	(54.3-75.2)
Karnataka											
Bangalore (Urban)	673	750	98	87	65	69	78	87	84	73	73
			(96.9-99.0)	(82.8-89.9)	(58.4-71.0)	(63.2-73.3)	(73.6-81.7)	(83.0-90.4)	(78.6-87.9)	(67.5-78.6)	(67.2-77.4)
Belgaum	360	412	99	95	84	NA	91	89	97	85	95
			(97.4-99.7)	(90.7-97.0)	(77.2-89.2)		(87.3-94.3)	(84.0-93.0)	(95.1-98.3)	(79.3-88.7)	(91.8-96.6)
Bellary	420	417	98	91	82	NA	87	91	95	80	93
			(96.6-99.2)	(87.3-94.3)	(73.4-88.5)		(81.8-90.7)	(85.1-94.4)	(90.6-97.3)	(72.2-86.6)	(88.9-95.8)

Table F2: Services received from any agency

State & District	No. of respondents		RI-Received any services						RII-Received any services		
			Contacted by PE or ORW (%)		Visited NGO clinic (%)		Received condoms from PE/ORW (%)	Received information on STI from Peer/ ORW (%)	Ever Contacted by PE/ORW (%)	Ever visited NGO clinic (%)	Received condoms from PE/ORW (%)
			Last year	Last month	Last year	Last 3 months	Last year	Last year			
	RI	RII	RI		RI		RI	RI	RII	RII	RII
Shimoga	390	408	94	73	49	NA	55	68	97	89	86
			(91.0-96.0)	(66.0-78.3)	(41.7-55.5)		(48.9-61.5)	(60.8-73.8)	(93.5-98.9)	(84.5-92.6)	(82.0-89.0)
Maharashtra											
Kolhapur	115	190	34	33	31	23	35	36	100	96	95
			(23.7-45.8)	(22.4-45.7)	(21.5-43.2)	(14.3-33.9)	(24.1-47.3)	(25.8-46.9)	(96.2-99.9)	(91.7-98.4)	(92.0-97.3)
Mumbai (BG)	338	405	70	66	54	55	63	59	76	64	71
			(65.0-77.1)	(61.3-73.7)	(46.4-61.9)	(48.2-62.2)	(54.5-69.0)	(51.1-66.4)	(72.7-82.0)	(60.8-71.5)	(66.0-77.1)
Mumbai (BB)	407	395	30	36	35	24	41	33	65	57	60
			(23.0-38.0)	(28.7-44.2)	(28.5-42.4)	(18.7-30.8)	(33.5-49.0)	(26.2-40.0)	(56.7-71.9)	(48.7-64.1)	(52.3-67.6)
Mumbai (SB)	394	385	26	28	29	22	30	25	74	54	63
			(19.9-32.9)	(21.7-35.6)	(22.2-36.4)	(16.2-28.6)	(23.7-38.3)	(18.8-31.7)	(64.0-81.8)	(43.4-63.3)	(52.1-72.1)
Parbhani	367	303	32	31	26	20	33	28	84.2	72.3	78.5
			(26.0-38.1)	(25.7-38.6)	(20.1-32.5)	(14.2-24.9)	(28.1-40.9)	(23.0-33.2)	(73.1-91.2)	(51.2-86.6)	(66.7-87.0)
Pune (BB)	404	403	70	65	51	35	71	67	72	65	71
			(63.1-75.7)	(58.2-71.3)	(43.5-57.9)	(28.7-41.3)	(64.6-77.0)	(59.8-72.8)	(63.9-78.7)	(57.3-72.4)	(62.9-77.8)
Pune (NBB)	257	266	40	40	40	30	44	41	72	56	55
			(31.7-49.0)	(31.4-48.7)	(31.2-48.9)	(22.9-39.0)	(35.0-53.3)	(31.8-49.8)	(63.5-78.5)	(47.2-63.9)	(45.6-63.9)
Thane (BB)	401	384	85	85	81	75	86	82	61	34	61
			(80.7-89.1)	(80.6-89.0)	(76.2-85.0)	(69.4-79.4)	(82.1-90.0)	(77.4-86.4)	(53.1-68.0)	(27.0-40.9)	(53.6-68.9)
Thane (SB)	394	395	31	31	30	27	31	30	61	52	38
			(23.0-40.4)	(22.9-40.8)	(22.4-39.9)	(20.5-34.9)	(22.9-40.8)	(22.5-38.0)	(50.9-70.5)	(42.0-62.6)	(28.3-48.3)
Yevatmal	153	157	83	83	69	63	86	56	94	89	92
			(76.9-87.7)	(71.0-90.7)	(42.8-87.2)	(42.5-80.3)	(70.8-94.2)	(47.4-64.6)	(89.3-97.0)	(80.1-94.4)	(87.7-95.3)

Table F2: Services received from any agency

State & District	No. of respondents		RI-Received any services						RII-Received any services		
			Contacted by PE or ORW (%)		Visited NGO clinic (%)		Received condoms from PE/ORW (%)	Received information on STI from Peer/ ORW (%)	Ever Contacted by PE/ORW (%)	Ever visited NGO clinic (%)	Received condoms from PE/ORW (%)
			Last year	Last month	Last year	Last 3 months	Last year	Last year			
	RI	RII	RI		RI		RI	RI	RII	RII	RII
Tamil Nadu											
Chennai	410	397	30	30	30	30	30	30	79	75	78
			(22.6-39.4)	(22.5-39.2)	(22.6-39.4)	(22.1-38.7)	(22.6-39.3)	(22.8-39.5)	(71.4-84.9)	(67.2-81.9)	(69.7-83.9)
Coimbatore	410	400	58	56	58	55	56	57	88	82	87
			(51.2-64.5)	(48.8-62.0)	(51.5-64.7)	(48.6-61.9)	(49.7-62.9)	(50.3-63.8)	(82.5-91.9)	(73.5-87.6)	(81.2-90.8)
Dharamapuri	408	406	78	79	76	74	77	75	90	89	88
			(71.6-82.9)	(73.1-84.0)	(69.2-81.3)	(67.1-79.1)	(70.6-82.0)	(68.7-80.4)	(84.3-93.7)	(84.3-93.0)	(80.7-93.1)
Madurai	402	396	80	73	75	69	71	72	99	99	99
			(73.1-85.4)	(65.0-79.1)	(67.2-81.1)	(60.8-76.5)	(62.0-78.1)	(64.7-78.7)	(97.1-99.4)	(97.1-99.4)	(97.0-99.3)
Salem	402	407	69	71	71	69	65	70	81	81	81
			(60.2-76.5)	(62.1-77.9)	(63.0-78.3)	(60.0-76.0)	(56.5-73.2)	(61.8-77.3)	(66.1-90.2)	(65.7-89.9)	(65.9-90.0)
Nagaland											
Dimapur	426	417	25	NA	22	NA	21	24	71	78	76
			(19.9-29.1)		(17.2-26.5)		(16.5-25.0)	(19.0-28.5)	(64.8-75.8)	(74.5-83.5)	(70.4-80.5)

* The round one data for Hyderabad, Karimnagar, Warangal and Karnataka, given under last year represent last six months only
NA-Not available

Table F3: STI knowledge and treatment seeking behaviors

State & District	No. of respondents		Ever heard of STIs (%)		Knowledge of 3 or more STI symptoms (%)*#		Vaginal discharge, abdominal pain or ulcer (last year) (%)		Sought trained care for most recent STI symptom (%)#		Took preventive meaures for most recent STI symptom (%)#		Had any one of the STI symptoms (Current) (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh														
Chittoor	401	398	96	86	97	95	85	26	89	83	62	63	59	15
			(92.9-97.5)	(80.0-90.5)	(93.8-98.1)	(90.1-97.3)	(80.5-88.7)	(20.5-32.5)	(83.3-92.8)	(71.2-90.1)	(53.6-68.9)	(48.0-76.2)	(53.1-64.5)	(9.9-20.9)
East Godavari	422	401	97	91	90	75	78	33	88	96	80	65	63	21
			(94.0-98.1)	(85.7-94.5)	(84.7-93.2)	(67.9-80.9)	(70.1-84.2)	(27.1-39.7)	(79.2-92.8)	(91.2-98.2)	(72.3-86.1)	(52.8-75.1)	(54.9-69.9)	(16.0-27.5)
Guntur	405	405	97	97	83	96	88	35	92	90	79	67	76	15
			(94.8-98.5)	(91.3-98.6)	(78.0-87.1)	(92.2-98.4)	(84.2-91.3)	(22.9-49.0)	(88.3-95.1)	(75.9-96.2)	(73.0-83.8)	(44.7-83.7)	(70.1-81.1)	(8.5-23.6)
Hyderabad	399	401	88	93	80	90	52	36	80	66	52	50	35	22
			(82.7-91.3)	(85.7-96.8)	(73.6-85.6)	(85.0-93.8)	(43.9-59.0)	(22.7-51.0)	(69.9-87.4)	(27.9-91.0)	(42.9-61.9)	(23.6-76.8)	(28.5-41.2)	(10.3-41.1)
Karimnagar	412	402	81	92	81	93	76	48	78	81	45	57	65	30
			(75.5-85.2)	(87.2-95.6)	(74.5-86.8)	(89.4-95.8)	(69.6-81.9)	(40.0-55.3)	(66.2-86.2)	(68.5-89.0)	(35.5-55.0)	(42.7-69.4)	(57.0-72.1)	(22.3-40.0)
Prakasham	404	408	96	84	91	82	68	19	95	73	65	74	50	10
			(93.2-97.9)	(73.3-91.3)	(87.1-94.2)	(71.3-89.2)	(62.9-73.5)	(13.5-27.0)	(90.2-97.2)	(48.1-88.5)	(57.8-70.9)	(48.9-89.3)	(44.0-55.7)	(5.4-16.7)
Visakhapatnam	411	409	99	92	93	87	54	41	95	64	74	28	33	29
			(97.4-99.6)	(86.6-95.7)	(88.8-96.1)	(81.9-91.1)	(47.0-59.9)	(32.0-50.1)	(90.8-97.1)	(55.0-72.2)	(65.8-80.7)	(19.7-37.3)	(26.8-39.6)	(21.7-37.9)
Warangal	417	401	91	89	66	93	89	25	88	81	60	51	75	10
			(86.1-94.5)	(82.8-93.2)	(58.2-73.3)	(89.0-95.9)	(84.4-92.7)	(17.6-33.2)	(82.4-92.0)	(70.4-88.6)	(50.7-68.6)	(36.0-66.3)	(67.8-81.0)	(5.9-16.4)
Karnataka														
Bangalore (Urban)	673	750	84	79	43	50	51	34	94	93	79	42	40	12
			(80.3-87.0)	(73.6-83.0)	(37.8-47.2)	(43.2-56.0)	(45.0-57.0)	(29.7-37.9)	(90.6-96.6)	(87.9-95.9)	(73.4-83.7)	(35.7-49.0)	(34.2-45.2)	(9.7-15.2)
Belgaum	360	412	86	85	37	61	36	39	91	96	81	70	29	21
			(81.6-88.7)	(79.3-89.1)	(29.4-44.5)	(54.8-67.5)	(30.3-42.5)	(33.4-44.2)	(82.3-95.6)	(91.7-98.3)	(71.7-88.1)	(62.5-77.3)	(23.5-34.5)	(17.3-25.8)
Bellary	420	417	77	88	30	62	46	34	82	94	69	79	36	20
			(70.7-82.7)	(83.5-91.1)	(24.3-36.3)	(54.5-69.5)	(40.0-52.0)	(29.4-39.3)	(74.0-88.3)	(88.7-96.6)	(59.8-76.3)	(71.3-84.5)	(30.4-42.1)	(16.5-24.3)
Shimoga	390	408	66	84	36	59	39	43	80	91	77	68	30	24
			(60.8-71.4)	(80.2-87.2)	(29.3-42.2)	(51.5-65.2)	(33.1-44.1)	(37.3-49.4)	(71.7-85.6)	(86.6-94.4)	(69.1-84.0)	(59.3-74.8)	(24.9-35.4)	(20.0-29.1)

Table F3: STI knowledge and treatment seeking behaviors

State & District	No. of respondents		Ever heard of STIs (%)		Knowledge of 3 or more STI symptoms (%)*#		Vaginal discharge, abdominal pain or ulcer (last year) (%)		Sought trained care for most recent STI symptom (%)#		Took preventive meaures for most recent STI symptom (%)#		Had any one of the STI symptoms (Current) (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Maharashtra														
Kolhapur	115	190	51	96	24	86	34	31	80	98	67	90	14	12
			(39.3-63.2)	(92.4-98.2)	(12.9-39.5)	(79.4-90.4)	(24.9-44.3)	(24.6-37.1)	(65.1-88.9)	(90.5-99.7)	(50.0-80.0)	(82.1-94.2)	(9.0-21.0)	(7.9-18.0)
Mumbai (BG)	338	405	64	88.4	60	54.3	27	38	83	80.4	46	1.7	24	20.2
			(56.8-71.6)	(86.2-92.2)	(52.6-67.6)	(49.0-63.1)	(23.8-33.9)	(32.4-43.9)	(76.5-97.3)	(67.0-88.7)	(29.6-63.0)	(0.0-4.1)	(24.0-33.9)	(16.0-24.4)
Mumbai (BB)	407	395	67	81	56	94	22	33	67	73	48	35	14	28
			(58.9-73.8)	(75.3-86.0)	(45.1-66.0)	(87.5-97.5)	(16.3-27.7)	(26.3-39.9)	(52.1-79.0)	(62.3-81.9)	(33.7-62.9)	(25.0-45.4)	(9.7-18.8)	(21.9-35.0)
Mumbai (SB)	394	385	55	69	85	85	16	33	63	61	70	23	9	29
			(46.3-63.1)	(58.0-78.9)	(78.6-89.7)	(75.6-89.3)	(12.7-21.1)	(24.7-42.7)	(45.9-77.5)	(44.6-74.7)	(53.6-82.1)	(11.0-41.5)	(5.8-12.8)	(21.0-39.3)
Parbhani	367	303	83	90	34	96	22	48	63	87	48	46	16	28
			(77.0-87.2)	(82.8-94.1)	(28.8-40.8)	(91.6-97.7)	(18.2-27.2)	(37.1-58.8)	(44.7-78.4)	(70.6-94.8)	(29.2-85.1)	(36.1-55.3)	(12.0-20.1)	(23.0-34.5)
Pune (BB)	404	403	70	62	49	78	24	39	69	85	88	61	10	23
			(61.6-76.9)	(53.9-69.6)	(41.4-56.1)	(68.2-85.2)	(18.2-30.0)	(31.3-47.0)	(55.2-79.7)	(75.7-90.7)	(76.3-94.0)	(47.8-73.0)	(6.5-14.5)	(16.4-30.7)
Pune (NBB)	257	266	65	69	63	69	25	31	70	77	70	15	12	25
			(56.5-73.3)	(60.0-76.0)	(53.8-71.5)	(57.8-77.5)	(20.3-30.2)	(23.6-40.0)	(54.8-82.2)	(68.3-83.6)	(55.9-81.6)	(8.1-25.0)	(8.3-16.1)	(20.1-30.6)
Thane (BB)	401	384	78	82	80	46	23	24	59	88	46	40	18	13
			(72.4-82.0)	(75.1-87.9)	(74.3-84.9)	(38.1-53.3)	(18.4-28.9)	(18.0-30.0)	(46.9-70.0)	(78.3-94.0)	(33.8-58.3)	(26.0-55.7)	(13.9-23.5)	(9.4-17.0)
Thane (SB)	394	395	71	66	84	46	15	23	54	50	36	1.1	10	29
			(62.6-77.9)	(55.9-75.4)	(78.2-88.3)	(37.0-55.7)	(10.3-20.5)	(16.7-30.0)	(41.7-65.9)	(34.5-64.6)	(26.2-46.9)	(0.3-4.3)	(6.3-14.8)	(19.0-40.0)
Yevatmal	153	157	43	89	29	88	32	45	76	90	69	71	15	25
			(35.3-51.3)	(83.1-93.2)	(21.4-37.5)	(81.5-92.3)	(26.6-38.0)	(37.9-51.5)	(57.9-87.4)	(81.1-95)	(54.1-84.3)	(61.1-79.9)	(9.3-23.3)	(18.5-32.5)
Tamil Nadu														
Chennai	410	397	78	96	76	77	7	18	66	99	68	94	2	6
			(70.6-84.6)	(90.5-98.2)	(70.2-81.6)	(70.8-81.4)	(4.3-10.8)	(13.5-23.8)	(48.6-80.1)	(95.3-99.9)	(49.9-82.2)	(84.4-97.6)	(1.1-3.7)	(3.7-9.7)

Table F3: STI knowledge and treatment seeking behaviors

State & District	No. of respondents		Ever heard of STIs (%)		Knowledge of 3 or more STI symptoms (%)*#		Vaginal discharge, abdominal pain or ulcer (last year) (%)		Sought trained care for most recent STI symptom (%)#		Took preventive meaures for most recent STI symptom (%)#		Had any one of the STI symptoms (Current) (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Coimbatore	410	400	90	90	79	76	44	28	93	94	81	74	18	14
			(85.4-92.8)	(85.2-93.2)	(72.3-84.5)	(68.2-81.8)	(38.0-49.8)	(22.0-35.4)	(86.8-96.8)	(87.7-97.2)	(74.1-86.5)	(64.0-81.6)	(13.9-22.9)	(8.0-24.6)
Dharamapuri	408	406	90	87	57	85	72	43	95	96	89	74	37	36
			(86.3-93.3)	(81.1-91.1)	(49.6-64.5)	(76.7-90.0)	(65.9-77.6)	(33.9-53.2)	(90.7-97.2)	(84.8-99.2)	(79.2-94.4)	(61.3-84.3)	(30.5-45.1)	(27.4-45.4)
Madurai	402	396	93	100	58	94	57	23	88	100	79	55	25	15
			(90.5-95.4)	(98.5-99.9)	(49.1-66.1)	(86.4-97.5)	(50.3-64.2)	(15.8-31.5)	(82.3-92.4)	(100.0-100.0)	(72.1-85.1)	(38.4-70.8)	(19.1-31.4)	(9.9-22.5)
Salem	402	407	84	92	64	63	45	48	94	98	80	84	25	23
			(78.6-89.0)	(70.4-98.1)	(56.0-72.0)	(45.3-77.3)	(37.1-53.3)	(33.3-63.4)	(87.3-97.1)	(93.7-99.3)	(72.1-86.4)	(68.9-92.7)	(19.1-32.1)	(11.9-40.7)
Nagaland														
Dimapur	426	417	73	50	37	17	79	66	64	35	82	37	67	-
			(68.1-78.2)	(45.3-57.9)	(30.6-42.8)	(11.9-24.8)	(73.9-83.1)	(61.1-71.2)	(57.5-69.1)	(25.2-42.7)	(76.4-85.4)	(31.5-47.7)	(61.7-72.5)	

Based on subset of respondents applicable for that analysis
* Of the six symptoms, viz., lower abdominal pain, foul smelling vaginal discharge, burning on urination, genital ulcer/sore, swelling in groin area and itching in genital area

Table F4: HIV/AIDS awareness and knowledge

State & District	No. of respondents		Ever heard of HIV/AIDS (%)		Knowledge of HIV prevention method (%)@#		No incorrect beliefs about HIV/AIDS transmission (%)@#		Believe HIV/AIDS can be prevented (%) #		Feel at risk of being infected by HIV/AIDS (%)#		Ever taken HIV test (%)#	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh														
Chittoor	401	398	98	94	94	82	10	36	97	87	63	4	48.6	71
			(95.1-98.9)	(87.4-97.5)	(90.5-96.7)	(75.8-86.8)	(7.3-14.2)	(28.1-44.0)	(94.3-98.4)	(81.6-91.1)	(55.6-69.1)	(2.0-6.4)	(42.3-55.2)	(63.3-76.9)
East Godavari	422	401	100	97	94	80	18	32	94	83	56	35	61.8	73
			(98.6-100)	(94.7-98.5)	(90.2-95.7)	(67.1-89.2)	(13.2-25.1)	(25.5-39.6)	(91.3-96.4)	(68.2-91.8)	(46.1-65.6)	(28.5-42.8)	(52.0-70.7)	(65.3-79.2)
Guntur	405	405	100	100	93	96	17	33	93	97	47	8	69.5	86
			(98.5-100)	(96.6-99.9)	(89.5-95.4)	(91.5-98.4)	(13.0-21.2)	(22.8-45.9)	(89.7-95.8)	(91.9-98.8)	(41.5-53.2)	(5.0-13.2)	(63.3-74.7)	(79.1-90.9)
Hyderabad	399	401	93	92	77	85	18	36	83	92	38	12	34.9	77
			(87.8-96.3)	(85.9-95.8)	(70.3-83.0)	(78.1-89.7)	(12.5-26.0)	(26.6-45.4)	(76.1-88.2)	(88.9-94.7)	(30.3-46.1)	(7.3-17.8)	(27.4-43.3)	(69.6-83.4)
Karimnagar	412	402	96	100	82	90	13	27	87	90	41	8	45.6	75
			(92.7-97.4)	(97.8-100)	(76.9-86.6)	(83.9-93.3)	(9.4-17.0)	(21.2-32.6)	(82.4-90.7)	(84.3-93.8)	(33.0-50.2)	(4.7-12.9)	(37.5-54.0)	(68.7-79.8)
Prakasham	404	408	98	93	98	80	13	28.7	100	86	66	14	37	65
			(95.9-99.1)	(83.9-97.2)	(95.2-98.7)	(67.1-88.7)	(9.6-17.4)	(19.4-40.3)	(99.1-100)	(75.7-92.7)	(58.9-72.1)	(8.6-22.5)	(32.0-42.2)	(53.2-74.6)
Visakhapatnam	411	409	100	85	98	64	26	35	98	76	70	25	56.7	50
			(99.0-100)	(64.1-94.8)	(96.2-98.9)	(51.4-75.6)	(21.4-32.2)	(27.3-43.0)	(97.1-99.2)	(69.4-81.6)	(63.8-74.6)	(19.0-32.9)	(51.2-62.0)	(39.8-60.0)
Warangal	417	401	97	97	84	88	19	44	91	91	58	6	67.3	81
			(89.8-99.0)	(93.4-98.2)	(77.6-88.4)	(81.4-92.0)	(14.0-25.2)	(31.3-57.9)	(86.2-93.8)	(84.3-94.9)	(48.9-67.0)	(2.7-10.6)	(59.4-74.3)	(74.4-86.6)
Karnataka														
Bangalore (Urban)	673	750	98	93	90	73	50	29	93	81	29	43	38	67
			(96.0-98.6)	(88.6-95.7)	(86.8-92.7)	(67.9-77.9)	(44.1-55.0)	(24.5-33.6)	(89.2-94.9)	(76.5-84.8)	(24.1-33.7)	(39.3-47.6)	(31.7-45.0)	(61.9-71.4)
Belgaum	360	412	97	99	85	90	21	18	88	92	28	52	34	60
			(94.2-98.5)	(96.3-99.4)	(80.4-87.8)	(86.0-93.2)	(16.7-25.9)	(14.0-23.3)	(83.3-90.9)	(87.6-94.5)	(23.9-33.2)	(46.6-57.5)	(27.8-40.4)	(54.4-64.4)
Bellary	420	417	96	99	79	94	19	20	83	95	24	56	20	66
			(92.7-97.3)	(98.1-99.8)	(73.6-82.8)	(91.4-96.1)	(14.0-24.3)	(15.5-24.6)	(77.6-87.1)	(92.3-96.8)	(19.8-27.7)	(49.8-61.1)	(15.1-25.1)	(60.4-71.1)
Shimoga	390	408	90	98	67	88	26	19	75	91	21	53	22	62
			(86.8-92.7)	(95.5-98.6)	(61.1-71.7)	(84.4-90.9)	(20.8-31.1)	(15.2-24.0)	(69.4-80.2)	(87.0-93.3)	(17.1-25.2)	(48.5-58.1)	(17.9-25.8)	(56.4-66.8)

Table F4: HIV/AIDS awareness and knowledge

State & District	No. of respondents		Ever heard of HIV/AIDS (%)		Knowledge of HIV prevention method (%)*#		No incorrect beliefs about HIV/AIDS transmission (%)**#		Believe HIV/AIDS can be prevented (%) #		Feel at risk of being infected by HIV/AIDS (%)#		Ever taken HIV test (%)#	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Maharashtra														
Kolhapur	115	190	83	98	46	94	9	26	57	96	72	70	16.5	96
			(75.0-88.2)	(94.5-99.2)	(39.2-53.1)	(89.9-96.7)	(5.1-14.3)	(19.4-34.7)	(49.9-63.5)	(92.4-98.2)	(55.3-84.5)	(61.0-77.7)	(11.2-23.8)	(91.9-97.9)
Mumbai (BG)	338	405	96	98	49	75	14.1	59	51	78	21	41	35	75
			(93.9-98.2)	(95.1-99.4)	(45.0-56.9)	(71.0-80.5)	(10.6-18.1)	(54.6-65.3)	(46.1-58.6)	(72.7-82.6)	(16.0-27.5)	(34.2-46.6)	(30.1-42.1)	(71.2-81.2)
Mumbai (BB)	407	395	86	99	34	97	17	47	40	98	52	77	19.4	94
			(75.5-91.9)	(96.7-99.3)	(27.2-41.1)	(94.4-98.0)	(11.9-24.4)	(40.0-54.7)	(32.7-47.5)	(96.3-99.0)	(39.1-64.6)	(70.1-82.4)	(14.0-26.3)	(90.3-96.3)
Mumbai (SB)	394	385	86	100	28	86	8	42.9	33	86	73	65	20.5	88
			(79.5-90.5)	(98.7-100.0)	(22.8-34.8)	(72.1-87.2)	(5.1-12.4)	(34.3-52.1)	(26.5-40.3)	(78.1-91.3)	(58.6-83.4)	(55.9-72.6)	(15.6-26.4)	(80.3-92.9)
Parbhani	367	303	96	97	62	91	37	21	64	95	67	64	9.9	82
			(93.4-97.5)	(94.4-98.4)	(56.2-68.0)	(83.9-95.6)	(31.9-42.3)	(13.7-31.0)	(56.9-70.8)	(87.8-98.0)	(59.9-74.1)	(59.6-68.8)	(6.8-13.9)	(77.0-86.4)
Pune (BB)	404	403	96	95	62	81	40	49	65	85	65	58	29.8	76
			(92.4-97.4)	(89.5-97.9)	(54.7-68.2)	(72.1-87.2)	(33.3-47.1)	(40.9-57.1)	(57.9-70.7)	(76.0-90.7)	(53.0-74.7)	(49.6-65.6)	(22.3-38.7)	(68.1-82.3)
Pune (NBB)	257	266	92	98	37	66	11	20	40	68	73	42	21.8	72
			(87.4-95.3)	(95.6-98.9)	(31.0-43.4)	(58.2-73.3)	(7.8-16.1)	(15.2-24.8)	(33.1-47.5)	(60.3-75.2)	(62.8-80.7)	(34.6-49.2)	(17.2-27.2)	(65.8-77.8)
Thane (BB)	401	384	98	96	60	66	46	22	61	69	39	38	25.7	59
			(95.1-98.9)	(89.0-98.8)	(53.9-65.5)	(57.9-72.7)	(39.8-51.6)	(17.0-28.3)	(55.3-67.0)	(61.2-75.7)	(32.0-47.2)	(31.2-45.7	(21.1-30.9)	(51.6-66.0)
Thane (SB)	394	395	98	97	82	64	65	21	84	66	25	27	29.2	56
			(94.4-99.0)	(90.1-98.8)	(77.0-86.0)	(52.1-73.6)	(59.1-70.6)	(14.5-35.7)	(79.3-87.6)	(54.4-75.6)	(18.8-33.2)	(21.1-33.7)	(23.5-35.5)	(46.5-65.7)
Yevatmal	153	157	82	94	35	90	11	18.5	43	97	52	73	13.1	85
			(74.7-87.1)	(88.5-96.6)	(28.3-43.0)	(84.4-94.3)	(7.8-13.9)	(12.9-25.8)	(32.3-54.8)	(90.8-98.8)	(34.9-68.4)	(65.1-79.0)	(8.1-20.4)	(77.3-90.0)
Tamil Nadu														
Chennai	410	397	97	99	94	95	59	76	97	96	12	15	18.9	74
			(93.4-98.5)	(95.9-99.5)	(90.7-96.4)	(89.4-97.6)	(52.0-65.8)	(69.9-80.8)	(95.1-98.5)	(90.4-98.6)	(8.4-16.9)	(11.6-20.3)	(14.3-24.7)	(65.7-80.1)
Coimbatore	410	400	93	97	88	91	28	31	94	94	20	9	38.1	80
			(89.6-95.7)	(94.6-98.6)	(82.9-91.1)	(87.8-94.0)	(22.7-34.1)	(23.3-40.3)	(90.1-96.3)	(91.1-96.0)	(15.7-24.9)	(5.2-15.3)	(32.8-43.8)	(73.2-85.2)

Table F4: HIV/AIDS awareness and knowledge

State & District	No. of respondents		Ever heard of HIV/AIDS (%)		Knowledge of HIV prevention method (%)*#		No incorrect beliefs about HIV/AIDS transmission (%)**#		Believe HIV/AIDS can be prevented (%) #		Feel at risk of being infected by HIV/AIDS (%)#		Ever taken HIV test (%)#	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Dharamapuri	408	406	93	95	84	88	33	35	91	93	12	60	21.4	67
			(89.6-94.9)	(91.0-96.8)	(79.7-88.2)	(82.4-91.4)	(26.8-38.6)	(28.2-43.4)	(87.2-93.9)	(87.9-96.0)	(8.6-17.3)	(52.0-68.3)	(16.3-27.7)	(57.4-75.5)
Madurai	402	396	97	100	88	99	37	80	91	100	40	15	40.4	84
			(94.5-98.5)	(97.2-99.9)	(82.8-91.5)	(97.1-99.7)	(28.8-38.6)	(71.4-86.2)	(86.5-94.0)	(98.6-99.9)	(31.0-50.1)	(7.1-29.5)	(34.2-46.8)	(76.8-88.9)
Salem	402	407	92	92	87	88	39	35	95	98	34	20	22.1	81
			(86.7-95.3)	(70.1-93.8)	(81.3-91.2)	(70.5-95.8)	(31.4-46.8)	(22.1-50.5)	(90.4-97.1)	(94.2-99.1)	(27.5-41.5)	(13.3-28.1)	(16.7-28.8)	(66.0-90.3)
Nagaland														
Dimapur	426	417	87	89	55	44	17	18	71	45	80	72	8.8	29
			(83.3-91.3)	(86.6-92.2)	(49.9-60.6)	(36.7-49.4)	(13.4-20.4)	(13.4-23.7)	(65.3-76.5)	(38.2-50.9)	(74.3-84.2)	(68.1-77.3)	(6.6-12.8)	(25.0-35.3)

Based on subset of respondents applicable for that analysis

* Defined as number of respondents identifying consistent condom use as a method of reducing the risk of contracting HIV

** Defined as number of respondents who correctly reject two most common local misconceptions about AIDS transmission and prevention and who know that a healthy looking person can transmit AIDS

Table F5: Sexual history, condom use with occasional and regular male clients

State & District	No. of respon-dents		Mean number of clients in last day		Mean number of clients in last week		Occasional clients (%)						Regular clients (%)					
							Had occasional clients		Condom use#				Had regular clients		Condom use#			
									Last time		Consistent				Last time		Consistent	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh																		
Chittoor	401	398	2.5	2.1	10.1	10.6	99	100	85	99	36	84	100	72	64	98	15	88
			(2.4-2.6)	(1.9-2.30)	(9.6-10.6)	(9.7-11.4)	(97.2-99.4)		(79.8-88.6)	(97.6-99.5)	(30.4-42.2)	(77.2-89.2)	(98.2-100)	(63.4-79.8)	(56.8-71.1)	(95.0-98.9)	(11.5-19.1)	(81.2-92.5)
East Godavari	422	401	2.9	2.8	10.9	12.5	93	95	93	99	82	97	94	97	89	99	76	96
			(2.7-3.0)	(2.5-3.1)	(10.2-11.7)	(11.2-13.7)	(85.9-96.9)	(90.1-97.9)	(88.3-95.8)	(97.1-99.4)	(75.4-87.1)	(94.6-98.6)	(89.2-96.5)	(94.4-98.4)	(84.1-92.8)	(97.8-99.7)	(69.4-81.6)	(91.8-98.1)
Guntur	405	405	2.9	2.4	11.4	12.5	98	100	95	100	85	83	100	76	92	99	85	85
			(2.8-3.1)	(2.0-2.9)	(10.8-12.0)	(8.3-16.6)	(95.0-98.8)		(91.8-97.4)	(98.2-99.8)	(79.6-89.1)	(74.4-88.9)	(98.7-100)	(62.4-85.9)	(88.5-94.9)	(95.9-99.7)	(79.5-89.1)	(76.7-90.2)
Hyderabad	399	401	1.7	1.8	5.4	9.5	93	98	95	96	56	70	81	57	92	94	64	61
			(1.6-1.8)	(1.6-2.0)	(5.1-5.7)	(9.0-10.05)	(89.3-95.6)	(95.8-99.1)	(90.8-97.1)	(92.6-98.0)	(47.1-63.8)	(60.8-77.8)	(71.1-88.5)	(44.7-68.6)	(87.2-94.8)	(89.1-96.9)	(54.6-72.8)	(51.8-69.4)
Karimnagar	412	402	2.1	2.1	5.9	9.7	88	100	91	95	73	75	100	81	85	93	63	76
			(2.0-2.2)	(1.9-2.2)	(5.5-6.3)	(9.0-10.3)	(83.4-92.2)	(97.5-99.9)	(86.6-94.1)	(91.7-97.0)	(65.9-79.2)	(68.8-80.4)	(98.9-100)	(75.3-85.8)	(79.0-88.9)	(88.7-96.2)	(56.7-68.4)	(69.2-81.8)
Prakasham	404	408	2.6	2.4	12.1	13.2	100	86	81	96	40	96	97	99	64	92	17	90
			(2.6-2.8)	(2.1-2.7)	(11.5-12.8)	(10.4-15.9)	(98.8-100)	(65.4-95.0)	(76.7-85.1)	(92.6-98.3)	(35.1-44.9)	(91.5-97.7)	(93.3-98.5)	(96.9-99.4)	(56.1-71.4)	(83.5-96.4)	(13.2-22.1)	(81.6-95.2)
Visakhapatnam	411	409	3	2.1	11.3	8.7	99	97	94	97	89	85	97	82	94	92	81	77
			(2.9-3.1)	(1.9-2.3)	(10.7-12.0)	(8.1-9.2)	(97.6-99.6)	(94.0-98.3)	(90.4-96.0)	(94.7-98.5)	(84.6-92.3)	(79.6-89.3)	(94.5-98.3)	(63.4-91.8)	(89.7-96.3)	(88.0-94.5)	(76.1-85.0)	(70.2-81.9)
Warangal	417	401	2.2	2.2	7	9.4	100	100	89	99	85	76	100	70	84	95	79	76
			(2.1-2.4)	(2.0-2.4)	(6.6-7.4)	(8.5-10.2)	(99.2-100)	(99.1-100)	(83.7-93.2)	(95.6-99.7)	(78.3-89.8)	(67.5-83.0)	(98.8-100)	(52.2-82.6)	(78.1-89.3)	(89.6-97.5)	(71.4-85.0)	(68.9-81.3)
Karnataka																		
Bangalore (Urban)	673	750	2.6	1.9	9.9	8.1	98	91	92	94	78	86	88	78	75	84	59	79
			(2.5-2.8)	(1.8-2.0)	(9.1-10.7)	(7.4-8.8)	(95.8-99.1)	(87.5-92.9)	(89.0-93.8)	(91.7-95.5)	(73.6-82.1)	(82.3-88.6)	(84.1-91.0)	(73.7-81.8)	(70.3-78.8)	(79.3-87.5)	(54.1-64.4)	(74.4-82.9)
Belgaum	360	412	3.2	2.6	15	12.8	100	99	96	97	90	89	97	83	84	88	77	79
			(2.9-3.6)	(2.42.8)	(12.6-17.4)	(11.9-13.7)	(98.4-99.9)	(97.1-99.5)	(92.2-97.9)	(94.6-98.0)	(85.2-93.0)	(85.1-92.1)	(94.0-98.6)	(78.3-87.2)	(79.2-88.3)	(84.1-91.4)	(71.4-82.2)	(74.3-82.9)
Bellary	420	417	2.6	3.5	11.9	16.3	90	96	83	97	79	89	97	79	76	93	66	84
			(2.0-3.0)	(2.8-4.2)	(9.6-14.3)	(13.6-18.9)	(82.5-94.0)	(92.9-97.8)	(75.9-88.1)	(93.5-98.1)	(73.7-83.2)	(84.9-92.3)	(94.2-98.9)	(75.3-82.3)	(70.7-81.1)	(88.9-95.2)	(60.6-71.7)	(79.2-88.0)
Shimoga	390	408	1.9	1.9	5.4	9	96	83	75	92	57	84	98	86	69	83	51	77
			(1.7-2.0)	(1.8-2.1)	(4.8-6.1)	(8.5-9.6)	(93.1-97.6)	(78.5-86.9)	(69.4-80.0)	(87.9-94.4)	(50.2-63.0)	(78.4-88.1)	(95.4-99.1)	(81.8-89.6)	(62.3-75.1)	(78.2-86.9)	(44.3-57.4)	(71.3-81.5)

Table F5: Sexual history, condom use with occasional and regular male clients

State & District	No. of respon-dents		Mean number of clients in last day		Mean number of clients in last week		Occasional clients (%)						Regular clients (%)					
							Had occasional clients		Condom use#				Had regular clients		Condom use#			
									Last time		Consistent				Last time		Consistent	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Maharashtra																		
Kolhapur	115	190	3.6	2.4	12.1	10.5	95	100	88	100	93	99.5	77	95	98	99	89	99
			(2.1-4.9)	(2.1-2.6)	(5.6-18.5)	(9.62-11.3)	(87.8-97.8)		(81.0-92.7)		(77.9-97.8)	(96.6-99.9)	(67.5-83.7)	(91.8-97.3)	(92.9-99.3)	(96.2-99.9)	(69.4-96.4)	(96.4-99.9)
Mumbai (BG)	338	405	NA	NA	4.9	NA	79	87	93	96.3	83	75.3	88	98	85	93	79	69
					(4.1-5.7)		(69.9-87.0)	(83.1-90.6)	(87.4-98.6)	(92.5-98.3)	(83.0-95.1)	(67.6-82.6)	(81.9-93.8)	(94.7-99.4)	(77.9-92.6)	(89.5-94.6)	(72.2-86.5)	(61.7-75.1)
Mumbai (BB)	407	395	3	2.8	12.8	12	91	95	97	100	78	97	76	79	93	100	75	94
			(2.8-3.2)	(2.5-3.1)	(11.7-13.9)	(10.57-13.49)	(83.2-95.5)	(89.2-97.8)	(93.8-98.4)	(97.2-99.9)	(70.8-84.5)	(91.9-98.8)	(68.1-83.1)	(72.9-84.7)	(83.2-97.1)	(98.3-100.0)	(66.3-81.7)	(89.7-97.0)
Mumbai (SB)	394	385	2.2	2.3	8.6	11.3	90	96	97	100	72	99	69	82	94	100	56	98
			(2.1-2.3)	(2.1-2.5)	(8.0-9.2)	(9.84-12.75)	(85.1-93.7)	(92.3-97.9)	(94.5-98.8)	(98.4-99.8)	(62.8-79.2)	(97.7-99.6)	(61.3-75.4)	(70.5-90.1)	(87.3-97.2)	(98.7-100.0)	(45.0-66.2)	(95.2-99.0)
Parbhani	367	303	2	2.6	9	11.08	93	88	93	99	88	98	70	97	91	99	84	99
			(2.1-2.4)	(1.8-3.5)	(8.0-9.6)	(6.44-15.71)	(89.9-96.4)	(80.4-93.5)	(90.2-96.4)	(97.7-99.8)	(83.9-92.8)	(95.8-99.2)	(64.7-74.0)	(95.3-98.5)	(85.5-96.5)	(97.9-99.8)	(75.7-90.5)	(97.0-99.4)
Pune (BB)	404	403	2.8	2.3	12	11.6	99	97	98	100	96	99	76	78	99	99	95	97
			(2.6-2.9)	(2.0-2.5)	(11.3-12.8)	(9.95-13.15)	(98.1-99.7)	(85.9-99.5)	(96.1-99.2)		(93.2-98.0)	(93.4-99.7)	(67.7-83.2)	(71.4-82.9)	(97.9-99.9)	(95.8-99.8)	(91.4-97.5)	(90.9-98.8)
Pune (NBB)	257	266	2.2	1.9	9.2	10	98	90	97	98	87	93	75	86	98	96	84	90
			(1.9-2.3)	(1.7-2.1	(8.6-9.8)	(8.29-11.57)	(94.3-99.1)	(77.3-95.8)	(94.4-98.6)	(94.7-99.5)	(82.1-91.1)	(89.4-95.8)	(67.8-80.6)	(81.3-89.6)	(94.7-99.2)	(91.3-97.8)	(77.9-89.2)	(85.8-92.2)
Thane (BB)	401	384	2.7	2.9	9.4	12.7	98	97	99	100	99	99	97	89	98	98	97	96
			(2.6-2.9)	(2.7-3.2	(8.8-9.9)	(11.49-13.86)	(95.1-99.4)	(91.5-98.8)	(97.4-99.7)		(95.9-99.6)	(96.4-99.5)	(94.2-98.4)	(82.7-92.9)	(95.5-99.2)	(94.8-99.4)	(94.0-98.1)	(92.9-98.2)
Thane (SB)	394	395	2	2.3	7.4	11	96	96	98	99	98	83	87	89	98	99	92	83
			(1.9-2.1)	(2.0-2.6)	(7.0-7.8)	(9.71-12.18)	(93.3-98.2)	(91.6-97.9)	(93.7-99.1)	(97.2-99.7)	(93.5-99.1)	(67.0-91.7)	(81.2-90.9)	(84.8-92.3)	(96.1-99.3)	(98.4-99.7)	(86.3-95.1)	(65.7-92.1)
Yevatmal	153	157	4.4	4.1	18.7	18.1	99	99	96	99	95	99	65	93	96	99	87	98
			(3.3-5.2)	(3.5-4.7)	(15.2-21.7)	(9.61-11.3)	(98.0-99.8)	(95.6-99.9)	(93.1-97.8)	(95.6-99.6)	(90.5-97.1)	(95.6-99.6)	(56.9-71.8)	(87.1-96.3)	(92.5-97.9)	(95.4-99.6)	(76.2-93.2)	(94.5-99.3)

Table F5: Sexual history, condom use with occasional and regular male clients

State & District	No. of respon-dents		Mean number of clients in last day		Mean number of clients in last week		Occasional clients (%)						Regular clients (%)					
							Had occasional clients		Condom use#				Had regular clients		Condom use#			
									Last time		Consistent				Last time		Consistent	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Tamil Nadu																		
Chennai	410	397	1.8	2.03	5.6	7	85	98	96	99	91	95	92	95	95	95	91	87
			(1.8-1.9)	(1.9-2.2)	(5.3-5.9)	(6.5-7.4)	(78.6-89.5)	(95.1-99.0)	(91.6-97.6)	(98.2-99.7)	(85.9-94.5)	(90.2-96.9)	(87.2-94.5)	92.9-97.0)	(91.3-97.1)	(91.2-96.7)	(86.3-93.9)	(82.9-91.3)
Coimbatore	410	400	2	1.9	6.1	4.8	80	97	93	99	41	96	98	99	86	99	42	93
			(1.9-2.1)	(1.8-2.0)	(5.7-6.4)	(4.2-5.3)	(74.3-84.7)	(94.0-98.4)	(89.2-95.9)	(96.4-99.4)	(35.2-46.9)	(93.1-97.6)	(96.3-99.4)	(96.1-99.6)	(82.5-89.7)	(95.8-99.4)	(35.9-48.8)	(89.5-95.8)
Dharamapuri	408	406	2.7	2	10.4	6.2	96	85	95	91	69	74	100	93	97	89	67	72
			(2.6-2.9)	(0.1-1.7)	(9.6-11.2)	(5.2-7.2)	(93.3-97.4)	(78.6-90.0)	(91.2-97.0)	(84.3-94.4)	(63.1-73.9)	(66.5-79.9)	(98.8-100)	(86.7-95.9)	(95.1-98.7)	(83.0-93.3)	(60.5-73.0)	(63.5-79.0)
Madurai	402	396	2	2	5.6	5.2	80	92	84	100	70	100	96	97	85	100	64	100
			(1.9-2.1)	(0.08-1.9)	(5.2-6.0)	(4.6-5.8)	(73.1-86.1)	(85.5-95.3)	(78.4-89.2)	(99.6-100.0)	(63.9-76.4)	(99.5-100.0)	(92.4-98.0)	(93.2-98.7)	(77.9-90.0)	(99.7-100.0)	(56.3-71.1)	(99.2-99.9)
Salem	402	407	2.2	1.6	7.5	4.4	78	100	93	99	79	95	94	100	87	98	66	87
			(2.1-2.3)	(0.07-1.5)	(7.1-8.0)	(3.7-5.1)	(69.9-84.1)	(98.7-100.0)	(87.0-96.4)	(96.7-99.7)	(72.1-84.2)	(90.6-97.1)	(89.6-96.9)	(98.4-99.9)	(80.9-91.1)	(95.0-98.7)	(58.3-73.3)	(79.5-91.7)
Nagaland																		
Dimapur	426	417	1.9	NA	6.2	NA	100	59	36	72	11	32	99	94	26	58	5	20
			(1.8-2.0)		(5.8-6.7)		(99.0-100)	(52.0-64.9)	(31.2-41.5)	(64.6-77.9)	(8.4-15.1)	(25.3-38.6)	(97.6-99.6)	(90.8-96.2)	(21.7-30.9)	(52.5-64.5)	(3.6-7.3)	(15.5-25.3)

Based on subset of respondents applicable for that analysis
Occasional Clients-Clients who visited the respondent only once or a few times and the respondent do not remember them
Regular Clients-Clients who visited the respondent regularly/repeatedly and respondent knows them
NA-Not applicable

Table F6: Condom use with non-paying sexual partners

State & District	No. of respondents	Regular non paying partner (%)								Other non paying partners (%)			
		Had regular non-paying partner		Condom use#						Had other non paying casual partners		Condom use#	
				Last time				Consistent				Last time	
	RI	RII	RI	RII	RI	RII	RI	RII		RI	RII	RI	RII
Andhra Pradesh													
Chittoor	401	398	80	63	9	17	1	11		14	24	44	61
			(75.3-84.4)	(54.8-69.8)	(6.2-14.0)	(10.3-27.6)	(0.1-5.7)	(5.0-22.3)		(10.9-18.9)	(19.5-29.9)	(29.2-61.0)	(45.3-75.2)
East Godavari	422	401	70	66	28	34	17	29		15	8	84	89
			(63.5-75.0)	(57.9-73.2)	(17.3-40.7)	(21.4-49.6)	(11.0-25.9)	(16.9-46.0)		(9.5-22.1)	(5.3-12.3)	(69.9-92.3)	(73.6-95.7)
Guntur	405	405	78	81	29	21	15	5		16	32	86	83
			(71.5-82.9)	(73.6-87.3)	(21.4-38.8)	(8.6-44.1)	(10.7-20.7)	(2.7-10.4)		(12.6-21.3)	(20.5-46.7)	(74.9-92.6)	(66.6-92.4)
Hyderabad	399	401	78	65	7	8	4	0.7		10	18	52	37
			(70.4-83.6)	(50.3-77.1)	(4.4-12.3)	(4.5-12.4)	(2.3-7.7)	(0.2-2.1)		(7.0-14.8)	(12.2-25.6)	(32.5-71.5)	(24.8-50.2)
Karimnagar	412	402	82	65	17	10	9	0.7		38	33	46	70
			(76.4-87.2)	(56.5-73.2)	(12.3-23.0)	(6.7-15.2)	(5.5-14.9)	(0.2-2.6)		(29.8-48.0)	(27.8-38.8)	(30.4-63.3)	(58.8-79.6)
Prakasham	404	408	80	69	10	11	1	9		18	11	30	69
			(74.8-84.0)	(59.1-77.1)	(6.7-14.1)	(5.9-19.2)	(0.1-4.0)	(4.7-17.4)		(14.5-23.2)	(7.1-16.1)	(19.7-43.1)	(44.7-85.6)
Visakhapatnam	411	409	74	83	25	20	8	4		17	20	64	31
			(67.4-78.8)	(76.6-87.6)	(19.2-31.8)	(8.2-41.4)	(4.9-13.4)	(2.3-8.0)		(12.3-22.3)	(14.2-26.2)	(44.2-80.3)	(18.7-46.8)
Warangal	417	401	76	81	16	1.7	2	1.5		36	23	57	54
			(67.3-83.2)	(73.0-86.5)	(11.0-22.7)	(0.7-4.6)	(0.9-4.3)	(0.5-4.3)		(28.2-45.4)	(16.7-31.8)	(44.9-68.6)	(40.6-67.1)
Karnataka													
Bangalore (Urban)	673	750	69	63	19	22	14	15		12	7	41	70
			(62.4-74.2)	(57.7-68.1)	(14.2-25.3)	(18.2-26.7)	(9.4-18.9)	(11.7-19.1)		(8.6-16.2)	(5.1-9.4)	(27.8-56.5)	(53.7-82.7)
Belgaum	360	412	54	57	46	52	36	42		9	6	65	88
			(47.2-60.6)	(50.7-62.2)	(38.1-54.7)	(45.5-57.9)	(27.8-44.2)	(35.5-48.9)		(6.1-12.7)	(3.9-9.9)	(49.0-77.4)	(66.8-96.3)
Bellary	420	417	66	53	53	41	44	29		19	2	71	89
			(59.9-71.4)	(46.5-60.0)	(44.9-61.0)	(31.9-50.2)	(35.6-53.6)	(22.5-37.5)		(14.3-24.7)	(0.9-3.7)	(60.3-80.4)	(49.5-98.6)
Shimoga	390	408	72	62	38	22	22	13		21	5	57	66
			(66.4-76.6)	(56.9-66.3)	(31.1-45.0)	(18.1-27.4)	(17.2-27.0)	(9.6-18.0)		(17.0-25.8)	(3.4-8.2)	(42.3-70.4)	(41.4-83.6)

Table F6: Condom use with non-paying sexual partners

State & District	No. of respondents	Regular non paying partner (%)							Other non paying partners (%)			
		Had regular non-paying partner			Condom use#				Had other non paying casual partners		Condom use#	
					Last time		Consistent				Last time	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Maharashtra												
Kolhapur	115	190	55	53	32	39	29	32	4	1.6	20	100
			(46.2-63.1)	(44.6-61.6)	(21.7-43.9)	(30.9-47.0)	(20.2-38.7)	(23.4-41.3)	(1.7-10.6)	(0.6-4.4)	(3.8-61.1)	(100.0-100.0)
Mumbai (BG)	338	405	68	77.4	27	24.1	19	11.8	8	10.2	80	42.5
			(61.6-75.5)	(73.1-82.1)	(21.8-35.8)	(18.6-30.4)	(13.8-26.4)	(7.8-17.3)	(4.2-13.4)	(6.9-12.5)	(53.9-95.0)	
Mumbai (BB)	407	395	24	43	44	21	14	16	1	1	76	62
			(18.3-30.7)	(35.9-50.0)	(31.5-56.6)	(14.0-30.9)	(7.4-25.1)	(9.7-24.6)	(0.5-4.3)	(0.4-2.6)	(28.7-96.1)	(19.9-91.4)
Mumbai (SB)	394	385	38	56	35	17	13	9	1	0.8	56	11
			(30.3-45.3)	(48.9-63.4)	(25.1-45.9)	(10.5-26.2)	(7.5-20.2)	(4.5-15.9)	(0.4-4.3)	(0.2-3.4)	(9.8-94.0)	(1.0-60.9)
Parbhani	367	303	46	65	49	42	39	32	4	4		77
			(40.2-53.1)	(50.3-76.8)	(40.2-57.9)	(32.1-52.2)	(27.9-48.1)	(23.0-41.8)	(2.1-6.2)	(2.4-7.6)		(46.7-92.7)
Pune (BB)	404	403	33	47	32	25	27	10	0	1.8	NA	44
			(27.2-39.7)	(39.0-55.0)	(23.5-42.4)	(16.0-37.8)	(19.0-37.4)	(5.5-17.0)	(0.0-0.8)	(0.7-4.1)		(12.1-81.8)
Pune (NBB)	257	266	44	59	23	22	19	13	0.4	5	100	50
			(37.9-51.0)	(51.7-66.0)	(14.6-33.8)	(16.6-29.3)	(13.1-27.5)	(8.5-20.4)	(0.0-3.1)	(2.2-12.0)	(100.0-100.0)	(18.4-81.6)
Thane (BB)	401	384	36	46	64	39	58	24	1	0.8	100	100
			(30.4-41.7)	(38.6-53.5)	(55.3-72.6)	(29.0-51.0)	(48.2-66.6)	(15.1-35.4)	(0.3-3.7)	(0.3-2.4)		
Thane (SB)	394	395	42	64	33	12	19	9	0.5	0.7	100	55
			(36.0-49.0)	(55.9-71.8)	(25.1-41.8)	(7.8-19.4)	(12.2-29.1)	(5.3-14.9)	(0.1-1.5)	(0.3-2.2)		(13.0-91.1)
Yevatmal	153	157	39	43	25	36	19	24	3	1.3	25	50
			(25.2-53.9)	(34.1-51.7)	(20.2-31.5)	(25.7-47.4)	(14.2-24.1)	(15.3-35.3)	(1.1-6.0)	(0.4-4.4)	(2.0-84.2)	(5.8-94.2)
Tamil Nadu												
Chennai	410	397	64	77	12	10	6	5	5	7	48	78
			(57.1-70.1)	(71.6-82.3)	(8.2-17.3)	(6.2-15.0)	(3.4-10.0)	(3.3-8.7)	(3.1-9.0)	(4.4-11.7)	(22.0-75.4)	(56.3-90.8)
Coimbatore	410	400	83	66	33	18	8	12	8	9	61	62
			(78.2-86.8)	(59.0-73.1)	(27.3-39.8)	(10.9-27.1)	(5.1-12.0)	(6.1-21.3)	(5.2-11.9)	(4.6-15.6)	(42.0-76.7)	(24.4-89.1)

Table F6: Condom use with non-paying sexual partners

State & District	No. of respondents	Regular non paying partner (%)							Other non paying partners (%)			
		Had regular non-paying partner			Condom use#				Had other non paying casual partners		Condom use#	
					Last time		Consistent				Last time	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Dharamapuri	408	406	78	75	46	26	23	25	13	8	84	73
			(72.8-82.0)	(65.2-81.9)	(37.9-53.6)	(18.9-35.0)	(16.3-31.2)	(14.6-38.6)	(9.0-17.5)	(4.6-13.1)	(69.9-92.0)	(49.3-88.2)
Madurai	402	396	77	82	32	30	16	28	20	11	80	89
			(70.0-82.7)	(74.4-87.6)	(23.7-41.5)	(17.3-45.5)	(9.6-25.8)	(16.3-44.7)	(13.9-28.5)	(6.2-19.5)	(64.8-89.8)	(51.6-98.4)
Salem	402	407	78	66	32	29	13	9	19	16	68	79
			(70.6-83.8)	(46.4-81.3)	(24.9-40.9)	(17.7-43.5)	(8.0-21.3)	(3.9-17.7)	(13.4-25.4)	(7.1-31.5)	(53.4-80.2)	(43.9-94.5)
Nagaland												
Dimapur	426	417	89	75	13	36	4	10	37	19	33	51
			(85.6-91.6)	(69.7-79.8)	(9.9-16.5)	(25.9-39.5)	(2.5-6.4)	(5.4-12.0)	(31.8-42.2)	(13.9-23.8)	(22.4-45.0)	(36.9-72.8)

Based on subset of respondents applicable for that analysis
Regular non-paying male partner-Husband, boyfriend or live-in-partner
NA-Not applicable

Table F7: Prevalence of HIV and STIs

State & District	No. of respondents		HIV (%)		HSV 2 Antibody (%)*		Reactive syphillis serology (%)**		N. gonorrhea (%)		C. trachomatis (%)		Have any STI (+ve for syphilis, gonorrhoeae) (%)***		HIV among 'any STI' positive (%)		HIV among 'any STI' negative (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh																		
Chittoor	401	398	8	10.5	80	52.5	10.3	3.4	2.5	3.2	3.1	0.5	14.4	6.9	12.2	16.2	7.3	10.1
			(5.3-12.0)	(6.4-17.0)	(67.0-93.0)	(36.0-69.0)	(6.5-16.1)	(1.8-6.4)	(1.2-5.1)	(1.2-8.0)	(1.4-6.8)	(0.1-2.1)	(9.9-20.4)	(3.6-12.7)	(5.7-24.3)	(5.8-37.8)	(4.4-12.0)	(5.8-16.9)
East Godavari	422	401	26.3	23.3	81.4	78	15	17.9	1.2	2.2	3.2	10.3	18.9	26.9	34.9	24.4	24.2	22.9
			(20.5-32.9)	(16.2-32.2)	(69.0-94.0)	(65.0-91.0)	(10.4-21.0)	(9.2-32.2)	(0.5-2.8)	(1.1-4.3)	(1.7-6.1)	(6.7-15.5)	(13.7-25.5)	(17.3-39.3)	(23.1-49.0)	(12.7-41.6)	(17.9-31.9)	(15.1-33.1)
Guntur	405	405	21.3	8.4	82.9	70.7	8.6	2.9	1.3	0	1.7	0.7	11.1	3.6	30.6	17.1	20.1	8.1
			(16.8-26.6)	(5.2-13.4)	(71.0-95.0)	(56.0-85.0)	(5.9-12.3)	(1.5-5.7)	(0.5-3.0)		(0.8-3.5)	(0.2-2.4)	(8.2-14.8)	(1.9-6.9)	(17.8-47.3)	(6.8-37.2)	(15.3-26.1)	(4.8-13.1)
Hyderabad	399	401	14.3	9.6	77.5	87.8	17.4	6.7	6.4	11.5	6.5	8.2	24.1	23.1	21.4	15.7	12.1	7.8
			(9.8-20.4)	(5.7-15.7)	(64.0-91.0)	(77.0-98.0)	(11.9-24.7)	(4.3-10.3)	(3.9-10.3)	(6.1-20.7)	(4.0-10.6)	(5.4-12.3)	(18.0-31.6)	(15.6-32.9)	(12.5-34.1)	(8.4-27.4)	(7.4-19.0)	(3.4-16.6)
Karimnagar	412	402	21.1	6.5	65.1	65.9	6.4	3.6	1.6	1	3	0.9	10.2	5.2	38	18	19.2	5.9
			(14.1-30.4)	(4.2-10.1)	(50.0-80.0)	(51.0-81.0)	(4.0-9.9)	(1.6-8.0)	(0.7-3.5)	(0.4-2.4)	(1.8-5.1)	(0.3-2.8)	(7.3-14.2)	(2.8-9.5)	(24.0-54.3)	(4.8-49.0)	(11.9-29.5)	(3.6-9.6)
Prakasham	404	408	11.1	13.4	53.7	61	5.2	3.2	0.2	0	3.4	0.2	7.6	3.2	14.1	77	10.8	11.3
			(7.3-16.4)	(7.6-22.7)	(38.0-70.0)	(45.0-77.0)	(2.9-8.9)	(1.2-8.3)	(0.0-1.2)	0	(1.8-6.5)	(0.0-1.2)	(5.0-11.3)	(1.2-8.4)	(5.8-30.6)	(39.7-94.6)	(7.0-16.3)	(5.6-21.3)
Visakhapatnam	411	409	14.2	18.2	57.1	58.5	7	4.7	1.4	1.9	3.6	2.9	11.2	7.7	27.2	33.1	12.6	16.9
			(10.0-19.8)	(7.9-36.6)	(42.0-73.0)	(43.0-74.0)	(4.8-10.3)	(2.4-9.1)	(0.5-3.5)	(0.8-4.5)	(2.0-6.5)	(1.6-5.3)	(7.9-15.6)	(4.7-12.3)	(14.7-44.6)	(13.6-60.8)	(8.1-18.9)	(6.3-38.3)
Warangal	417	401	10.8	15	61.9	39	10.2	1.5	1.9	1.9	2.9	1	12.5	3.5	38.4	1.9	6.9	15.4
			(7.0-16.2)	(4.6-38.9)	(47.0-77.0)	(23.0-55.0)	(6.4-15.8)	(0.4-5.0)	(0.9-4.1)	(0.7-5.0)	(1.6-5.4)	(0.2-4.8)	(8.3-18.3)	(1.6-7.4)	(23.4-55.9)	(0.2-13.7)	(4.0-11.6)	(4.7-40.5)
Karnataka																		
Bangalore (Urban)	673	750	12.7	8	68.6	NA	12.6	9.5	3.6	3.2	6.5	12	19.4	19.9	18	8.2	11.4	8
			(9.1-17.3)	(5.7-11.2)	(63.5-73.3)		(9.3-16.7)	(7.4-12.1)	(1.8-7.0)	(2.1-4.8)	(4.3-9.6)	(9.4-15.0)	(15.6-23.8)	(16.9-23.3)	(8.2-35.2)	(4.6-14.2)	(7.6-16.7)	(5.4-11.7)
Belgaum	360	412	33.9	27.3	83.8	NA	8	12.4	4.2	2	6.1	3.8	14.2	15.5	48.7	38.8	31.5	25.1
			(28.0-40.4)	(22.5-32.7)	(77.9-88.4)		(4.2-14.6)	(9.2-16.5)	(2.0-8.9)	(0.9-4.3)	(3.9-9.6)	(2.1-6.7)	(9.5-20.6)	(12.0-19.8)	(33.8-63.8)	(27.4-51.6)	(25.2-38.4)	(20.3-30.7)
Bellary	420	417	15.7	14.1	70.8	NA	5.2	7.7	2.8	3.6	4.1	4.6	11.2	12.9	26.5	16.7	14.3	13.7
			(11.7-20.6)	(10.9-18.1)	(64.0-76.7)		(2.9-9.0)	(5.4-11.1)	(1.5-5.2)	(1.9-6.7)	(2.2-7.6)	(2.7-7.8)	(8.0-15.6)	(10.0-16.5)	(12.1-48.5)	(9.2-28.6)	(10.2-19.7)	(10.0-18.6)
Shimoga	390	408	9.7	9	59.7	NA	4	3.8	1.3	1.3	5.3	2.8	10.4	7.5	22.1	10.8	8.2	8.8
			(6.8-13.6)	(6.2-12.8)	(53.3-65.8)		(2.1-7.4)	(2.2-6.5)	(0.6-2.9)	(0.4-4.2)	(3.6-7.7)	(1.4-5.4)	(7.6-13.9)	(4.9-11.2)	(10.5-40.8)	(3.7-27.4)	(5.8-11.6)	(5.9-12.9)

Table F7: Prevalence of HIV and STIs

State & District	No. of respondents		HIV (%)		HSV 2 Antibody (%)*		Reactive syphillis serology (%)**		N. gonorrhea (%)		C. trachomatis (%)		Have any STI (+ve for syphilis, gonorrhoeae) (%)***		HIV among 'any STI' positive (%)		HIV among 'any STI' negative (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Maharashtra																		
Kolhapur	115	190	33	27.4	83.3	75	27	3.2	4.3	0.5	5.2	2.1	30.4	5.8	40	45.5	30	26.3
			(24.4-43.0)	(20.9-34.9)	(58.6-108.1)	(54.2-95.7)	(19.0-36.8)	(1.4-7.0)	(1.9-9.5)	(0.1-3.0)	(2.6-10.1)	(1.0-4.6)	(22.2-40.1)	(3.0-10.9)	(24.0-58.5)	(23.4-69.4)	(21.0-40.0)	(20.1-33.5)
Mumbai (BG)	338	405	5.9	3.1	50	63	2.1	3.1	2.3	0.4	7	1.4	10	5.1	NA	NA	NA	NA
			(3.8-8.2)	(1.7-4.7)	(33.0-67.0	(48.5-77.5)	(0.8-3.8)	(1.8-4.9)	(0.6-4.1)	(0.0-0.01)	(4.3-10.5)	(0.3-3.3)	(6.9-14.3)	(3.2-7.8)				
Mumbai (BB)	407	395	28.1	34.9	87.8	86.6	13	7.9	9.3	5.9	8.5	4.1	25.3	16.6	40.5	48.9	23.9	32.1
			(22.2-34.8)	(28.0-42.5)	(77.3-97.3)	(76.3-96.9)	(9.3-17.9)	(5.3-11.7)	(6.5-13.2)	(3.4-10.0)	(5.6-12.5)	(2.2-7.4)	(20.0-31.5)	(12.2-22.1)	(29.9-52.1)	(34.0-64.1)	(17.9-31.0)	(24.7-40.6)
Mumbai (SB)	394	385	19.2	32.3	70.2	85.0	14.6	11.5	8	5.1	8.2	4.4	26.6	19.9	33.4	46.3	14	28.8
			(13.7-26.2)	(25.2-40.3)	(54.8-85.7)	(73.4-96.5)	(10.6-19.7)	(7.5-17.1)	(4.8-13.0)	(2.9-8.8)	(5.4-12.2)	(2.5-7.4)	(20.6-33.6)	(14.9-26.1)	(22.6-46.3)	(34.2-58.8)	(9.4-20.5)	(20.4-39.0)
Parbhani	367	303	16.1	14.9	52.2	80.6	11.5	10.2	1.9	0	2	1	13.2	11.2	33.9	23.5	12.1	13.8
			(11.9-20.6)	(7.4-27.5)	50.0-100.0	(65.9-95.3)	(8.4-15.2)	(4.9-20.0)	(0.2-1.9)	0	(0.9-3.0)	(0.2-3.9)	(9.8-17.3)	(5.2-22.5)		(11.7-41.6)		(6.6-26.5)
Pune (BB)	404	403	38.7	20.3	80.9	65.8	32.8	14.6	5.2	1.2	5.8	8.2	40.2	23.1	47	23.9	33.1	19.4
			(31.3-46.5)	(14.7-27.4)	(69.2-92.5)	(50.7-81.0)	(25.6-40.9)	(9.6-21.5)	(3.2-8.5)	(0.5-3.1)	(3.8-9.0)	(4.8-13.6)	(33.0-47.9)	(15.5-28.5)	(33.7-60.7)	(14.0-37.7)	(25.8-41.3)	(13.1-27.7)
Pune (NBB)	257	266	37	21.8	96.2	88.9	39.7	12.4	7.8	0.8	8.6	4.9	50.2	17.8	42.6	25.5	31.3	21.2
			(31.4-42.9)	(15.7-29.5)	(88.2-101.2)	(76.2-102.5)	(33.8-45.9)	(7.9-19.0)	(4.1-14.3)	(0.2-3.0)	(5.2-13.7)	(2.8-8.6)	(43.9-56.5)	(13.0-23.1)	(34.1-51.6)	(14.8-40.3)	(23.4-40.3)	(14.7-29.6)
Thane (BB)	401	384	18.6	33.1	35.9	81.5	9.1	10.3	0.9	5.2	3.6	7	12.7	20.7	57.7	50.2	12.9	28.7
			(13.9-24.4)	(26.2-40.9)	(20.1-51.6)	(68.6-94.5)	(5.9-13.8)	(6.5-16.1)	(0.2-3.7)	(3.1-8.8)	(1.9-6.8)	(4.2-11.4)	(8.9-17.7)	(15.5-27.3)	(39.3-74.2)	(34.6-65.8)	(8.8-18.5)	(21.4-37.2)
Thane (SB)	394	395	7	11.8	58.3	74.4	4.7	8.6	4.9	4.1	14.2	10.4	20.7	20.9	17.5	11.4	4.3	11.8
			(4.1-11.9)	(7.8-17.4)	(41.4-75.2)	(60.8-88.0)	(2.4-9.0)	(4.4-16.0)	(2.3-10.4)	(2.0-8.1)	(8.4-23.1)	(6.6-16.0)	(13.7-30.1)	(13.2-31.6)	(8.2-33.3)	(4.8-24.8)	(2.0-9.2)	(7.4-18.4)
Yevatmal	153	157	37.3	26.8	100	87.5	51	15.3	4.6	0.6	8.5	1.9	57.5	17.2	45.5	48.1	26.2	22.3
			(25.1-51.2)	(19.1-36.1)		(69.2-10.5.7)	(42.3-59.6)	(10.6-21.5)	(1.7-11.6)	(0.1-4.4)	(3.2-20.4)	(0.6-5.8)	(49.2-65.4)	(12.3-23.5)	(29.0-63.0)	(30.9-65.8)	(15.6-40.5)	(14.7-32.3)

Table F7: Prevalence of HIV and STIs

State & District	No. of respondents		HIV (%)		HSV 2 Antibody (%)*		Reactive syphillis serology (%)**		N. gonorrhea (%)		C. trachomatis (%)		Have any STI (+ve for syphilis, gonorrhoeae) (%)***		HIV among 'any STI' positive (%)		HIV among 'any STI' negative (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Tamil Nadu																		
Chennai	410	397	2.2	2.4	31.7	37.5	11.3	0.8	0.3	0.0	1.8	2.8	12.6	3.6	3.1	33.9	2.1	1.2
			(1.0-5.1)	(1.1-5.2)	(16.8-46.5)	(24.4-50.5)	(7.2-17.2)	(0.3-2.1)	(0.1-1.3)		(0.7-4.5)	(1.1-6.5)	(8.5-18.4)	(1.8-7.1)	(1.0-9.3)	(9.3-72.0)	(0.8-5.1)	(0.5-3.0)
Coimbatore	410	400	6.3	6.3	56.1	58.9	11.9	0.4	2.2	0.0	2.4	1.7	14.5	1.9	13.9	2.4	5	6.4
			(3.5-11.0)	(3.6-10.8)	(40.2-71.9)	(45.6-72.2)	(8.5-16.6)	(0.1-1.3)	(0.8-5.6)		(1.1-5.1)	(0.9-3.3)	(10.6-19.7)	(1.0-3.6)	(5.5-31.0)	(0.3-16.7)	(2.8-8.9)	(3.7-11.0)
Dharamapuri	408	406	12.4	8.8	75.6	48.2	10.7	4.2	0.5	0.0	4.3	1.5	14	5.6	14.5	33.1	12.1	7.4
			(7.9-18.9)	(5.3-14.2)	(61.8-89.3)	(34.7-61.7)	(7.9-14.3)	(2.1-8.3)	(0.1-1.6)		(2.3-7.8)	(0.7-3.0)	(10.8-18.0)	(3.0-10.1)	(6.9-28.0)	(12.0-64.3)	(7.2-19.4)	(4.1-12.7)
Madurai	402	396	4.3	8.3	48.8	58.2	11.1	2.4	0	0.0	0.9	0.3	11.9	2.7	5	0.0	4.2	8.6
			(2.6-6.9)	(3.7-17.6)	(32.8-64.7)	(44.7-71.6)	(6.3-18.8)	(0.9-6.5)	(0.0-0.8)		(0.4-2.4)	(0.1-0.7)	(7.1-19.5)	(1.1-6.6)	(1.5-15.6)		(2.5-7.0)	(3.8-18.1)
Salem	402	407	12.5	6.7	72.5	53.6	7.5	3.1	1.7	1	3.7	0.7	10.8	4.7	26.6	42.5	10.8	5
			(8.4-18.2)	(3.9-11.3)	(58.0-86.9)	(40.0-67.0)	(4.4-12.5)	(1.4-6.4)	(0.3-9.2)	(0.2-4.0)	(1.5-8.7)	0.2-1.8)	(6.8-16.8)	(2.5-8.4)	(9.9-54.3)	(17.8-71.7)	(7.0-16.3)	(2.8-8.6)
Nagaland																		
Dimapur	426	417	11.6	11.4	52.6	44.7	22.1	12.7	4.6	6.6	22.6	19.5	39.1	31	20.6	31.8	8.6	8
			(8.8-15.1)	(7.9-15.0)	(39.2-66.0)	(29.9-59.4)	(18.1-26.3)	(9.6-15.7)	(2.7-6.7)	(3.9-9.5)	(18.3-27.1)	(14.8-24.5)	(34.3-44.1)	(26.0-35.8)		(10.4-33.0)		(4.3-11.5)

* Un-weighted estimates based on a random sample of 10% of sera specimens selected for HSV-2 testing (except for Karnataka where weighted estimates for R1 are presented
** RPR positive (any titre) and TPHA positive
*** Positive for reactive syphilis serology, N. gonorrhoeae or C. trachomatis (one or more)
NA-Not available

Table M1: Demographic profile of MSM/Transgenders

State & District	No. of respondents		Mean age (years)		Can read and write (%)		Ever married (%)		Living with sex partner (%)		Circumcised (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh												
East Godavari	405	400	30	27	74	81	47	41	46	49	4	2
			(28.7-30.5)	(25.9-28.6)	(66.4-80.5)	(71.1-87.3)	(40.5-54.1)	(29.7-53.2)	(39.3-52.9)	(36.7-61.7)	(2.5-7.6)	(1.1-4.6)
Guntur	407	404	27	29	58	77	62	53	62	52	20	18
			(26.6-28.0)	(27.2-30.4)	(50.2-65.5)	(69.9-82.8)	(55.1-68.1)	(42.8-62.7)	(55.6-67.8)	(41.7-61.7)	(14.9-26.4)	(9.7-31.2)
Hyderabad	403	405	28	26	76	83	30	27	29	29	19	8
			(27.0-28.5)	(25.2-27.0)	(71.3-81.0)	(77.3-86.7)	(23.8-36.2)	(20.8-33.6)	(23.4-36.1)	(22.7-36.1)	(14.1-24.4)	(5.3-12.3)
Visakhapatnam	406	399	26	27	82	74	39	27	38	26	1	4
			(24.8-26.2)	(24.7-29.2)	(75.5-86.7)	(61.6-83.2)	(31.5-46.7)	(17.8-38.7)	(31.2-46.1)	(17.3-38.1)	(0.5-2.9)	(1.6-7.9)
Maharashtra												
Mumbai-Thane	400	373	24	26	89	97	19	23	18	22	33	19
			(23.4-24.3)	(24.7-27.0)	(84.1-92.2)	(90.7-98.9)	(13.8-24.9)	(15.2-34.0)	(13.2-23.9)	(13.6-32.4)	(26.2-40.2)	(11.9-28.0)
Pune	253	279	25	26	91	94	17	22	15	22	21	7
			(24.2-25.9)	(23.9-25.2)	(85.4-94.5)	(91.1-96.4)	(12.1-22.4)	(16.9-27.8)	(10.6-20.8)	(17.2-27.4)	(13.4-31.3)	(4.7-10.9)
Tamil Nadu												
Chennai	406	403	27	29	84	99	18	19	15	19	11	7
			(26.2-27.4)	(27.6-29.7)	(78.3-87.7)	(95.7-99.9)	(13.3-24.7)	(13.8-24.3)	(10.9-20.3)	(13.7-25.1)	(6.1-18.6)	(4.6-10.6)
Coimbatore	410	408	29	31	86	92	28	24	26	24	7	8
			(28.5-30.0)	(29.5-32.7)	(81.1-89.9)	(84.5-95.9)	(23.4-33.2)	(17.4-32.4)	(21.9-30.9)	(16.9-32.0)	(4.3-10.5)	(4.3-14.9)
Madurai	402	406	29	28	80	88.6	27	18	17	16	7	7
			(28.7-30.3)	(26.0-29.4)	(73.8-85.6)	(82.5-92.8)	(19.1-35.8)	(12.4-25.5)	(11.1-26.2)	(10.2-22.8)	(4.6-10.9)	(4.7-11.2)
Salem	403	403	29	32	62	83	28	41	24	37	7	4
			(27.6-29.4)	(29.4-34.5)	(52.1-71.4)	(72.4-90.3)	(20.0-37.2)	(22.7-61.8)	(16.3-33.2)	(19.5-58.2)	(4.0-10.6)	(1.3-10.4)
Karnataka												
Bangalore	303	NA	27	NA	79	NA	20	NA	NA	NA	11	NA
			(26.6-28.4)		(70.5-85.5)		(14.6-27.0)				(6.5-16.9)	
MSM T in 4 Districts (Belgaum, Bellary, Mysore, Shimoga)	537	NA	31	NA	71	NA	57	NA	5	NA	19	NA
			(30.0-32.6)		(66.5-75.5)		(50.8-62.2)		(2.9-7.1)		(14.6-24.4)	

NA-Not available

Table M2: Services received from any agency

State & District	No. of respondents		Peer contacts				Visits to NGO clinics				Received condoms from Peer/ORW in last year (%)		Received information on STIs from Peers/ ORW in last year (%)	
			Contacted by Peer/ ORW in last month (%)		Contacted by Peer/ ORW in last year (%)		Visited a NGO clinic in last 3 months (%)		Visited a NGO clinic in last year (%)					
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh														
East Godavari	405	400	77	76	79	77	48	75	55	76	76	76	76	75
			(69.4-82.7)	(66.2-84.2)	(71.8-84.2)	(66.3-84.3)	(42.9-54.2)	(65.4-83.3)	(48.6-61.4)	(65.5-83.5)	(70.0-81.7)	(65.3-83.6)	(70.0-81.4)	(65.1-83.4)
Guntur	407	404	10	78	10	78	4	78	5	78	10	78	9	78
			(5.7-15.7)	(70.3-84.1)	(5.9-16.0)	(70.4-84.2)	(1.7-7.6)	(70.3-84.0)	(2.6-9.1)	(70.3-84.0)	(5.8-16.1)	(70.1-84.0)	(5.3-14.6)	(70.2-84.0)
Hyderabad	403	405	52	82	52	82	22	81	28	69	52	82	45	80
			(41.6-61.8)	(76.4-87.0)	(41.8-62.6)	(76.5-87.1)	(15.0-32.3)	(76.1-84.4)	(19.2-39.7)	(63.3-73.3)	(41.1-61.7)	(76.3-86.9)	(35.0-55.4)	(74.1-84.0)
Visakhapatnam	406	399	95	56	95	57	35	55	42	55	93	57	93	56
			(90.8-96.8)	(44.6-66.8)	(90.8-96.8)	(45.4-67.5)	(28.7-42.0)	(43.1-65.5)	(35.2-49.6)	(43.1-65.5)	(89.0-95.3)	(45.2-67.3)	(89.5-95.5)	(44.4-66.6)
Maharashtra														
Mumbai-Thane	400	373	57	50	60	54	22	44	39	53	67	56	59	54
			(51.0-62.3)	(36.1-63.8)	(53.4-67.0)	(40.2-67.5)	(17.3-28.4)	(31.4-58.3)	(31.9-46.8)	(45.6-60.4)	(60.7-73.5)	(42.2-69.0)	(51.8-66.3)	(39.9-67.3)
Pune	253	279	40	59	46	60	6	49	8	53	47	59	40	60
			(31.9-47.7)	(52.5-65.5)	(37.3-54.7)	(53.5-66.5)	(2.8-12.3)	(41.6-56.0)	(3.6-14.8)	(45.6-60.4)	(38.2-55.3)	(51.8-65.4)	(32.0-49.2)	(52.5-66.8)
Tamil Nadu														
Chennai	406	403	58	84	59	84	55	70	60	63	59	85	59	85
			(51.8-64.5)	(76.8-89.2)	(52.7-65.7)	(77.3-89.6)	(48.9-61.5)	(61.7-77.1)	(53.5-66.4)	(54.9-71.2)	(52.2-65.7)	(79.8-88.9)	(52.3-64.9)	(78.6-89.5)
Coimbatore	410	408	78	91	78	91	74	88	78	88	76	91	77	91
			(72.1-83.0)	(84.7-95.1)	(71.9-82.9)	(84.7-95.1)	(68.5-79.6)	(79.5-93.8)	(72.1-83.0)	(79.4-93.7)	(69.9-81.7)	(84.8-95.2)	(70.6-81.7)	(84.8-95.2)
Madurai	402	406	62	100	64	100	58	99	66	100	61	100	63	100
			(51.9-72.1)		(53.4-73.5)		(47.5-67.7)	(97.7-99.8)	(55.3-75.4)	(97.9-100.0)	(51.2-70.5)	(98.1-99.9)	(52.0-72.2)	(97.9-100.0)
Salem	403	403	60	92	64	92	61	87	64	90	63	92	64	92
			(48.4-69.7)	(85.3-95.6)	(52.0-74.0)	(85.3-95.6)	(49.3-71.0)	(77.5-92.5)	(51.9-74.0)	(81.5-94.2)	(51.6-73.8)	(85.0-95.5)	(51.9-74.0)	(85.3-95.6)

Table M2: Services received from any agency

State & District	No. of respondents		Peer contacts				Visits to NGO clinics				Received condoms from Peer/ORW in last year (%)		Received information on STIs from Peers/ ORW in last year (%)	
			Contacted by Peer/ ORW in last month (%)		Contacted by Peer/ ORW in last year (%)		Visited a NGO clinic in last 3 months (%)		Visited a NGO clinic in last year (%)					
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Karnataka														
Bangalore	303	NA	69	NA	NA	NA	NA	NA	48	NA	67	NA	67	NA
			(61.7-75.4)						(38.1-57.4)		(59.7-73.3)		(62.5-76.4)	
MSM T in 4 Districts (Belgaum, Bellary, Mysore, Shimoga)	537	NA	88	NA	90	NA	NA	NA	68	NA	85	NA	NA	NA
			(81.6-91.8)		(84.3-93.7)				(62.2-74.0)		(79.9-89.1)			

NA-Not available

Table M3: STI knowledge and treatment seeking behaviors

State & District	No. of respondents		Ever heard of STIs (%)		Knowledge of 3 or more STI symptoms (%)*#		Had anyone of the symptoms during last year (%)		Sought trained care for most recent STI symptom (%)		Took preventive meaures for most recent STI symptom (%)		Had any one of the STI symptoms (current) (%)*	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh														
East Godavari	405	400	94	91	68	98	12	2.4	81	–	85	–	8	0.1
			(90.4-96.3)	(86.2-94.7)	(62.1-74.3)	(95.0-99.0)	(7.3-18.9)	(0.4-14.1)	(64.1-90.9)		(68.9-93.8)		(4.4-15.3)	(0.0-0.7)
Guntur	407	404	82	92	59	96	11	0.0	77	–	55	–	2	0.6
			(78.2-86.1)	(86.6-95.5)	(53.0-65.5)	(92.1-97.6)	(7.6-16.1)		(59.7-87.8)		(41.2-68.8)		(1.1-4.1)	(0.1-3.7)
Hyderabad	403	405	85	93	69	96	11	0.0	73	–	62	–	3	0.9
			(80.1-89.4)	(88.4-95.7)	(59.6-76.4)	(89.7-98.2)	(7.4-16.7)		(56.4-85.4)		(48.0-74.3)		(1.9-6.2)	(0.2-3.8)
Visakhapatnam	406	399	99	57	70	88	9	1.5	100	–	94	–	1	0.7
			(97.8-99.7)	(45.1-67.6)	(62.7-76.4)	(77.3-93.8)	(6.2-12.4)	(0.6-3.7)	(99.2-100)		(76.8-98.7)		(0.2-3.2)	(0.2-2.4)
Maharashtra														
Mumbai-Thane	400	373	89	87	53	60	14	18	75	–	68	–	5	4
			(84.6-92.3)	(74.3-94.2)	(45.4-59.6)	(49.1-69.7)	(10.1-19.2)	(12.0-27.1)	(56.6-87.5)		(51.7-81.0)		(2.7-8.5)	(1.3-10.8)
Pune	253	279	81	75	38	93	18	4	65	–	78	–	5	0.4
			(76.6-84.8)	(66.5-81.2)	(32.1-44.4)	(87.5-95.9)	(13.9-23.5)	(2.2-7.0)	(46.0-80.5)		(64.5-87.7)		(2.7-8.2)	(0.0-2.6)
Tamil Nadu														
Chennai	406	403	91	92	74	84	4	5	77	–	66	–	2	0
			(86.6-94.5)	(87.5-94.3)	(66.9-79.3)	(78.1-88.1)	(2.2-6.5)	(2.9-9.1)	(53.5-90.4)		(43.6-83.4)		(0.9-4.4)	0
Coimbatore	410	408	91	100	81	95	2	1.8	83	–	26	–	1	0.3
			(86.8-94.1)		(73.4-86.3)	(88.3-97.9)	(1.1-3.8)	(0.7-4.4)	(49.7-96.0)		(8.1-59.3)		(0.4-2.3)	(0.1-1.4)
Madurai	402	406	74	100	49	96	15	2.5	93	–	60	–	6	2.6
			(61.0-83.6)	(97.9-100.0)	(40.1-57.9)	(87.9-98.8)	(10.6-20.3)	(0.7-8.6)	(81.0-97.8)		(39.2-77.7)		(3.8-8.6)	(0.8-8.4)
Salem	403	403	92	98	61	79	13	0.7	88	–	93	–	4	4
			(84.1-96.2)	(95.9-99.0)	(54.3-68.0)	(62.3-89.6)	(8.4-20.9)	(0.2-2.2)	(71.7-95.1)		(78.4-97.9)		(1.9-6.83)	(1.6-9.2)

Table M3: STI knowledge and treatment seeking behaviors

State & District	No. of respondents		Ever heard of STIs (%)		Knowledge of 3 or more STI symptoms (%)*#		Had anyone of the symptoms during last year (%)		Sought trained care for most recent STI symptom (%)		Took preventive meaures for most recent STI symptom (%)		Had any one of the STI symptoms (current) (%)*	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Karnataka														
Bangalore	303	NA	47	NA	30	NA	7	NA	95	NA	56	NA	1	NA
			(36.6-58.0)		(14.8-50.3)		(4.0-11.1)		(80.8-99.0)		(32.2-77.6)		(0.6-3.1)	
MSM T in 4 Districts (Belgaum, Bellary, Mysore, Shimoga)	537	NA	76	NA	27	NA	34	NA	78	NA	68	NA	20	NA
			(70.1-81.7)		(22.9-31.4)		(29.2-39.1)		(70.6-84.2)		(59.2-75.4)		(15.0-26.1)	

Based on subset of respondents applicable for that analysis
* Of the 7 symptoms, viz., Genital/anal ulcer/sore, discharge from rectum, pain during defecation, burning/pain on urination, urethral discharge, swelling in groin area, and cannot retract foreskin.
– Estimates not presented due to small base
NA-Not available

Table M4: HIV/AIDS awareness and knowledge

State & District	No. of respondents		Ever heard of HIV/AIDS (%)		Knowledge of HIV prevention method (%)*#		No incorrect beliefs about HIV/AIDS transmission (%)**#		Believe HIV/AIDS can be prevented (%)#		Feel at risk of being infected with HIV/AIDS (%)#		Ever taken HIV test (%)#	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh														
East Godavari	405	400	99	100	93	89	51	51	95	93	90	2	15	81
			(98.1-99.8)	(98.1-99.9)	(89.6-95.8)	(83.2-92.8)	(45.5-57.0)	(37.9-64.4)	(91.2-97.2)	(88.1-95.4)	(84.7-93.5)	(0.9-5.2)	(10.7-19.5)	(71.4-87.4)
Guntur	407	404	100	100	82	98	40	56	86	98	63	5	15	84
			(98.8-100)	(97.9-100.0)	(76.1-86.1)	(94.3-99.2)	(33.6-45.9)	(45.0-66.9)	(82.4-89.4)	(94.3-99.5)	(55.7-69.2)	(2.8-10.0)	(10.5-21.1)	(75.1-90.3)
Hyderabad	403	405	100	100	86	95	42	72	87	95	70	5	14	78
			(99.2-100)		(79.6-91.1)	(90.7-97.2)	(37.0-46.7)	(61.5-80.6)	(80.1-92.0)	(91.1-97.5)	(60.5-78.0)	(2.6-9.9)	(10.3-19.4)	(70.6-83.7)
Visakhapatnam	406	399	99	93	96	88	69	62	96	97	99	6	4	61
			(95.1-99.6)	(85.2-96.6)	(92.0-97.8)	(80.3-93.3)	(63.8-74.2)	(49.9-73.0)	(92.6-98.1)	(94.8-98.7)	(96.4-99.6)	(1.4-20.5)	(2.4-8.0)	(47.9-71.8)
Maharashtra														
Mumbai-Thane	400	373	99	98	69	79	53	61	70	81	90	40	57	62
			(96.4-99.6)	(96.0-99.4)	(61.9-74.5)	(64.5-88.3)	(46.0-59.0)	(49.0-72.3)	(63.6-76.6)	(66.1-90.0)	(84.3-93.5)	(29.5-51.7)	(48.6-64.5)	(49.4-72.8)
Pune	253	279	99	98	85	85	55	74	86	86	70	46	48	78
			(96.0-99.7)	(93.5-99.1)	(78.2-89.9)	(78.7-89.6)	(48.6-61.9)	(66.1-80.3)	(78.4-90.7)	(81.6-90.1)	(64.3-75.8)	(39.3-51.9)	(39.3-56.8)	(71.0-83.0)
Tamil Nadu														
Chennai	406	403	99	99	99	90	75	73	100	95	88	42	47	83
			(97.9-99.8)	(98.1-99.7)	(97.8-99.7)	(84.6-94.0)	(69.7-79.6)	(64.9-79.1)	(98.5-100)	(88.2-97.6)	(82.6-91.2)	(33.9-51.1)	(39.6-55.0)	(76.9-88.0)
Coimbatore	410	408	99	100	93	100	53	49	95	100	83	15	40	93
			(97.3-99.5)		(88.6-95.7)		(45.6-59.8)	(41.6-57.0)	(90.2-97.1)		(77.5-87.5)	(9.9-21.1)	(34.0-45.5)	(86.1-96.9)
Madurai	402	406	90	100	89	99	57	83	88	100	95	74	27	98
			(73.1-96.5)	(97.9-100.0)	(83.9-92.5)	(96.4-99.8)	(48.2-59.8)	(75.0-88.6)	(71.3-95.3)		(92.4-97.1)	(67.4-80.2)	(21.0-35.0)	(95.3-99.2)
Salem	403	403	97	100	96	99	48	80	99	100	80	12	46	90
			(88.4-99.3)	(97.8-99.9)	(88.6-98.7)	(95.7-99.8)	(36.8-59.0)	(63.5-90.6)	(96.6-99.8)	(97.8-99.9)	(70.5-87.1)	(6.7-21.8)	(37.4-54.5)	(69.8-97.1)

Table M4: HIV/AIDS awareness and knowledge

State & District	No. of respondents		Ever heard of HIV/AIDS (%)		Knowledge of HIV prevention method (%)*#		No incorrect beliefs about HIV/AIDS transmission (%)**#		Believe HIV/AIDS can be prevented (%)#		Feel at risk of being infected with HIV/ AIDS (%)#		Ever taken HIV test (%)#	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Karnataka														
Bangalore	303	NA	67	NA	47	NA	32	NA	79	NA	16	NA	19	NA
			(57.8-75.7)		(36.3-57.0)		(19.6-46.9)		(68.1-86.7)		(5.9-35.3)		(11.4-28.7)	
MSM T in 4 Districts (Belgaum, Bellary, Mysore, Shimoga)	537	NA	89	NA	54	NA	25	NA	74	NA	20	NA	33	NA
			(84.4-92.2)		(48.6-58.9)		(20.0-30.6)		(67.8-79.7)		(16.3-24.5)		(27.2-38.6)	

NA-Not available

Based on subset of respondents applicable for that analysis

* Defined as number of respondents identifying consistent condom use as a method of reducing the risk of contracting HIV

** Defined as number of respondents who correctly reject two most common local misconceptions about AIDS transmission and prevention and who know that a healthy looking person can transmit AIDS

Table M5: Sexual history and condom use with main regular partners and paying male partners

State & District	No. of respondents		Had main regular Male partner		Condom use with main regular male partner (%)				Had paying male partner (%)		Condom Use	
					Last time		Consistent				Last time (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh												
East Godavari	405	400	52	70	77	87	8	73	35	28	90	96
			(39.1-63.8)	56.5-80.7)	(67.4-85.0)	(80.6-91.8)	(4.5-13.5)	(60.4-82.1)	(26.9-44.3)	(16.7-44.0)	(78.8-95.2)	(82.9-99.2)
Guntur	407	404	18	49	63	84	26	72	26	39	75	89
			(9.9-29.3)	(40.4-57.7)	(48.4-76.2)	(73.7-90.1)	(15.7-40.8)	(60.2-80.7)	(20.9-31.8)	(30.3-48.9)	(64.2-82.8)	(80.4-94.2)
Hyderabad	403	405	34	63	70	70	14	52	36	64	92	92
			(23.4-45.3)	(58.1-67.6)	(59.8-78.4)	(58.9-78.9)	(7.4-23.7)	(40.9-63.5)	(28.8-44.5)	(56.1-71.3)	(82.2-96.5)	(87.0-94.7)
Visakhapatnam	406	399	78	61	88	93	3	92	90	48	91	90
			(70.4-83.9)	(49.2-71.9)	(80.3-93.0)	(85.8-96.5)	(1.4-5.5)	(84.4-95.6)	(85.7-92.5)	(36.5-59.3)	(86.1-94.7)	(81.4-95.1)
Maharashtra												
Mumbai -Thane	400	373	51	60	70	91	47	57	37	40	86	78
			(42.5-58.9)	(47.2-71.6)	(62.4-76.5)	(83.2-95.4)	(39.5-54.5)	(40.3-71.6)	(31.0-43.0)	(28.4-52.4)	(77.1-91.1)	(50.9-92.4)
Pune	253	279	46	55	60	94	52	92	60	64	74	96
			(27.1-65.9)	(48.4-61.8)	(46.5-71.3)	(88.1-96.6)	(38.3-64.9)	(87.0-94.6)	(49.7-68.9)	(57.3-69.8)	(59.4-85.0)	(90.7-98.4)
Tamil Nadu												
Chennai	406	403	72	78	75	62	38	28	62	78	83	84
			(58.0-82.0)	(70.6-83.6)	(65.9-81.7)	(52.7-69.8)	(29.4-47.1)	(19.9-37.8)	(55.3-67.3)	(71.0-84.0)	(74.1-89.6)	(76.7-89.8)
Coimbatore	410	408	83	67	78	98	24	41	49	100	84	98
			(75.9-88.6)	(58.8-73.4)	(73.0-83.0)	(95.3-99.0)	(18.8-29.1)	(31.5-51.7)	(43.2-54.8)		(77.2-89.0)	(95.9-98.7)
Madurai	402	406	74	100	68	94	41	95	62	100	83	98
			(53.9-87.8)		(55.0-79.0)	(87.6-97.2)	(30.2-51.9)	(88.9-98.1)	(52.3-70.8)	(99.5-100.0)	(76.0-88.6)	(91.3-99.6)
Salem	403	403	80	78	66	89	29	20	57	96	73	97
			(66.9-88.7)	(54.8-91.2)	(56.3-74.5)	(77.4-95.1)	(21.3-38.6)	(10.9-32.6)	(40.7-72.0)	(91.4-98.4)	(62.3-81.8)	(90.6-99.1)

Table M5: Sexual history and condom use with main regular partners and paying male partners

State & District	No. of respondents		Had main regular Male partner		Condom use with main regular male partner (%)				Had paying male partner (%)		Condom Use	
					Last time		Consistent				Last time (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Karnataka												
Bangalore	303	NA	41	NA	80	NA	73	NA	NA	NA	NA	NA
			(31.8-50.1)		(67.7-88.1)		(60.5-82.8)					
MSM T in 4 Districts (Belgaum, Bellary, Mysore, Shimoga)	537	NA	40	NA	87	NA	56	NA	NA	NA	NA	NA
			(35.1-44.1)		(81.6-91.1)		(47.9-62.9)					

Based on subset of respondents applicable for that analysis
Main regular Sexual partner: Spouse/lover/boyfriend/Hijra
Paying male partners-Commercial male partners who paid respondent to have sex with him
NA-Not available

Table M6: Condom use with paid male/hijra partner and paid female sexual partners

State & District	No. of respondents		Paid male/hijra partners						Paid female partners (%)			
			Ever had paid male/hijra partners (%)		Condom use (%)#				Ever had paid female partners		Condom use (past month)	
					Last time		Consistent				Consistent#	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh												
East Godavari	405	400	48	18	83	91	13	86	40	0.7	15	–
			(39.7-56.4)	(9.1-31.5)	(71.8-90.3)	(67.5-97.9)	(7.4-21.9)	(60.9-96.0)	(34.1-45.6)	(0.3-1.6)	(8.0-27.3)	
Guntur	407	404	46	6	70	98	40	98	64	1.3	43	–
			(39.7-52.7)	(3.5-9.9)	(60.1-79.0)	(83.5-99.7)	(33.6-46.8)	(83.5-99.7)	(56.6-70.0)	(0.3-5.7)	(34.9-52.2)	
Hyderabad	403	405	46	13	50	98	18	91	32	0.2	23	–
			(35.8-56.9)	(8.8-19.9)	(36.9-63.9)	(92.8-99.6)	(10.1-28.8)	(79.4-96.3)	(24.9-39.5)	(0.0-1.7)	(13.3-37.9)	
Visakhapatnam	406	399	31	45	93	95	1	95	28	23	5	–
			(25.4-38.0)	(33.7-56.6)	(87.5-95.8)	(84.2-98.6)	(0.3-5.3)	(84.0-98.3)	(21.9-34.0)	(13.9-34.3)	(1.7-11.3)	
Maharashtra												
Mumbai-Thane	400	373	25	8	82	50	68	36	20	6	76	–
			(18.6-32.2)	(3.9-16.2)	(66.8-91.6)	(24.9-75.5)	(52.1-80.6)	(7.8-78.8)	(14.4-27.0)	(2.5-14.1)	(56.2-88.7)	
Pune	253	279	49	12	88	91	84	82	24	20	87	–
			(39.0-59.8)	(8.3-16.5)	(78.4-93.3)	(75.0-97.1)	(76.1-90.2)	(66.4-91.1)	(17.4-32.4)	(15.3-25.0)	(67.0-95.8)	
Tamil Nadu												
Chennai	406	403	19	11	81	90	58	15	19	1.3	38	–
			(13.7-24.7)	(7.1-17.2)	(57.0-93.1)	(64.3-97.8)	(38.1-74.8)	(6.1-30.5)	(13.0-26.2)	(0.5-3.4)	(22.9-54.8)	
Coimbatore	410	408	12	4	75	94	40	66	7	0.5	41	–
			(8.3-16.5)	(2.3-7.6)	(53.1-88.6)	(66.8-99.2)	(21.1-62.3)	(38.8-85.6)	(4.5-10.9)	(0.1-1.9)	(19.1-67.8)	
Madurai	402	406	22	32	63	91	38	91	6	0	64	–
			(14.7-32.3)	(21.5-43.4)	(39.4-81.7)	(75.5-96.8)	(22.4-56.8)	(75.5-96.8)	(3.6-8.5)	0	(42.3-81.6)	
Salem	403	403	16	17	59	95	39	17	17	1	29	–
			(10.2-23.9)	(5.4-43.1)	(41.3-74.0)	(77.9-99.1)	(22.4-58.6)	(4.0-48.9)	(10.6-26.3)	(0.4-2.4)	(16.4-45.1)	
Karnataka												
Bangalore	253		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MSM T in 4 Districts (Belgaum, Bellary, Mysore, Shimoga)	537		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Based on subset of respondents available for that analysis
NA-Not available
Paid male/Hijra partners-Male/Hijras to whom the respondent had paid to have anal intercourse with them
Paid female partners-Respondents paid to females to have sex
– Estimates not presented due to small base

Table M7: Condom use with other non-commercial male partners and female sexual partners

State & District	No. of respondents		Other non-commercial male/hijra partners (%)						Main regular female partner (%)							
			Had other non commercial male/ hijra partners		Condom use#				Had main regular female partners		Living with female partner		Condom use#			
					Last time		Consistent						Last time		Consistent	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh																
East Godavari	405	400	89	95	76	87	7	80	53	50	82	84	19	14	4	13
			(83.4-92.3)	(91.8-97.5)	(68.3-83.2)	(80.0-91.5)	(3.5-11.9)	(70.4-86.6)	(45.1-60.0)	(37.3-61.8)	(73.7-88.7)	(68.7-92.3)	(13.3-26.3)	(5.7-29.4)	(1.8-8.6)	(5.4-29.3)
Guntur	407	404	88	97	69	95	32	75	66	58	89	91	7	14	3	12
			(83.4-90.8)	(93.1-98.8)	(61.6-75.4)	(91.2-97.6)	(25.5-39.4)	(63.4-83.9)	(59.2-71.7)	(49.0-67.3)	(81.3-93.3)	(82.3-95.2)	(3.8-11.1)	(8.2-22.8)	(1.3-5.1)	(6.4-20.0)
Hyderabad	403	405	89	94	78	94	15	76	34	30	80	90	7	16	1	8
			(85.2-91.7)	(89.5-96.2)	(71.7-83.6)	(90.0-96.4)	(8.0-25.3)	(69.7-81.7)	(75.5-	(24.0-36.8)	(70.6-87.6)	(82.5-94.8)	(3.8-13.8)	(8.1-28.6)	(0.2-3.8)	(3.6-15.6)
Visakhapatnam	406	399	95	93	88	90	1	90	51	38	76	65	24	32	0	32
			(91.6-97.5)	(85.3-96.4)	(82.4-92.3)	(81.4-94.8)	(0.2-2.1)	(81.8-95.2)	(43.9-57.9)	(28.9-47.3)	(65.6-83.8)	(51.7-76.8)	(16.2-34.6)	(21.4-45.7)	(0.0-1.3)	(21.0-45.0)
Maharashtra																
Mumbai-Thane	400	373	58	74	80	79	56	55	33	39	40	50	42	50	31	25
			(51.4-64.8)	(63.1-83.0)	(72.9-86.0)	(64.2-88.4)	(48.3-63.1)	(38.4-70.9)	(26.7-40.0)	(27.9-50.6)	(29.3-51.2)	(29.1-71.3)	(30.4-55.3)	(31.3-69.4)	(21.2-42.9)	(11.1-45.8)
Pune	253	279	34	56	91	94	79	87	30	29	43	60	49	49	41	31
			(27.7-40.9)	(49.7-62.6)	(82.7-95.2)	(86.5-97.1)	(66.2-88.2)	(79.8-92.3)	(22.2-39.3)	(23.4-34.7)	(33.9-53.4)	(48.9-70.2)	(34.7-62.9)	(37.4-60.2)	(28.4-54.4)	(20.5-44.5)
Tamil Nadu																
Chennai	406	403	34	48	72	80	25	37	12	16	28	87	52	11	21	6
			(27.8-40.3)	(40.3-55.2)	(59.0-81.7)	(69.2-87.9)	(16.7-36.6)	28.0-47.1	(8.1-18.1)	(11.2-21.7)	(15.0-46.8)	(71.7-94.4)	(29.8-73.4)	(4.1-26.4)	(6.4-51.8)	(1.2-22.9)
Coimbatore	410	408	67	21	84	97	22	31	26	23	69	100	23	22	7	1.5
			(59.1-74.5)	(15.5-26.9)	(77.5-89.0)	(80.8-99.5)	(16.9-28.1)	(20.3-43.7)	(21.4-30.6)	(16.5-31.4)	(59.8-76.9)	(97.0-99.9)	(14.9-34.0)	(12.2-36.7)	(2.9-16.3)	(0.4-6.1)
Madurai	402	406	70	98	68	100	40	100	8	17	52	81	23	17	6	8
			(63.4-76.1)	(93.8-99.4)	(54.3-79.5)	(98.1-99.9)	(28.9-51.5)	(98.1-99.9)	(5.1-11.9)	(11.0-24.0)	(34.0-68.8)	(57.7-92.8)	(12.3-37.8)	(7.4-34.6)	(2.3-15.7)	(2.2-26.8)
Salem	403	403	63	61	70	98	23	23	21	30	50	99	45	11	16	1.5
			(51.8-73.3)	(42.9-76.1)	(55.8-81.8)	(94.1-99.4)	(14.0-35.2)	(9.7-44.8)	(14.4-30.2)	(14.8-50.7)	(23.4-77.1)	(94.6-99.6)	(19.9-72.7)	(3.5-31.4)	(4.1-46.2)	(0.3-7.2)

Table M7: Condom use with other non-commercial male partners and female sexual partners

State & District	No. of respondents		Other non-commercial male/hijra partners (%)						Main regular female partner (%)							
			Had other non commercial male/ hijra partners		Condom use#				Had main regular female partners		Living with female partner		Condom use#			
					Last time		Consistent						Last time		Consistent	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Karnataka																
Bangalore	303		NA	NA	NA	NA	NA	NA	10	NA	NA	NA	21	NA	16	NA
									(6.0-16.3)				(10.5-38.2)		(6.8-32.0)	
MSM T in 4 Districts (Belgaum, Bellary, Mysore, Shimoga)	537		NA	NA	NA	NA	NA	NA	4	NA	NA	NA	13	NA	10	NA
									(2.6-5.7)				(9.3-18.5)		(6.8-15.1)	

Based on subset of respondents available for that analysis
NA-Not available
Non-commercial male/Hijra partners-Other than the regular non-paying partners
Main regular female partner-Regular female partners

Table M8: Prevalence of HIV and STIs

State & District	No. of respondents		HIV (%)		HSV 2 Antibody (%)*		Reactive syphillis serology (%)**		N. gonorrhea (%)		C. trachomatis (%)		Had any STI (+ve for syphilis, gonorrhea or trachomatis, one or more) (%)***		HIV among 'any STI' positive (%)		HIV among 'any STI' negative (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh																		
East Godavari	405	400	22.2	20.8	76.2	50	13	5	0	0	1	1.5	13.9	6.6	44.3	60.1	18.6	18.1
			(16.4-29.4)	(13.7-30.4)	(0.63-0.90)	(33.8-66.1)	(8.0-20.2)	(2.8-8.8)	(0.0-0.8)		(0.3-3.1)	(0.3-7.2)	(8.9-21.2)	(3.7-11.3)	(32.2-57.2)	(34.8-81.0)	(12.7-26.5)	(10.8-28.7)
Guntur	407	404	13.1	20.8	33.3	69	3.5	8.6	0.4	0.1	1.4	0.8	5.3	9.4	37.1	60.6	11.8	16.7
			(9.4-18.0)	(14.4-29.1)	(0.18-0.48)	(54.4-83.6)	(1.9-6.4)	(5.0-14.2)	(0.1-1.9)	(0.0-0.6)	(0.5-4.0)	(0.1-5.6)	(3.0-9.2)	(5.6-15.3)	(19.2-59.5)	(34.3-81.9)	(8.3-16.4)	(10.6-25.3)
Hyderabad	403	405	24.7	28.9	58.5	62.5	15.7	12.6	0.9	0.5	2	0.2	18.3	12.9	43.7	46.8	20.4	26.3
			(18.7-31.7)	(21.8-37.2)	(0.43-0.74)	(46.8-78.1)	(11.6-20.9)	(7.4-20.8)	(0.3-2.7)	(0.1-3.1)	(0.8-4.6)	(0.0-0.9)	(14.6-22.6)	(7.5-21.1)	(30.8-57.6)	(28.0-66.6)	(15.6-26.2)	(19.6-34.3)
Visakhapatnam	406	399	9.3	4.9	41.5	38.1	5.6	1.9	0.5	0.1	1.2	4.3	7.2	6.4	52.6	8.4	5.9	4.6
			(6.0-14.1)	(2.6-9.0)	(0.26-0.57)	(22.7-53.4)	(2.9-10.3)	(1.0-3.7)	(0.1-2.1)	(0.0-0.5)	(0.5-2.8)	(0.8-20.0)	(4.2-11.9)	(2.0-18.4)	(32.4-71.9)	(1.8-31.3)	(3.6-9.7)	(2.3-8.9)
Maharashtra																		
Mumbai-Thane	400	373	10.2	6	42	17.5	6.5	0.5	0.3	0	4.4	1.2	10.8	1.8	16.8	1.8	9.5	6.1
			(7.1-14.5)	(1.9-17.4)	(26.0-57.0)	(5.1-29.8)	(4.0-10.4)	(0.1-2.0)	(0.1-1.3)		(2.2-8.5)	(0.2-8.0)	(7.4-15.4)	(0.4-7.1)	(6.5-36.9)	(0.2-17.3)	(6.4-13.8)	(1.9-17.8)
Pune	253	279	17.4	8.2	48	30	14.6	5	0.4	0	2	0.4	16.6	5.4	52.4	33.3	10.4	6.8
			(12.8-23.2)	(5.4-12.4)	(29.0-68.0)	(12.6-47.4)	(9.7-21.4)	(2.9-8.5)	(0.1-3.0)		(0.7-5.4)	(0.1-2.5)	(11.6-23.2)	(2.9-9.7)	(42.1-62.5)	(15.8-57.2)	(6.5-16.3)	(4.2-10.8)
Tamil Nadu																		
Chennai	406	403	4.8	10.9	33	28.6	12.9	9.9	0.3	0	0.7	0	13.8	9.9	18.6	94.4	2.5	1.8
			(2.9-7.8)	(6.6-17.5)	(28.4-37.6)	(16.4-40.7)	(8.6-18.7)	(5.7-16.6)	(0.0-2.1)		(0.1-4.9)		(9.5-19.8)	(5.7-16.6)	(10.8-30.2)	(84.8-98.1)	(1.3-5.1)	(0.9-3.6)
Coimbatore	410	408	6.5	11.1	27.8	26.8	14.5	6.3	0	0.3	0.8	0.9	15.1	7.1	16.3	27.4	4.7	9.9
			(4.4-9.3)	(6.9-17.6)	(23.4-32.1)	(14.8-38.8)	(11.0-18.8)	(3.8-10.2)	(0.0-0.8)	(0.1-1.2)	(0.2-3.1)	(0.3-2.7)	(11.3-19.8)	(4.5-11.1)	(9.1-27.5)	(9.6-57.3)	(2.9-7.6)	(83.4-94.3)
Madurai	402	406	22.3	14.4	43.9	25	17.8	6.6	0	0.2	1.1	1.3	18.8	7.9	39.5	68.2	18.3	9.8
			(13.1-35.3)	(8.3-23.8)	(28.0-59.7)	(13.3-36.7)	(13.0-23.9)	(2.7-15.4)	(0.0-0.8)	(0.1-0.8)	(0.4-2.9)	(0.3-4.8)	(14.0-24.8)	(3.6-16.4)	(26.5-54.2)	(33.5-90.1)	(8.2-36.1)	(5.3-17.5)
Salem	403	403	5.5	4.8	24.4	19.6	12.2	1.9	0	0	0.3	0.3	12.4	2.2	14.9	3	4.1	4.9
			(2.7-10.8)	(2.2-10.2)	(10.7-38.1)	(8.9-30.4)	(7.8-18.6)	(0.8-4.3)	(0.0-0.8)		(0.1-1.0)	(0.1-2.2)	(8.0-18.8)	(1.0-4.8)	(5.9-32.8)	(0.6-13.4)	(2.1-7.9)	(2.2-10.4)

Table M8: Prevalence of HIV and STIs

State & District	No. of respondents		HIV (%)		HSV 2 Antibody (%)*		Reactive syphillis serology (%)**		N. gonorrhea (%)		C. trachomatis (%)		Had any STI (+ve for syphilis, gonorrhea or trachomatis, one or more) (%)***		HIV among 'any STI' positive (%)		HIV among 'any STI' negative (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Karnataka																		
Bangalore	303		19.5	NA	36.7	NA	12	NA	0.6	NA	1.5	NA	12.5	NA	41.4	NA	16.3	NA
			(13.8-26.7)		(30.3-43.6)		(6.8-20.1)		(0.1-2.4)		(0.5-4.7)		(7.4-20.2)		(21.4-64.7)		(10.3-24.9)	
MSM T in 4 Districts (Belgaum, Bellary, Mysore, Shimoga)	537		13.8	NA	NA	NA	12.8	NA	0.4	NA	0.9	NA	11.9	NA	36.9	NA	10.7	NA
			(10.4-18.0)				(9.7-16.7)		(0.1-1.5)		(0.3-2.3)		(9.2-15.2)		(25.5-49.8)		(7.6-14.7)	

* Un-weighted estimates based on a random sample of 10% of sera specimens selected for HSV-2 testing
** RPR positive (any titre) and TPHA positive
*** Positive for reactive syphilis serology, N. gonorrhoeae or C.trachomatis (one or more)

Table H1: Demographic profile

State & District	No. of respondents		Mean age (years)		Can read and write (%)		Ever married (%)		Living with sex partner (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
TN 5 districts *Aravani	404	403	29	29	68	90	25	23	18	7.6
			(27.9-29.7)	(27.8-29.6)	(60.8-74.2)	(82.5-93.3)	(19.3-31.4)	(17.6-29.2)	(13.4-24.8)	(4.8-11.8)

* Chennai, Coimbatore, Dharmapuri, Madurai and Salem

Table H2: General sexual behavior

State & District	No. of respondents		Mean age started selling sex (years)#		Street based typology (%)		Practiced sex work at places traveled (last year) (%)		Circumcised (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
TN 5 districts Aravani	404	403	18	18.1	52	72	39	40.5	5	11.8
			(17.5-18.3)	(17.5-18.6)	(40.8-63.9)	(60.6-81.1)	(31.2-48.1)	(33.2-48.3)	(2.8-8.8)	(7.4-18.2)

Based on subset of respondents applicable for that analysis

Table H3: Services received from any agency

State & District	No. of respondents		Contacted by Peer/ORW (%)				Visits to NGO clinics (%)				Received condoms from Peer/ORW in last year (%)		Received information on STIs from Peers/ ORW in last year (%)	
			Last month		Last year		Last month		Last year					
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
TN 5 districts Aravani	404	403	74	77.7	74	83	73	51.4	75	44.5	74	81.7	74	82.3
			(68.1-79.1)	(72.0-82.5)	(68.5-79.6)	(77.7-87.3)	(66.6-77.9)	(43.9-58.9)	(68.9-80.3)	(34.4-55.9)	(68.2-79.3)	(76.3-86.1)	(68.3-79.4)	(77.0-82.6)

Table H4: STI knowledge and treatment seeking behaviors

State & District	No. of respondents		Ever heard of STIs (%)		Knowledge of 3 or more STI symptoms#* (%)		Had anyone of the symptoms last year (%)		Sought trained care for most recent STI symptom (%)		Took preventive measures for most recent STI symptom (%)		Had any of three symptoms (Current)* (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
TN 5 districts Aravani	404	403	89	95.9	80	88.3	2	5	68	100	41	46.1	2	4.3
			(83.6-93.2)	(92.1-97.9)	(72.3-86.4)	(83.1-92.1)	(1.1-5.5)	(2.5-9.7)	(19.8-95.0)		(17.0-70.9)	(18.1-76.9)	(0.5-4.9)	(1.9-9.5)

Based on subset of respondents applicable for that analysis
* Of the 7 symptoms, viz., Genital/anal ulcer/sore, discharge from rectum, pain during defecation, burning/pain on urination, urethral discharge, swelling in groin area, and cannot retract foreskin.

Table H5: HIV/AIDS awareness and knowledge

State & District	No. of respondents		Ever heard of HIV/AIDS (%)		Knowledge of HIV prevention method (%)*#		No incorrect beliefs about HIV/AIDS transmission (%)**#		Believe HIV/AIDS can be prevented# (%)		Feel at risk of beign infected with HIV/ AIDS# (%)		Ever taken HIV test# (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
TN 5 districts Aravani	404	403	99	99.2	91	97	43	68	93	99.3	14	25	45	91.8
			(97.2-99.5)	(97.8-99.7)	(84.2-94.9)	(94.9-98.3)	(35.1-50.4)	(60.8-74.7)	(85.6-96.4)	(98.0-99.7)	(9.2-20.8)	(19.9-31.0)	(38.4-52.2)	(87.6-94.6)

Table H6: Sexual history and condom use with main regular partners and paying male partners

State & District	No. of respondents		Main regular partner (%)								Paying male partners (%)					
			Had main regular male partner		Living with this partner#		Condom use with main regular male partner (Anal sex)#				Had paying male partner		Condom use#			
							Last time		Consistent				Last time		Consistent	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
TN 5 districts Aravani	404	403	69	66	22	20.7	73	61	34	47	74	90	93	80	50	61
			(62.2-74.8)	(57.9-73.1)	(15.9-30.3)	(15.4-27.2)	(64.9-80.5)	(52.5-58.6)	(25.4-44.6)	(38.8-55.9)	(66.2-80.8)	(85.0-93.1)	(87.1-96.4)	(72.3-85.2)	(41.8-57.6)	(52.8-69.1)

Based on subset of respondents applicable for that analysis
Main regular Sexual partner: Spouse/lover/boyfriend/Hijra
Paying male partners-Commercial male partners who paid respondent to have sex with him

Table H7: Condom use with paid male/hijra partner and other non-commercial male partners

State & District	No. of respondents		Paid male/hijra partners (%)						Other non-commercial male/hijra partners (%)					
			Had paid male/hijra partners		Condom use (anal sex)#				Had other non commercial partners		Condom use#			
					Last time		Consistent				Last time		Consistent	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
TN 5 districts Aravani	404	403	2	1.7	85	89	6	68	33	40	81	67	20	52
			(1.0-4.3)	(0.7-3.8)	(50.4-97.1)	(47.2-98.7)	(0.7-34.8)	(24.5-93.0)	(25.9-40.5)	(33.0-48.0)	(66.4-89.8)	(55.4-77.3)	(9.0-37.8)	(40.45-62.4)

Based on subset of respondents applicable for that analysis
Paid male/Hijra partners- Male/Hijras to whom the respondent had paid to have anal intercourse with them

Table H8: Prevalence of HIV and STIs

State & District	No. of respondents		HIV (%)		HSV 2 Antibody* (%)		Reactive syphillis serology (%)**		N. gonorrhea (%)		C. trachomatis (%)		Have any STI (%)***		HIV among any STI positive (%)	HIV among any STI negative (%)
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RI
TN 5 districts Aravani	404	403	12	9.8	46.2	42.9	16.6	4.2	0	0	0	0	16.6	4.2	30.9	8.3
			(7.8-18.0)	(6.3-15.1)	(38.4-54.2)	(29.5-56.2)	(11.5-23.4)	(2.5-7.1)	(0.0-0.8)		(0.0-0.8)		(11.5-23.4)	(2.5-7.1)	(14.7-53.6)	(5.1-13.0)

* Un-weighted estimates based on a random sample of 10% of sera specimens selected for HSV-2 testing
** RPR positive (any titre) and TPHA positive
*** Positive for reactive syphilis serology, N. gonorrhoeae or C.trachomatis (one or more)

Table D1: Demographic profile of IDU

State & District	No. of respondents		Age (years) (%)						Can read and write		Ever married		Unemployed	
			<20		20-30		Above 30		(%)		(%)		(%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Maharashtra														
Mumbai-Thane	376	327	2	3	43	47	55	50	38	55	42	44	22	6
			(0.9-3.0)	(1.4-4.4)	(37.8-51.2)	(40.4-52.9)	(47.0-60.4)	(44.2-56.7)	(32.3-44.5)	(48.2-60.3)	(34.9-49.2)	(36.9-50.5)	(16.6-31.1)	(2.5-8.0)
Manipur														
Bishnupur	420	410	9	2.5	68	67	23	31	96	94	30	39	41	26
			(5.6-12.2)	(0.5-4.8)	(62.8-73.2)	(62.1-71.9)	(18.3-28.3)	(25.7-35.6)	(93.5-97.8)	(91.8-96.2	(24.9-35.2)	(33.5-44.6)	(36.1-46.3)	(21.3-30.7)
Churachandpur	419	411	5	1.6	75	58	20	41	92	96	31	56	38	56
			(2.9-7.1)	(0.4-2.9)	(70.2-78.8)	(52.3-62.5)	(16.5-24.5)	(36.0-46.2)	(87.9-94.1)	(94.1-98.0)	(26.2-36.1)	(50.7-61.4)	(33.8-44.4)	(50.8-60.8)
Nagaland														
Phek	440	418	26	16	70	75	3	10	91	95	12	22	48	24
			(21.2-31.5)	(11.6-19.9)	(64.9-75.2)	(70.0-79.0)	(1.8-5.7)	(7.1-12.7)	(88.8-93.9)	(92.3-96.5)	(8.5-15.3)	(17.9-26.9)	(42.8-52.4)	(19.5-28.9)
Wokha	420	411	13	6	74	63	13	31	80	86	26	43	63	64
			(8.7-17.3)	(3.4-9.1)	(69.3-79.3)	(57.3-67.6)	(9.3-16.5)	(26.8-36.1)	(75.4-84.5)	(83.0-89.3)	(21.5-30.4)	(38.3-48.0)	(60.9-70.5)	(59.8-70.0)

Table D2: Age at starting first drug use

State & District	No. of respondents		Age at starting first drug use (years) (%)									
			20 or below		21-25		26-30		31-35		36 and above	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Maharashtra												
Mumbai-Thane	376	327	55	43	19	21	10	19	9	9	6	8
			(47.6-61.6)	(37.5-48.9)	(14.3-25.5)	(17.0-25.8)	(7.0-14.6)	(14.2-25)	(4.2-14.0)	(5.7-11.8)	(2.3-10.8)	(4.1-11.5)
Manipur												
Bishnupur	420	410	62	53	23	30	10	12	3	2	1	1.7
			(57.2-66.8)	(47.6-58.9)	(19.3-27.0)	(25.4-35.0)	(7.5-13.1)	(8.5-15.1)	(1.1-5.3)	(1.0-3.8)	(0.5-2.4)	(0.7-2.4)
Churachandpur	419	411	57	46	32	29	9	14	2	5		0.9
			(51.1-62.6)	(41.4-50.7)	(27.1-37.9)	(24.5-34.1)	(5.6-11.7)	(10.2-17.7)	(0.6-3.7)	(2.4-7.0)		(0.0-2.0)
Nagaland												
Phek	440	418	85	60	10	25	3	7	0.2	1.7	1	0.3
			(80.5-87.7)	(54.7-65.0)	(8.0-13.6)	(20.9-29.3)	(1.4-5.5)	(5.2-10.10	(0.0-0.6)	(0.8-2.6)	(0.4-2.9)	(0.0-0.7)
Wokha	420	411	86	49	13	31	1	13	0.1	5		1.4
			(81.7-88.4)	(44.4-53.4)	(10.2-16.7)	(26.2-35.2)	(0.4-1.9)	(9.6-16.5)	(0.1-0.4)	(2.9-7.1)		(0.3-2.7)

Table D3: Age at starting first injection use

State & District	No. of respondents		Age at starting first injection (years) (%)									
			16 or below		17-18		19-21		22-25		26 and above	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Maharashtra												
Mumbai-Thane	376	327	5	7	5	4	12	14	18	24	61	50
			(1.7-6.2)	(4.1-10.5)	(2.4-7.2)	(2.7-7.1)	(8.4-16.7)	(10.3-18.4)	(12.7-22.7)	(19.0-28.9)	(54.5-68.1)	(44.0-56.6)
Manipur												
Bishnupur	420	410	6	5	16	11	30	34	23	29	25	21
			(3.8-9.3)	(3.5-7.5)	(11.8-19.6)	(7.6-14.4)	(26.0-35.0)	(29.6-40.0)	(19.2-27.4)	(24.0-33.3)	(19.9-29.3)	(16.3-24.2)
Churachandpur	419	411	9	11.7	18	8.7	29	22.4	27	30.7	17	26
			(6.5-12.1)	(8.5-14.8)	(13.8-1.2)	(5.9-11.7)	(23.9-33.9)	(17.8-26.4)	(22.5-32.8)	(26.1-35.5)	(13.3-21.1)	(21.8-31.1)
Nagaland												
Phek	440	418	15	7	33	21	33	34	11	23	8	13
			(12.0-18.8)	(4.4-9.5)	(27.6-37.0)	(17.1-25.5)	(28.5-38.1)	(29.1-39.2)	(8.3-13.9)	(18.9-27.8)	(5.3-11.5)	(10.0-16.0)
Wokha	420	411	8	1.2	22	6	29	16	28	34	13	42
			(5.6-10.9)	(0.3-2.0)	(17.3-26.9)	(3.6-9.0)	(24.1-32.8)	(12.5-20.1)	(23.8-32.8)	(29.7-39.4)	(10.2-16.5)	(36.7-47.3)

Table D4: Duration between first drug use and first injecting drug use

State & District	No. of respondents		Duration (months) (%)										Started with injecting (%)
			12 or below		13-24		25-36		37-48		49 or above		
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	R II
Maharashtra													
Mumbai-Thane	376	327	13	20	12	14	6	11	6	9	62	39	0
			(9.1-18.0)	(15.0-24.3)	(7.2-17.0)	(10.7-17.8)	(3.7-8.4)	(7.3-14.7)	(2.3-8.5)	(5.6-13.5)	(55.5-70.3)	(32.9-45.7)	0
Manipur													
Bishnupur	420	410	58	47	14	12	6	8	6	4	17	6	24
			(52.7-62.7)	(41.7-52.3)	(10.1-17.5)	(9.1-15.6)	(3.8-7.8)	(4.8-11.6)	(3.4-8.3)	(1.9-5.6)	(13.6-21.2)	(3.6-7.9)	(19.4-27.8)
Churachandpur	419	411	66	27	14	16	4	9	4	6	12	11	31
			(60.5-70.3)	(22.5-30.6)	(10.3-17.0)	(11.5-19.7)	(2.8-5.4)	(6.9-11.8)	(2.5-6.4)	(4.0-9.3)	(8.6-16.4)	(8.5-15.3)	(25.6-35.5)
Nagaland													
Phek	440	418	56	52	10	21	12	5	8	1.4	14	9	11
			(50.7-62.2)	(46.9-57.1)	(6.9-12.5)	(16.8-25.9)	(9.4-15.5)	(3.3-7.9)	(5.8-10.9)	(0.6-2.6)	(10.5-16.9)	(5.9-12.8)	(7.9-13.6)
Wokha	420	411	16	20	14	16	16	12	13	14	40	38	0
			(12.5-19.4)	(15.7-24.5)	(11.2-18.0)	(12.7-20.1)	(12.4-20.1)	(8.9-14.8)	(9.9-17.0)	(10.0-17.0)	(35.0-45.3)	(33.6-43.3)	0

Table D5: Most commonly injected drugs and place of injection

State & District	No. of respondents		Most common injecting drugs (%)									Most common place of injection (%)							
			Heroin		Spasmo-proxivon		Nitrazipum/ Diazepum		Fortwin & Morphine		Others	Respondent's house		Injecting partner's house		Dealers' house		Open space	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	R II	RI	RII	RI	RII	RI	RII	RI	RII
Maharashtra																			
Mumbai-Thane	376	327	99	80	0	0	6	1	3	0	0	5	7	4	0	2	2	95	91
			(98.6-99.8)	(74.9-86.5)	(0.0-0.8)	(0.0-0.4)	(3.7-8.0)	(0.0-0.9)	(2.0-5.0)	(0.0-0.4)		(2.1-7.1)	(2.0-17.1)	(0.9-7.4)	(0.0-0.0)	(0.5-4.4)	(0.6-3.1)	(92.2-97.9)	(81.0-95.9)
Manipur																			
Bishnupur	420	410	75	93	54	8	5	0	6	0	0	48	20	23	3	44	41	31	36
			(69.5-81.4)	(89.4-95.3)	(46.7-60.0)	(4.7-10.6)	(2.9-6.8)		(4.2-8.8)			(42.3-53.0)	(16.5-25.2)	(19.0-28.2)	(1.6-4.6)	(39.6-50.9)	(35.3-46.5)	(25.0-35.9)	(30.0-40.9)
Churachandpur	419	411	98	98	66	1.9	14	0	14	0	0	60	53	8	2	80	9	4	36
			(96.5-99.4)	(97.9-100.0)	(60.8-71.4)	(0.0-2.1)	(10.6-18.1)		(10.8-17.2)			(54.7-65.4)	(46.8-58.10	(5.4-10.9)	(0.7-4.2)	(74.3-85.2)	(6.9-12.5)	(2.1-6.2)	(30.4-40.9)
Nagaland																			
Phek	440	418	9	0.4	100	97	13	0.3	3	0.2	2.6	76	49	34	28	1	0.4	24	23
			(6.7-11.5)	(0.0-0.6)	(99.5-100.0)	(95.4-98.5)	(9.8-16.1)	(0.0-0.5)	(1.2-3.2)	(0.0-0.4)	(1.0-4.0)	(72.0-80.7)	(43.8-53.8)	(28.8-38.6)	(22.6-30.7)	(0.0-1.3)	(0.0-0.8)	(18.8-27.2)	(19.7-28.6)
Wokha	420	411	1	0.8	99	92	6	1.6	1	0	5	82	54	48	14	8	0.2	6	32
			(0.2-2.2)	(0.0-1.8)	(98.1-99.9)	(89.1-95.3)	(3.5-7.8)	(0.0-3.6)	(0.3-2.8)		(2.9-8.0)	(78.5-86.3)	(48.3-58.9)	(42.6-52.2)	(10.3-17.7)	(5.7-10.9)	(0.0-0.4)	(4.1-9.3)	(27.1-37.9)

Table D6: Frequency of injecting drugs

State & District	No. of respondents		Frequency of injecting (%)							
			Less than once a month		At least once monthly		At least once weekly		At least once daily	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Maharashtra										
Mumbai-Thane	376	327	5	14	10	20	22	18	62	48
			(2.0-12.0)	(9.2-18.2)	(7.1-15.6)	(15.0-26.3)	(13.2-24.6)	(13.6-23.3)	(55.9-71.7)	(40.9-54.0)
Manipur										
Bishnupur	420	410	31	24	31	26	7	29	31	22
			(25.9-36.1)	(18.2-28.1)	(26.2-35.9)	(21.2-31.5)	(5.0-9.4)	(24.1-33.3)	(25.8-36.4)	(17.3-27)
Churachandpur	419	411	6	0.7	10	3	8	10	76	86
			(2.5-9.7)	(0.2-1.3)	(7.0-13.7)	(1.5-4.6)	(5.0-11.6)	(6.9-13.4)	(70.5-80.8)	(82.6-89.9)
Nagaland										
Phek	440	418	22	12	29	19	12	52	37	17
			(17.9-26.6)	(8.3-15.3)	(23.5-32.7)	(14.8-23.2)	(8.6-14.7)	(46.7-57.3)	(31.1-44.7)	(12.4-21.8)
Wokha	420	411	6	13	6	37	45	23	43	25.6
			(4.2-8.7)	(9.8-16.7)	(4.1-8.3)	(30.7-42.6)	(39.4-49.8)	(19.1-27.4)	(37.8-47.7)	(20.3-30.9)

Table D7: Injection practices at last injecting incident

State & District	No. of respondents		Injection practice													
			Used of pre-filled syringe		Used a common container		Passed needle/ syringe to others after injection		Injected with needle/ syringe after others injected with it		Injected with needle/ syringe (exclusively used by respondent)		Injected with fresh brand new needle		Shared other injecting equipments	
			(%)		(%)		(%)		(%)		(%)		(%)		(%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Maharashtra																
Mumbai-Thane	376	327	2	8	54	93	24	18	16	14	33	46	50	51	40	68
			(0.8-2.8)	(5.1-10.9)	(45.1-59.8)	(89.7-95.8)	(18.1-29.0)	(13.4-23.2)	(11.3-20.1)	(9.7-18.5)	(26.7-38.4)	(40.7-53.2)	(45.8-58.8)	(44.2-58.4)	(33.3-46.7)	(61.8-74.2)
Manipur																
Bishnupur	420	410	14	1.7	41	24.8	13	1.9	7	4.5	16	15.2	78	80.2	35	12.7
			(11.2-17.6)	(0.6-2.9)	(36.5-46.7)	(20.3-29.5)	(9.8-15.8)	(0.8-3.3)	(4.7-9.3)	(2.3-7.2)	(12.8-19.2)	(11.7-18.9)	(73.8-81.2)	(76.0-84.4)	(30.3-39.1)	(9.7-15.7)
Churachandpur	419	411	21	2.9	51	32.1	15	5.3	15	3.7	60	29.8	43	65.5	60	22.6
			(16.4-26.2)	(1.2-5.3)	(45.9-56.5)	(26.9-36)	(12.1-19.1)	(2.9-7.9)	(11.1-18.3)	(1.9-5.6)	(55.2-65.6)	(24.9-34.8)	(38.4-49.5)	(60.4-70.3)	(55.1-66.0)	(18.5-26.8)
Nagaland																
Phek	440	418	30	16.6	56	50.7	28	13.9	19	19.6	28	11.3	58	70	45	35
			(25.0-34.2)	(13.0-21.1)	(50.8-61.5)	(45.5-56.3)	(23.7-32.6)	(10.0-17.5)	(15.1-23.3)	(15.5-23.7)	(23.3-32.3)	(8.5-15.4)	(51.6-63.2)	(65.0-74.7)	(39.6-49.6)	(30.6-39.8)
Wokha	420	411	30	10.3	57	33.5	40	23.2	20	15.7	54	21.3	30	64.6	47	30.5
			(25.2-34.5)	(7.7-13.6)	(51.5-63.1)	(28.8-39.4)	(34.8-44.6)	(19.3-28.1)	(15.5-24.6)	(11.9-19.6)	(47.7-60.3)	(17.2-25.7)	(24.8-35.2)	(58.8-70.0)	(41.2-51.6)	(25.8-36.0)

Table D8: General injecting practices

State & District	No. of respondents		Never use a pre-filled syringe (%)		Never use a common container (%)		Never inject with a needle/syringe after others injected with it (%)	
	RI	RII	RI	RII	RI	RII	RI	RII
Maharashtra								
Mumbai-Thane	376	327	66	62	34	0.7	49	50
			(61.9-74.3)	(55.0-68.0)	(26.7-41.7)	(0.0-1.0)	(42.1-56.0)	(42.5-56.2)
Manipur								
Bishnupur	420	410	32	37.1	26	22.8	43	52.9
			(27.1-37.7)	(30.7-43.2)	(21.8-30.5)	(17.5-27.1)	(37.5-48.7)	(47.2-58.1)
Churachandpur	419	411	39	25.7	5	13.5	22	22.5
			(34.0-45.0)	(21.2-30.0)	(2.7-9.3)	(9.9-17.2)	(16.7-26.6)	(18.1-27.2)
Nagaland								
Phek	440	418	24	48.2	9	14.2	37	47.9
			(19.2-27.7)	(42.8-52.6)	(6.3-12.2)	(10.4-17.7)	(31.3-41.8)	(42.5-52.6)
Wokha	420	411	17	61.8	7	43.7	20	51.2
			(13.0-20.9)	(57.0-66.8)	(4.6-10.0)	(38.4-48.9)	(16.5-25.0)	(46.1-56.6)

Table D9: Treatment seeking behaviour (last year)

State & District	No. of respondents		Treatment taken for drug use (%)		Treatment (%)									
					For abscess		For overdose		Drug substitution		Counseling		Detox	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Maharashtra														
Mumbai-Thane	376	327	23	18	7	9	6	4	4	10	18	14	15	2
			(18.6-28.9)	(13.4-24.0)	(4.3-8.8)	(4.8-13.5)	(4.0-8.3)	(1.3-7.5)	(2.4-6.3)	(6.3-14.8)	(13.8-22.2)	(9.9-20.0)	(10.9-19.6)	(0.8-3.3)
Manipur														
Bishnupur	420	410	15	21	4	0.8	1	2	8	10	7	16	6	10
			(10.9-17.7)	(16.7-24.9)	(2.1-5.9)	(0.2-1.5)	(0.1-1.2)	(1.0-3.1)	(5.3-10.3)		(4.6-9.1)		(3.8-8.6)	(7.2-13.3)
Churachandpur	419	411	25	29	4	5	4	8	9	17	19	18	22	10.3
			(20.8-30.1)	(23.3-33.4)	(1.8-6.0)	(2.5-7.4)	(1.7-5.7)	(4.9-11.4)	(5.9-12.2)	(13.1-20.8)	(14.5-22.5)	(13.8-21.6)	(17.6-26.6)	(6.9-13.4)
Nagaland														
Phek	440	418	4	46	0.2	9	2	4	0	34	1	45	0.4	3
			(2.2-5.4)	38.3-52.4)	(0.0-0.2)	(5.3-11.6)	(1.1-3.1)	(2.3-5.8)	(0.0-0.8)	(27.7-39.5)	(0.0-1.1)	(36.7-51.9)	(0.0-1.0)	(1.2-3.9)
Wokha	420	411	8	5	4	0.5	2	0.7	2	2.3	3	3.2	3	0.7
			(5.7-10.0)	(3.3-7.2)	(2.2-5.2)	(0.0-0.6)	(1.2-3.6)	(0.0-1.6)	(1.2-3.8)	(1.1-3.5)	(1.8-4.3)	(1.7-4.9)	(2.0-5.1)	(0.0-1.1)

Table D10: Sexual practices with female sex workers

State & District	No. of respondents		Ever had sex with a female (%)		Had sex with a female last year (%)		Ever had sex with FSW (%)		Had sex with a FSW (last year) (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Maharashtra										
Mumbai-Thane	376	327	83	92	58	55	51	57	27	34
			(78.2-90.2)	(87.6-96.1)	(50.8-66.8)	(48.0-62.5)	(43.6-58.3)	(49.4-64.5)	(21.3-32.7)	(27.4-40.7)
Manipur										
Bishnupur	420	410	65	79	46	64	30	45	14	18
			(58.7-70.3)	(74.5-84.1)	(40.9-52.3)	(58.5-69.2)	(26.0-35.2)	(39.1-49.5)	(10.9-17.3)	(14.1-21.7)
Churachandpur	419	411	75	90	59	61	8	19	6	13
			(69.6-80.3)	(86.7-93.0)	(53.8-64.8)	(55.6-66.0)	(4.8-11.7)	(15.5-23.4)	(2.5-8.9)	(9.6-15.7)
Nagaland										
Phek	440	418	78	92	73	85	3	6	2	3
			(72.4-82.7)	(88.7-95.3)	(66.6-77.4)	(81.3-88.7)	(1.8-4.3)	(3.3-8.5)	(0.8-2.9)	(1.6-4.4)
Wokha	420	411	89	91	86	73	5	12	4	7
			(85.5-92.8)	(88.1-94.4)	(82.1-90.0)	(68.3-77.7)	(3.5-7.0)	(9.1-15.3)	(2.2-5.3)	(4.7-9.1)

Table D11: Sexual practices with regular female partners

State & District	No. of respondents		Had non-paid regular female partner (%)		Condom used with non-paid regular female partner (last time) (%)		Had sex with other non-paid female partner (%)		Condom used with other non-paid female partner (last time)# (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Maharashtra										
Mumbai-Thane	376	327	30	19	17	27.5	5	8	-	56.2
			(24.0-36.6)	(14.9-25.1)	(3.3-26.6)	(5.6-39.3)	(2.1-6.5)	(5.6-11.6)		
Manipur										
Bishnupur	420	410	35	49	29	45	6	8	70	74
			(29.4-40.1)	(44.0-55.1)	(13.7 - 41.4)	(35.6 - 51.8)	(3.8-8.5)	(5.8-10.7)	(64.3-92.3)	(42.9-100.0)
Churachandpur	419	411	32	41	32	42	34	17	34	48
			(27.3-37.3)	(36.3-46.3)	(20.2 - 42.9)	(36.5-58.5)	(29.3-38.8)	(13.3-21.5)	(15.7-47.2)	(16.1-66.7)
Nagaland										
Phek	440	418	57	83.2	32	55.3	51	50	67	81
			(50.8-62.8)	(78.9-86.4)	(26.7 - 38.7)	(48.2-65.5)	(45.8-56.7)	(44.7-55.8)	(60.0-76.3)	(74.2 - 88.2)
Wokha	420	411	73	67	40	30	50	29	56	40.9
			(67.4-77.4)	(62.5-72.7)	(34.2 - 47.1)	(19.6-33.8)	(44.0-55.7)	(24.8-34.0)	(45.4-67.4)	(26.8-64.9)

Based on subset of respondents applicable for that analysis

Table D12: Sexual practices with regular male partners

State & District	No. of respondents		Ever had sex with a male (%)	
	RI	RII	RI	RII
Maharashtra				
Mumbai-Thane	376	327	16	19
			(11.5-19.8)	(13.8-23.3)
Manipur				
Bishnupur	420	410	9	15
			(6.4-11.6)	(11.3-18.5)
Churachandpur	419	411	1	0.2
			(0.0-1.7)	(0.0-0.3)
Nagaland				
Phek	440	418	0	0.1
			(0.0-0.8)	(0.0-0.3)
Wokha	420	411	0.2	1.6
			(0.0-0.7)	(0.7-2.7)

Table D13: STI knowledge

State & District	No. of respondents		Ever heard of any STIs (%)		Knowledge of 3 or more STI symptoms* (%)	
	RI	RII	RI	RII	RI	RII
Maharashtra						
Mumbai-Thane	376	327	37	48	4	9
			(30.5-43.0)	(40.3-55.9)	(2.2-6.0)	(2.8-16.3)
Manipur						
Bishnupur	420	410	88	82	11	18
			(84.6-91.2)	(77.1-87.3)	(7.3-13.6)	(13.9-21.2)
Churachandpur	419	411	75	70	19	47
			(69.7-79.2)	(65.1-75.7)	(12.7-24.1)	(41.0-53.5)
Nagaland						
Phek	440	418	78	91	0.7	32
			(73.0-82.1)	(87.6-93.0)	(0.6-3.7)	(27.8-38.0)
Wokha	420	411	45	54	2	13
			(39.6-50.2)	(48.7-59.6)	(0.0-3.9)	(8.8-20.6)

* Urethral discharge, burning pain on urination, genital ulcers/sores, swellings in groin area, warts around genital area and cannot retract foreskin

Table D14: Treatment seeking behaviour for most recent STI

State & District	No. of respondents		Urethral discharge, ulcer, swelling, burning pain or cannot retract foreskin (last year) (%)		Sought trained care for treatment of STI(%)#	
	RI	RII	RI	RII	RI	RII
Maharashtra						
Mumbai-Thane	376	327	22	12	7	5
			(16.0-27.0)	(8.7-18.5)	(4.5-9.3)	(2.5-11.0)
Manipur						
Bishnupur	420	410	30	4	32	79
			(25.9-34.3)	(2.7-6.4)	(17.9-47.2)	(66.7-100.0)
Churachandpur	419	411	7	7	50	45
			(3.9-10.8)	(4.1-11.2)	(0.0-87.5)	-
Nagaland						
Phek	440	418	12	5	30	-
			(8.5-14.7)	(2.7-7.2)	(16.2-47.1)	
Wokha	420	411	9	-	41	-
			(6.8-12.3)		(0.0-86.1)	

Based on subset of respondents applicable for that analysis
– Estimates could not be calculated in RDSAT

Table D15: HIV awareness and knowledge

State & District	No. of respondents		Ever heard of HIV/AIDS (%)		Feel at risk of being infected with HIV/ AIDS# (%)		Ever undergone HIV test# (%)	
	RI	RII	RI	RII	RI	RII	RI	RII
Maharashtra								
Mumbai-Thane	376	327	87	70	21	46.5	15	41.6
			(80.4-93.1)	(62.5-75.8)	(15.8-24.6)	(38.9-53.0)	(10.3-18.6)	(34.7-48.6)
Manipur								
Bishnupur	420	410	100	88	41	46	18	42
			(98.9-100)	(84.3-91.5)	(35.7-45.9)	(40.6-51.1)	(13.8-22.1)	(36.5-47.7)
Churachandpur	419	411	100	97	40	64	26	54
			(99.2-100)	(94.2-99.1)	(35.3-46.2)	(58.7-68.6)	(21.1-30.5)	(48.4-59.0)
Nagaland								
Phek	440	418	96	96	23	41	6	36
			(93.5-98.7)	(93.7-97.7)	(18.0-26.5)	(35.1-45.6)	(3.5-8.1)	(30.9-41.0)
Wokha	420	411	89	56	20	33	8	10
			(84.7-92.5)	(50.6-61.3)	(16.6-24.6)	(27.1-37.7)	(5.4-10.8)	(7.5-13.6)

Based on subset of respondents applicable for that analysis

Table D16: Services received from any agency

State & District	No. of respondents		Contacted by Peer/ORW (%)#		Given information on STI/ HIV/AIDS (%)#		Visited the NGO clinic (%)#		Received condoms (%)#		Received needles/syringes (%)#	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	R II	RI	RII
Maharashtra												
Mumbai-Thane	376	327	36	50.3	35	53	NA	NA	20	11	54	60
			(28.7-41.7)	(43.5-56.7)	(27.7-41.6)	(44.7-59.0)			(14.3-24.1)	(6.9-17.3)	(43.8-59.9)	(52.2-66.8)
Manipur												
Bishnupur	420	410	56	58	48	50	45	48	41	53	52	64
			(51.6-63.3)	(52.5-64.6)	(43.1-54.2)	(42.7-55.4)	(38.8-52.3)	(42.1-53.5)	(33.5-45.3)	(46.8-58.4)	(44.5-58.7)	(57.8-69.7)
Churachandpur	419	411	52	51	37	64	69	91	48	67	88	96
			(45.7-56.9)	(46.3-56.6)	(29.6-42.2)	(58.9-68.9)	(62.6-74.4)	(88.3-93.3)	(42.4-54.5)	(62.2-72.2)	(83.4-93.1)	(92.6-98.0)
Nagaland												
Phek	440	418	49	80	46	79	48	86	47	78	34	80
			(39.9-56.6)	(75.1-84.5)	(40.8-55.9)	(74.6-83.6)	(37.4-52.8)	(82.1-89.4)	(36.9-54.0)	(73.5-82.8)	(24.5-39.2)	(74.9-84.9)
Wokha	420	411	30	17	22	13	27	12	32	17	30	15
			(23.9-34.3)	(12.9-20.9)	(17.1-27.0)	(10.3-17.4)	(21.5-32.3)	(9.1-15.7)	(25.4-35.6)	(13.2-21.5)	(24.4-34.9)	(12.4-19.3)

Based on subset of respondents applicable for that analysis

Table D17: Prevalence of HIV/STIS/Hepatitis

State & District	No. of respondents		HIV (%)		HSV-2 antibody* (%)		Reactive syphilis serology** (%)		N. gonorrhoeae (%)		C. trachomatis (%)		Hepatitis B (%)		Hepatitis C (%)		Any STI*** (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Maharashtra																		
Mumbai-Thane	376	327	16.5	14.8	28.8	35.3	4.9	8.3	0	0	0.7	0.8	10.8	8.3	52.9	51.7	5.4	8.7
			(11.3-19.9)	(11.0-20.8)	(12.0-74.5)	(18.4-52.2)	(2.5-8.1)	(4.2-12.9)			(0.1-1.4)	(0.0-1.2)	(7.4-15.5)	(5.8-15.6)	(46.5-61.0)	(43.5-58.5)	(3.0-8.6)	(4.7-13.1)
Manipur																		
Bishnupur	420	410	23.1	16.2	2	14.9	5.7	4.1	0.3	-	1.7	1	6.3	9.7	55.9	45.7	7.4	5.1
			(18.0-27.8)	(12.4-19.9)	(0.0-5.9)	(4.3-25.4)	(3.5-8.0)	(2.4-5.9)	(0.0-0.5)		(0.9-2.8)	(0.1-2.2)	(4.5-8.4)	(6.7-13.9)	(50.2-61.8)	(40.2-52.2)	(5.1-10.0)	(3.1-7.1)
Churachandpur	419	411	32.2	39.9	21.6	17.8	0.9	2.7	0	0.7	2.1	1.9	5.8	11.6	77.6	92.2	3	4.9
			(27.4-37.4)	(35.3-45.6)	(7.7-35.5)	(6.1-29.3)	(0.3-1.5)	(1.3-4.2)	(0.0-0.8)	(0.0-0.1)	(0.9-3.4)	(0.7-3.4)	(2.8-9.2)	8.6-14.7)	(73.7-83.0)	(89.8-94.8)	(1.6-4.5)	(3.0-7.2)
Nagaland																		
Phek	440	418	1.1	1	14.5	8.5	7.4	13.9	0.6	2	11.4	12.5	4.8	7.5	5.4	8.7	18.4	26
			(0.0-2.6)	(0.3-1.9)	(4.9-24.1))	(0.2-16.7))	(5.4-9.9)	(10.0-18.7)	(0.0-0.8)	(0.7-3.5)	(8.2-14.9)	(9.1-15.7)	(2.9-6.9)	(4.7-10.10	(3.0-7.4)	(5.6-11.8)	(14.7-22.5)	(21.3-30.9)
Wokha	420	411	1.8	2.1	21.1	11.1	19.5	16.6	1.6	1.3	11	5.6	6.8	8.6	16.7	20.8	29.7	22.5
			(0.6-3.4)	(0.06-4.0)	(7.4-34.6)	(1.5-20.6)	(15.4-23.6)	(13.0-20.0)	(0.3-3.0)	(0.2-3.1)	(7.6-13.5)	(3.4-7.9)	(4.9-9.2)	(6.1-11.1)	(12.6-20.8)	(16.8-25.0)	(24.9-34.2)	(18.4-26.3)

* Un-weighted estimates based on a random sample of 10% of sera specimens selected for HSV-2 testing
** RPR positive (any titre) and TPHA positive
*** Positive for reactive syphilis serology, N. gonorrhoeae or C. trachomatis (one or more)
– Estimate could not be calculated by RDSAT

Table C1: Demographic profile of clients of sex workers

State & District	No. of respondents		Mean age (years)		Can read and write (%)		Ever married (%)		Living with sex partner (%)		Mean age when started having paid sex (%)		Circumcised (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh														
East Godavari	409	401	30	30	58	65	72	72	96	64	20	20	5	14
			(29.2-30.8)	(28.9-31.0)	(50.6-65.7)	(58.5-70.6)	(63.2-79.4)	(63.6-78.4)	(91.9-97.6)	(56.4-70.9)	(20.0-20.6)	(19.7-20.9)	(2.6-8.5)	(10.2-19.1)
Guntur	401	406	31	31	63	70	78	74	89	70	19	22	22	23
			(30.4-32.1)	(29.4-32.0)	(56.4-69.5)	(61.3-77.7)	(72.2-83.1)	(68.4-80.3)	(82.4-93.7)	(62.1-76.7)	(19.0-20.1)	(21.2-23.3)	(17.1-28.5)	(14.8-33.8)
Hyderabad	406	400	31	29	80	89	68	67	91	62	20	22	11	10
			(29.7-31.3)	(27.3-29.9)	(70.4-87.3)	(78.1-94.7)	(59.5-76.4)	(46.6-83.1)	(83.1-95.2)	(40.0-80.5)	(19.7-20.1)	(20.8-23.2)	(6.7-18.6)	(5.0-19.4)
Visakhapatnam	402	406	28	30	79	78	62	63	94	57	19	22	22	6
			(27.4-28.6)	(29.0-31.6)	(72.9-83.5)	(70.5-83.3)	(53.8-69.7)	(53.6-71.7)	(88.6-96.7)	(48.7-65.5)	(19.2-19.7)	(21.4-22.6)	(17.8-27.1)	(3.6-10.2
Warangal	402	403	30	29	88	95	74	60	96	43	19	23	16	12
			(28.8-30.5)	(27.6-30.3)	(81.8-92.8)	(91.4-97.0)	(61.9-83.5)	(50.8-67.8)	(88.6-98.8)	(32.7-54.5)	(19.2-19.7)	(21.7-24.3)	(10.0-24.6)	(7.6-18.3)
Maharashtra														
Mumbai	394	371	30	31	85	57	47	63	57	49	19	22	37	53
			(28.8-30.4)	(29.09-32.5)	(80.4-88.9)	(46.9-67.1)	(40.4-54.1)	(53.3-72.1)	(48.5-65.1)	(38.9-59.4)	(19.0-19.7)	(21.0-22.7)	(30.1-44.9)	(42.9-62.1)
Parbhani	404	395	27	29	69	87	54	65	92	62	20	20	21	22
			(26.4-27.8)	(27.2-29.6)	(63.0-74.2)	(81.3-91.4)	(47.1-60.7)	(55.1-73.4)	(86.1-94.9)	(51.9-70.4)	(19.7-20.4)	(19.3-20.6)	(15.9-27.0)	(15.7-30.8)
Pune	401	404	28	28	87	85	49	60	89	51	22	21	9	13
			(27.2-28.8)	(27.2-29.1)	(82.0-91.2)	(80.0-89.4)	(42.6-55.3)	(51.0-67.9)	(82.3-92.9)	(41.7-60.1)	(21.2-22.1)	(20.0-21.1)	(5.5-13.3)	(8.4-20.2)
Yevatmal	399	400	29	30	81	83	61	67	90	63	21	22	26	21
			(28.4-29.9)	(28.8-30.8)	(75.4-85.7)	(77.2-87.5)	(54.1-67.0)	(58.8-74.7)	(84.1-93.4)	(54.5-71.4)	(21.0-21.8)	(20.8-22.2)	(21.0-32.7)	(14.4-28.6)
Tamil Nadu														
Chennai	406	408	32	32	64	95	65	74	86	73	22	22	4	4
			(31.6-33.3)	(30.6-34.3)	(57.2-70.7)	(86.1-97.9)	(58.8-71.2)	(64.1-81.3)	(80.6-90.2)	(63.9-81.2)	(21.6-22.5)	(21.1-22.1)	(2.0-6.7)	(2.1-5.7)
Madurai	401	402	28	32	81	90	50	66	98	65	21	22	6	6
			(27.7-29.4)	(30.4-33.9	(75.2-85.4)	(84.2-94.0)	(43.3-56.5)	(55.1-74.7)	(94.7-99.2)	(54.8-74.4)	(21.0-21.7)	(21.5-23.2)	(4.0-8.7)	(3.6-9.2)
Salem	396	407	32	28	78	89	62	52	85	50	23	21	8	3
			(31.4-32.9)	(26.7-28.9)	(72.0-82.7)	(83.0-93.2)	(54.0-68.5)	(41.5-61.8)	(78.5-89.8)	(39.9-60.2)	(22.4-23.3)	(20.6-21.7)	(5.2 -11.9)	(1.8-6.4)

Table C1: Demographic profile of clients of sex workers

State & District	No. of respondents		Mean age (years)		Can read and write (%)		Ever married (%)		Living with sex partner (%)		Mean age when started having paid sex (%)		Circumcised (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Karnataka														
Bangalore	678	NA	31	NA	81	NA	61	NA	14	NA	22	NA	13	NA
			(30.5-31.8)		(75.2-85.1)		(55.2-65.5)		(9.5-18.8)		(21.7-22.4)		(8.8-18.4)	
Belgaum	407	NA	30	NA	76	NA	60	NA	18	NA	21	NA	13	NA
			(28.7-30.3)		(70.5-80.3)		(54.5-66.0)		(12.0-26.4)		(20.7-21.4)		(9.3-17.4)	
Bellary	422	NA	29	NA	69	NA	65	NA	14	NA	20	NA	12	NA
			(27.8-29.4)		(63.1-75.2)		(57.3-71.7)		(7.1-25.3)		(19.9-20.4)		(8.2-17.3)	
Shimoga	426	NA	32	NA	76	NA	61	NA	15	NA	22	NA	11	NA
			(30.8-32.5)		(69.9-81.0)		(53.7-67.2)		(10.1-20.6)		(21.4-22.2)		(7.6-15.3)	

NA-Not available

Table C2: Exposure to services provided by any agency

State & District	No. of respondents		Heard/seen/read advertisement on condoms (last 6 months)		Heard/seen/read advertisement on STI (last 6 months)		Heard/seen/read advertisement on Key Clinic* (last 6 months)		Ever visited Key Clinic for STI treatment	
			(%)		(%)		(%)		(%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh										
East Godavari	409	401	100	90	95	59	34	16	2	4.4
			(98.9-100)	(85.4-92.5)	(91.9-97.4)	(52.7-64.1)	(25.7-42.9)	(11.1-21.9)	(0.5-4.5)	(2.1-9.0)
Guntur	401	406	100	84	98	68	75	11	2	0
			(98.4-100)	(75.2-90.6)	(94.6-98.9)	(57.8-76.4)	(69.1-80.3)	(6.9-18.3)	(0.9-4.6)	0
Hyderabad	406	400	100	97	99	81	68	26	0.5	0.1
			(98.8-100)	(92.7-98.7)	(96.8-99.4)	(75.2-85.6)	(59.6-74.9)	(14.8-41.4)	(0.2-1.8)	(0.0-0.3)
Visakhapatnam	402	406	96	84	93	52	83	28	7	0.4
			(92.1-97.4)	(77.4-89.4)	(89.6-95.0)	(45.3-59.4(	(77.6-87.9)	(19.0-38.3)	(3.8-11.6)	(0.1-2.8)
Warangal	402	403	97	88	93	69	60	20	1	0.4
			(86.4-99.3)	(74.8-94.4)	(85.5-97.0)	(56.2-80.1)	(50.7-69.0)	(10.4-35.6	(0.2-2.5)	(0.1-2.1)
Maharashtra										
Mumbai	394	371	85	98	82	75	67	14	0.3	0.1
			(80.7-89.0)	(92.8-99.4)	(76.3-86.0)	(66.8-81.0)	(60.5-72.5)	(8.5-22.1)	(0.1-1.4)	(0.0-0.9)
Parbhani	404	395	89	93	40	45	7	6	0	0.2
			(84.4-92.0)	(87.4-96.2)	(33.9-46.7)	(35.8-55.4)	(4.3-10.8)	(2.8-11.4)	(0.0-0.8)	(0.0-1.1)
Pune	401	404	99	99	76	45	54	15	0.3	0
			(86.7-99.6)	(97.3-99.7)	(69.9-80.9)	(34.0-56.7)	(46.7-60.5)	(9.9-21.5)	(0.0-2.1)	0
Yevatmal	399	400	95	98	57	(46	21	8	0.3	0
			(91.2-97.7)	(95.6-98.9)	(49.9-63.0)	(39.0-53.9)	(16.4-27.0)	(4.4-13.2)	(0.0-1.8)	0
Tamil Nadu										
Chennai	406	408	79	95	45	96	36	36	0.1	0
			(74.1-83.3)	(86.2-98.4)	(39.5-51.2)	(93.1-97.8)	(30.0-41.9)	(28.3-44.3)	(0.0-1.0)	0
Madurai	401	402	96	99	86	97	84	25	1	NA
			(93.1-97.9)	(96.0-99.6)	(81.6-89.3)	(92.8-98.3)	(77.6-88.5)	(17.8-33.0)	(0.3-2.5)	
Salem	396	407	92	100	51	68	37	1.9	0.1	0.4
			(87.5-94.3)	(99.5-100.0)	(43.7-58.6)	(58.2-76.4)	(32.1-42.3)	(0.8-4.1)	(0.0-0.7)	(0.1-1.2)

Table C2: Exposure to services provided by any agency

State & District	No. of respondents		Heard/seen/read advertisement on condoms (last 6 months)		Heard/seen/read advertisement on STI (last 6 months)		Heard/seen/read advertisement on Key Clinic* (last 6 months)		Ever visited Key Clinic for STI treatment	
			(%)		(%)		(%)		(%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Karnataka										
Bangalore	678	NA	93	NA	58	NA	40	NA	2	NA
			(89.9-95.1)		(51.9-63.6)		(34.4-45.9)		(0.7-2.9)	
Belgaum	407	NA	90	NA	45	NA	22	NA	0.2	NA
			(86.4-93.3)		(39.7-49.7)		(17.3-27.9)		(0.0-1.4)	
Bellary	422	NA	93	NA	66	NA	41	NA	0.3	NA
			(89.5-95.2)		(57.6-72.5)		(33.2-45.9)		(0.1-1.3)	
Shimoga	426	NA	94	NA	65	NA	39	NA	0.2	NA
			(90.5-95.7)		(59.1-70.1)		(32.8-45.9)		(0.0-1.4)	

NA-Not available
* Key clinic-Avahan supported STI franchise

Table C3: Treatment seeking behaviour for most recent STI

State & District	No of respondents		Any of Urethral discharge, ulcer, swelling, burning pain or cannot retract foreskin (last year) (%)		Action taken for the most recent symptom (%)#			
					Trained care		Took preventive measures	
	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh								
East Godavari	409	401	29	11	86	75	89	62
			(23.1-35.7)	(7.8-15.2)	(75.4-92.7)	(50.9-89.8)	(78.3-94.5)	(40.4-79.3)
Guntur	401	406	28	10	76	40	70	32
			(21.9-34.7)	(6.0-15.8)	(67.4-83.6)	(19.8-65.1)	(58.9-79.2)	(15.4-54.1)
Hyderabad	406	400	12	15	39	92	37	88
			(8.1-17.5)	(9.9-22.3)	(23.5-57.4)	(74.6-97.8)	(21.7-55.0)	(61.8-97.1)
Visakhapatnam	402	406	31	20	76	70	57	50
			(25.3-37.0)	(14.6-26.3)	(62.4-85.1)	(50.5-84.1)	(44.1-68.6)	(30.8-68.7)
Warangal	402	403	32	13	86	50	68	24
			(23.6-41.1)	(6.8-24.1)	(78.2-91.9)	(18.8-81.5)	(56.8-78.0)	(9.5-49.1)
Maharashtra								
Mumbai	394	371	53	29	45	53	15	79
			(45.6-58.9)	(20.4-39.9)	(36.3-53.5)	(33.1-72.4)	(9.3-22.3)	(61.2-89.8)
Parbhani	404	395	36	28	55	52	66	54
			(30.2-42.8)	(20.1-37.8)	(44.6-64.7)	(32.8-69.9)	(56.0-75.4)	(35.0-72.0)
Pune	401	404	21	26	40	46	77	47
			(16.5-26.4)	(19.4-34.7)	(29.7-51.7)	(32.8-60.4)	(64.2-86.7)	(32.1-62.1)
Yevatmal	399	400	51	38	54	39	48	48
			(45.4-57.3)	(30.5-45.7)	(46.5-61.8)	(28.2-51.2)	(40.9-55.9)	(37.1-58.1)
Tamil Nadu								
Chennai	406	408	5	3.2	7	35	8	16
			(3.0-9.1)	(1.2-8.4)	(1.3-29.4)	(7.7-77.4)	(1.6-30.5)	(3.0-52.8)
Madurai	401	402	12	1.8	53	0	52	0
			(8.7-16.0)	(0.3-11.2)	(34.6-71.2)	0	(36.2-67.2)	0
Salem	396	407	5	22.5	90	71	68	96
			(3.2-7.6)	(15.8-30.8)	(67.1-97.4)	(57.4-81.5)	(37.4-88.3)	(81.5-99.2)

Table C3: Treatment seeking behaviour for most recent STI

State & District	No of respondents		Any of Urethral discharge, ulcer, swelling, burning pain or cannot retract foreskin (last year) (%)		Action taken for the most recent symptom (%)#			
					Trained care		Took preventive measures	
	RI	RII	RI	RII	RI	RII	RI	RII
Karnataka								
Bangalore	678	NA	33	NA	61	NA	49	NA
			(27.2-38.5)		(52.0-68.4)		(40.2-58.5)	
Belgaum	407	NA	26	NA	43	NA	51	NA
			(21.1-32.1)		(32.2-54.8)		(41.8-60.7)	
Bellary	422	NA	18	NA	67	NA	52	NA
			(13.9-23.6)		(56.8-76.3)		(41.9-62.3)	
Shimoga	426	NA	16	NA	19	NA	29	NA
			(12.2-20.2)		(10.7-30.7)		(18.3-41.9)	

NA-Not available

Table C4: HIV/AIDS awareness and knowledge

State & District	No. of respondents		Ever heard of HIV/AIDS (%)		Feel at risk of being infected with HIV/ AIDS# (%)		Ever undergone HIV test# (%)	
	RI	RII	R I	R II	RI	RII	RI	RII
Andhra Pradesh								
East Godavari	409	401	100	100	22	10	15	46
			(99.2-100)	(98.4-99.9)	(14.7-32.8)	(6.2-15.2)	(9.8-21.4)	(39.5-52.5)
Guntur	401	406	100	98	56	1.8	26	37
			(99.2-100)	(90.0-99.5)	(49.2-61.8)	(0.8-4.3)	(21.6-31.3)	(31.5-42.1)
Hyderabad	406	400	100	100	60	4	14	49
			(99.2-100)		(49.1-69.3)	(1.6-7.8)	(9.9-19.3)	(34.8-63.5)
Visakhapatnam	402	406	99	100	55	13	26	27
			(97.5-99.7)	(98.5-100.0)	(48.3-61.3)	(9.2-17.4)	(20.6-33.3)	(23.2-32.0)
Warangal	402	403	98	100	57	9	32	43
			(93.8-99.7)		(43.5-69.6)	(4.6-17.7)	(26.2-38.3)	(34.7-52.1)
Maharashtra								
Mumbai	394	371	93	100	28	65	12	27
			(88.8-95.4)		(21.4-35.9)	(55.9-72.6)	(8.3-16.3)	(19.8-35.3)
Parbhani	404	395	81	100	64	61	8	14
			(74.6-85.7)		(56.5-70.6)	(51.2-70.7)	(4.9-12.1)	(7.2-25.7)
Pune	401	404	99	100	32	39	11	25
			(96.7-99.4)		(27.3-36.4)	(30.6-48.9)	(7.6-14.9)	(15.4-38.3)
Yevatmal	399	400	98	100	40	41	8	19
			(94.7-99.0)		(34.0-46.7)	(32.3-49.9)	(5.7-12.0)	(14.0-25.0)
Tamil Nadu								
Chennai	406	408	97	100	7	11	8	22
			(95.1-98.4)		(5.1-10.6)	(6.4-18.4)	(5.1-11.9)	(16.0-29.1)
Madurai	401	402	99	100	46	6	9	37
			(96.0-99.5)		(40.0-51.1)	(3.4-11.3)	(6.1-12.9)	(25.6-49.9)
Salem	396	407	98	100	14	15	9	31
			(96.4-99.3)		(8.2-22.8)	(9.5-23.4)	(5.7-12.8)	(21.8-41.2)

Table C4: HIV/AIDS awareness and knowledge

State & District	No. of respondents		Ever heard of HIV/AIDS (%)		Feel at risk of being infected with HIV/ AIDS# (%)		Ever undergone HIV test# (%)	
	RI	RII	R I	R II	RI	RII	RI	RII
Karnataka								
Bangalore	678	NA	90	NA	13	NA	17	NA
			(85.5-92.4)		(9.2-17.5)		(13.1-20.8)	
Belgaum	407	NA	91	NA	11	NA	16	NA
			(86.6-93.8)		(7.8-14.6)		(12.6-20.8)	
Bellary	422	NA	96	NA	11	NA	17	NA
			(93.4-97.7)		(7.5-15.2)		(12.5-21.8)	
Shimoga	426	NA	95	NA	7	NA	13	NA
			(92.5-96.9)		(4.9-11.0)		(10.2-16.9)	

Based on subset of respondents available for that analysis
NA-Not available

Table C5: Sexual history, condom use with occasional and regular FSWs

State & District	No. of respondents		Mean number of FSWs (last 6 months)				Occasional FSW (%)						Regular FSW (%)					
			Occasional		Regular		Had occasional FSWs		Condom use#				Had Regular FSW		Condom use#			
									Last time		Consistent				Last time		Consistent	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh																		
East Godavari	409	401	3.2	6.9	1.6	2.6	98	96	74	84	38	77	80	84	73	77	26	68
			(2.9-3.4)	(6.00-7.80)	(1.5-1.8)	(2.1-3.0)	(95.1-99.5)	(93.1-97.8)	(66.3-80.7)	(79.5-86.9)	(29.6-46.3)	(72.4-81.9)	(73.5-85.8)	(78.3-88.6)	(63.6-80.2)	(69.7-82.8)	(18.4-35.8)	(60.7-74.2)
Guntur	401	406	5.8	6.14	1.7	3.2	100	100	72	87	28	77	63	69	66	83	24	81
			(5.4-6.3)	(5.11-7.17	(1.5-1.9)	(2.4-3.9)	(99.2-100)	(98.4-99.9)	(65.5-77.2)	(79.6-91.7)	(23.1-34.0)	(69.2-83.3)	(56.9-67.9)	(59.7-77.0)	(59.2-72.6)	(73.8-89.6)	(18.3-30.8)	(72.7-84.2)
Hyderabad	406	400	6	6.2	1.6	1.2	100	99	83	92	19	72	59	70	90	81	16	71
			(5.5-6.6)	(5.3-7.1)	(1.3-1.9)	(0.5-1.9)	(99.2-100)	(97.8-99.8)	(73.6-89.3)	(84.1-96.2)	(13.6-25.6)	(66.4-76.6)	(48.6-68.0)	(63.9-74.8)	(81.5-94.3)	(70.2-89.1)	(10.9-22.9)	(65.2-76.5)
Visakhapatnam	402	406	3.7	5.2	1.3	1.08	100	98	73	88	27	70	69	45	69	72	23	55
			(3.5-3.9)	(4.6-5.7)	(1.2-1.5)	(0.82-1.3)	(99.2-100)	(95.7-99.0)	(66.9-77.9)	(82.2-92.7)	(22.0-33.4)	(62.6-76.8)	(63.6-74.2)	(37.7-53.1)	(62.1-75.2)	(64.9-78.0)	(16.7-31.1)	(45.4-64.2)
Warangal	402	403	7.4	7.1	4.3	2.1	100	98	72	94	19	80	86	79	72	83	16	64
			(6.6-8.2)	(6.0-8.2)	(3.3-5.3)	(1.8-2.4)	(99.2-100)	(91.4-99.3)	(65.5-77.6)	(91.4-96.4)	(12.5-27.0)	(72.2-85.4)	(76.3-92.1)	(71.8-84.7)	(57.4-83.1)	(62.0-93.8)	(10.5-24.9)	(47.3-77.5)
Maharashtra																		
Mumbai	394	371	4	3.2	2.1	0.69	96	89	79	91	23	49	79	47	80	66	25	26
			(3.6-4.5)	(2.85-3.54)	(1.7-2.6)	(0.54-0.84)	(90.7-97.9)	(83.5-93.0)	(72.5-84.4)	(84.0-94.8)	(18.2-29.4)	(39.4-58.0)	(73.2-83.8)	(37.4-57.0)	(73.8-84.9)	(52.1-77.5)	(18.6-31.7)	(17.8-37.1)
Parbhani	404	395	4.8	3.4	1.2	1.3	91	89	83	85	64	36	49	65	72	75	50	27
			(4.2-5.3)	(2.94-3.93)	(0.9-1.5)	(1.06-1.64)	(87.0-93.9)	(81.1-93.6)	(76.8-87.1)	(78.5-89.3)	(57.3-70.5)	(25.6-47.9)	(41.7-55.9)	(54.2-73.8)	(62.3-79.8)	(65.0-83.2)	(38.6-60.8)	(16.9-40.3)
Pune	401	404	5.1	3.51	0.3	1.11	90	89	77	92	60	38	20	49	81	76	68	40
			(4.5-5.7)	(2.95-4.06)	(0.3-0.4)	(0.78-1.43)	(86.0-92.2)	(81.5-93.2)	(72.5-81.5)	(87.2-94.9)	(54.4-65.0)	(29.1-47.8)	(16.5-24.6)	(39.3-59.6)	(66.9-90.2)	(49.0-91.3)	(52.4-80.6)	(26.9-55.4)
Yevatmal	399	400	3.6	4.64	1.2	1.58	89	82	60	93	32	75	61	49	54	81	30	60
			(3.2-3.9)	(3.72-5.56)	(1.0-1.3)	(1.14-2.01)	(83.5-92.9)	(72.9-88.5)	(54.0-65.7)	(87.3-96.2)	(26.3-38.5)	(67.5-81.8)	(54.4-67.0)	(40.8-57.5)	(46.1-62.5)	(70.2-88.9)	(23.6-38.4)	(47.9-70.7)
Tamil Nadu																		
Chennai	406	408	3.8	4.7	2.6	8.16	97	85	60	78	30	26.2	76	94	53	83	23	18
			(3.4-4.2)	(3.9-5.4)	(2.3-2.8)	(7.4-8.8)	(93.2-98.9)	(76.9-89.9)	(53.9-66.2)	(70.1-84.5)	(24.8-36.2)	(18.2-36.0)	(70.1-81.8)	(91.0-96.4)	(45.8-59.8)	(76.8-88.2)	(17.3-29.3)	(11.3-26.9)
Madurai	401	402	2.4	1.7	1.7	7.1	90	75	54	71	32	55	66	99	48	91	26	54
			(2.2-2.7)	(1.3-2.1)	(1.5-1.9)	(6.3-7.9)	(87.0-93.1)	(59.7-89.1)	(48.2-59.6)	(58.5--81.2)	(26.0-38.7)	(44.0-65.4)	(60.3-70.4)	(97.4-99.7)	(40.3-56.8)	(81.0-96.3)	(19.3-34.3)	(41.9-65.0)
Salem	396	407	7	4.9	3.1	3.5	98	100	77	92	50	65	70	99	54	68	15	37
			(6.6-7.5)	(4.03-5.9)	(2.8-3.4)	(3.0-4.1)	(95.7-99.0)	(0.0-100.0)	(71.3-82.6)	85.7-96.1)	(42.8-56.5)	(54.9-74.3)	(60.3-78.6)	(96.0-99.5)	(44.3-62.6)	(58.1-76.8)	(10.0-21.0)	(28.5-46.5)

Table C5: Sexual history, condom use with occasional and regular FSWs

State & District	No. of respondents		Mean number of FSWs (last 6 months)				Occasional FSW (%)						Regular FSW (%)					
			Occasional		Regular		Had occasional FSWs		Condom use#				Had Regular FSW		Condom use#			
									Last time		Consistent				Last time		Consistent	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Karnataka																		
Bangalore	678	NA	3.9	NA	0.8	NA	88	NA	68	NA	48	NA	42	NA	65	NA	51	NA
			(3.5-4.2)		(0.6-1.1)		(83.9-90.5)		(61.7-72.9)		(41.5-53.7)		(37.5-46.9)		(57.2-72.5)		(42.7-59.6)	
Belgaum	407	NA	3.2	NA	0.3	NA	86	NA	68	NA	50	NA	24	NA	57	NA	43	NA
			(2.9-3.5)		(0.2-0.4)		(81.1-90.2)		(61.0-74.4)		(42.7-56.7)		(19.3-29.8)		(46.9-66.8)		(33.0-54.7)	
Bellary	422	NA	3.5	NA	0.7	NA	98	NA	55	NA	41	NA	54	NA	49	NA	33	NA
			(3.1-3.8)		(0.6-0.8)		(95.7-98.7)		(48.5-61.6)		(34.7-47.2)		(45.2-62.4)		(39.8-57.8)		(26.1-40.8)	
Shimoga	426	NA	2.8	NA	0.1	NA	95	NA	65	NA	41	NA	12	NA	58	NA	42	NA
			(2.5-3.0)		(0.1-0.2)		(92.0-96.7)		(58.8-70.6)		(34.3-47.2)		(8.9-15.6)		(43.2-72.0)		(27.8-58.0)	

Based on subset of respondents available for that analysis
Occasional FSWs-Clients who visited the FSW only once or a few times and did not remember their faces
Regular FSWs-Clients who visited the FSW regularly/repeatedly and knows them
NA-Not available

Table C6: Condom use with non-paid sexual partners

State & District	No. of respondents		Main/steady female partner (%)				Other non-paid female partners (%)			
			Had main/steady partner		Consisten Condom use#		Had sex with other non paid partners		Condom use (last time)#	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh										
East Godavari	409	401	78	68	1	3	49	29	51	51
			(68.6-84.8)	(61.4-74.0)	(0.4-3.4)	(1.6-5.5)	(41.3-57.3)	(22.4-36.1)	(43.1-59.7)	(40.9-61.3)
Guntur	401	406	74	72	0	5	45	25	44	47
			(65.9-80.3)	(64.5-78.5)	(0.0-0.8)	(1.9-14.4)	(40.0-50.9)	(19.9-31.8)	(34.4-53.3)	(28.9-66.1)
Hyderabad	406	400	66	65	0	1.1	34	29	28	27
			(58.9-72.8)	(43.3-81.4)	(0.0-0.8)	(0.2-7.8)	(25.4-43.0)	(22.2-37.5)	(15.7-44.5)	(12.7-48.5)
Visakhapatnam	402	406	83	60	4	1.7	21	31	49	53
			(77.3-86.9)	(52.1-67.0)	(1.7-9.9)	(0.7-3.8)	(16.4-27.3)	(25.6-37.5)	(37.0-60.4)	(40.5-65.5)
Warangal	402	403	86	47	1	0.7	51	19	59	57
			(80.1-91.0)	(36.8-56.8)	(0.4-3.4)	(0.2-2.7)	(38.4-63.6)	(13.1-27.5)	(49.8-68.3)	(43.7-68.9)
Maharashtra										
Mumbai	394	371	48	64	9	1.2	14	13	51	43
			(41.9-54.5)	(54.4-72.5)	(4.1-17.3)	(0.3-4.0)	(10.1-18.5)	(7.2-20.8)	(34.9-67.4)	(17.6-72.6)
Parbhani	404	395	70	73	13	1.9	26	15	31	14
			(63.2-76.3)	(63.4-80.4)	(8.6-18.5)	(0.7-5.3)	(20.2-32.8)	(9.8-23.0)	(19.2-45.9)	(7.2-25.7)
Pune	401	404	63	69	5	3	18	9	59	14
			(57.7-67.8)	(60.4-76.1)	(2.8-9.0)	(1.7-6.1)	(14.1-23.4)	(5.0-16.4)	(47.3-70.4)	(4.7-35.5)
Yevatmal	399	400	76	70	7	5	36	17	27	37
			(70.2-80.8)	(61.1-77.4)	(4.1-12.5)	(2.2-11.3)	(30.9-41.8)	(11.5-24.6)	(19.3-36.0)	(18.8-58.9)
Tamil Nadu										
Chennai	406	408	62	76	2	0.6	14	1.9	55	79
			(55.4-67.8)	(67.7-82.5)	(0.9-6.5)	(0.1-4.3)	(9.5-21.5)	(0.8-4.3)	(42.3-67.2)	(38.7-95.6)
Madurai	401	402	66	66	14	0.3	37	0.4	42	0
			(59.6-71.7)	(55.5-74.8)	(9.4-19.9)	(0.1-1.3)	(30.5-43.0)	(0.1-1.9)	(32.9-51.4)	0
Salem	396	407	58	70	8	0.4	17	32	71	31
			(50.7-65.5)	(59.9-77.7)	(4.5-12.5)	(0.1-1.2)	(12.8-21.4)	(23.7-41.0)	(57.9-81.6)	(16.8-49.5)

Table C6: Condom use with non-paid sexual partners

State & District	No. of respondents		Main/steady female partner (%)				Other non-paid female partners (%)			
			Had main/steady partner		Consisten Condom use#		Had sex with other non paid partners		Condom use (last time)#	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Karnataka										
Bangalore	678	NA	68	NA	5	NA	25	NA	24	NA
			(62.2-72.9)		(3.3-8.8)		(20.8-28.7)		(16.6-33.2)	
Belgaum	407	NA	68	NA	7	NA	17	NA	39	NA
			(62.1-73.8)		(3.7-12.2)		(13.3-21.6)		(26.4-52.8)	
Bellary	422	NA	70	NA	4	NA	8	NA	21	NA
			(62.7-76.2)		(1.6-7.7)		(5.5-11.7)		(7.5-45.8)	
Shimoga	426	NA	67	NA	2	NA	25	NA	38	NA
			(60.8-72.5)		(0.7-4.0)		(20.7-29.3)		(26.8-50.3)	

Based on subset of respondents available for that analysis
Main steady female partner-The partner like spouse/girlfriend for whom the respondent do not pay to have sex
Other non-paid female partners-Female partners other than main/steady partner and female sex workers with whom casually had sex with and did not pay
NA-Not available

Table C7: Condom use with male/hijra sexual partners

State & District	No. of respondents		Male/hijra sexual partner (%)					
			Had anal sex with male/hijra partner		Condom use			
					Last time#		Consistent#	
	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh								
East Godavari	409	401	1	21	100	74	28	72
			(0.5-3.7)	(15.9-27.8)	(66.5-100)	(58.9-84.2)	(8.8-60.7)	(58.0-83.3)
Guntur	401	406	4	20	81	91	19	89
			(2.5-7.1)	(12.0-30.5)	(55.9-93.1)	(74.1-97.0)	(4.1-55.5)	(72.2-96.0)
Hyderabad	406	400	1	5	56	98	56	58
			(0.3-2.9)	(1.7-12.4)	(9.6-94.0)	(91.6-99.7)	(9.6-94.0)	(27.8-83.5)
Visakhapatnam	402	406	16	8	50	71	19	71
			(11.6-21.7)	(4.2-13.1)	(32.8-68.0)	(44.6-88.2)	(7.0-41.0)	(44.6-88.2)
Warangal	402	403	6	1.6	29	100	1	100
			(1.9-16.0)	(0.6-4.0)	(4.7-76.7)	(0.0-100.0)	(0.1-9.7)	(0.0-100.0)
Maharashtra								
Mumbai	394	371	16	7	78	18	16	17
			(11.2-21.7)	(4.2-12.4)	(64.0-87.6)	(6.8-39.3)	(7.2-32.0)	(6.0-38.3)
Parbhani	404	395	10	21	23	17	13	0.3
			(7.0-14.4)	(14.0-30.5)	(11.5-40.2)	(3.8-52.3)	(5.2-29.1)	(0.0-2.4)
Pune	401	404	5	8	82	69	88	44
			(3.2-7.8)	(4.8-12.8)	(57.7-93.6)	(51.1-82.3)	(67.9-96.4)	(26.2-63.8)
Yevatmal	399	400	5	6	6	25	6	12
			(2.8-8.2)	(3.1-12.1)	(1.3-22.0)	(9.9-50.5)	(1.3-22.0)	(3.3-34.1)
Tamil Nadu								
Chennai	406	408	3	33	30	64	25	15
			(1.7-5.8)	(25.4-42.5)	(11.1-59.4)	(46.6-77.6)	(7.5-58.0)	(7.5-27.8)
Madurai	401	402	13	38	39	94	15	71
			(9.7-17.6)	(28.5-48.1)	(25.3-54.1)	(85.4-97.7)	(6.8-28.8)	(58.2-80.6)
Salem	396	407	7	26	85	47	51	27
			(3.5-13.5)	(17.5-35.6)	(57.9-95.8)	(27.3-68.1)	(36.4-65.4)	(11.1-52.7)

Table C7: Condom use with male/hijra sexual partners

State & District	No. of respondents		Male/hijra sexual partner (%)					
			Had anal sex with male/hijra partner		Condom use			
					Last time#		Consistent#	
	RI	RII	RI	RII	RI	RII	RI	RII
Karnataka								
Bangalore	678	NA	14	NA	64	NA	56	NA
			(9.4-19.5)		(44.2-80.2)		(37.1-73.0)	
Belgaum	407	NA	2	NA	40	NA	29	NA
			(0.9-6.4)		(16.1-69.0)		(6.3-70.9)	
Bellary	422	NA	3	NA	41	NA	25	NA
			(1.6-6.6)		(15.4-72.7)		(6.6-61.9)	
Shimoga	426	NA	2	NA	25	NA	25	NA
			(0.6-3.2)		(3.6-74.9)		(3.6-74.9)	

Based on subset of respondents available for that analysis
NA-Not available

Table C8: Prevalence of HIV/STIs

State & District	No. of respondents		HIV (%)		HSV-2 antibody* (%)		Reactive syphilis serology** (%)		N. gonorrhoeae (%)		C. trachomatis (%)		Any STI (+ve for syphilis, gonorrhoeae, trachomatis, one or more)*** (%)		HIV among 'any STI' positive (%)		HIV among 'any STI' negative (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Andhra Pradesh																		
East Godavari	409	401	8.3	9.6	48.7	29.2	4.8	2	0	0	0.9	1.6	5.5	3.1	20.9	19.4	7.6	9.2
			(5.4-12.6)	(5.4-16.4)	(32.8-64.7)	(14.7-43.8)	(2.9-7.9)	(0.9-4.4)	(0.0-0.8)		(0.3-2.6)	(0.4-6.8)	(3.5-8.7)	(1.3-7.1)	(9.5-39.9)	(4.5-55.2)	(4.6-12.2)	(4.9-16.6)
Guntur	401	406	6.6	7.1	73.1	39	10.1	1.1	0	0	0.8	0	10.6	1.1	5.9	0	6.7	7.2
			(4.2-10.2)	(3.6-13.7)	(59.0-87.3)	(23.4-54.6)	(7.2-14.0)	(0.4-3.2)	(0.0-0.8)		(0.2-3.8)	(0.0-0.2)	(7.6-14.4)	(0.4-3.2)	(1.7-18.8)		(4.3-10.3)	(3.6-14.0)
Hyderabad	406	400	2.4	3.7	41.4	21.9	3.1	0.8	0	0	2.1	0.3	4.4	1.1	26.2	14.5	1.3	3.6
			(1.2-4.8)	(1.0-12.2)	(25.7-57.2)	(8.7-35.1)	(1.8-5.3)	(0.3-2.6)	(0.0-0.8)		(0.7-6.1)	(0.1-0.9)	(2.6-7.3)	(0.4-3.0)	(9.5-54.7)	(4.2-39.6)	(0.5-3.1)	(0.9-12.8)
Visakhapatnam	402	406	8	5.1	80.4	29.2	3.4	1.3	1.3	0	0.4	0.3	4.4	1.6	28.2	5.4	7.1	5.1
			(5.0-12.6)	(2.4-10.3)	(67.8-93.1)	(14.7-43.8)	(1.9-5.9)	(0.4-4.4)	(0.5-3.5)		(0.1-2.7)	(0.0-1.8)	(2.6-7.2)	(0.5-4.6)	(12.1-52.8)	(0.6-34.9)	(4.1-11.9)	(2.3-10.6)
Warangal	402	403	6.7	2.8	22.5	39	5.5	0.1	1.6	0	0.4	0	6.7	0.1	83.6	0	1.2	2.8
			(2.7-16.1)	(1.3-5.7)	(0.08-36.0)	(23.4-54.6)	(1.8-15.6)	(0.0-0.6)	(0.4-6.8)		(0.1-1.2)		(2.7-15.9)	(0.0-0.7)	(53.9-95.7)		(0.5-2.7)	(1.3-5.8)
Maharashtra																		
Mumbai	394	371	9.1	5.7	34	29.3	3.9	6.2	0.9	0.5	4.5	6.8	8.8	12.2	12.8	3.2	8.7	6
			(6.1-13.3)	(2.9-10.9)	(19.5-48.6)	(14.7-43.8)	(1.9-7.7)	(3.1-11.9)	(0.3-2.3)	(0.2-1.5)	(2.6-7.9)	(1.9-21.8)	(5.9-12.9)	(5.6-24.5)	(4.8-29.6)	(0.8-12.2)	(5.6-13.4)	(2.9-11.9)
Parbhani	404	395	6.4	2.1	13.9	12.5	4	5.1	0.7	0	3.6	0	7.9	5.1	8.2	20.6	6.3	1.1
			(3.6-11.1)	(0.7-6.0)	(0.03-24.7)	(1.7-23.2)	(1.6-9.7)	(2.3-11.1)	(0.2-3.4)		(1.7-7.6)		(4.5-13.5)	(2.3-11.1)	(1.7-31.5)	(2.9-69.3)	(3.4-11.2)	(0.5-2.4)
Pune	401	404	6	5.7	20.9	13.3	6	2.7	0.1	1.1	3	0.3	7.8	4.1	15.4	31.5	5.2	4.6
			(3.7-9.7)	(3.5-9.2)	(0.08-33.6)	(3.0-23.6)	(3.6-9.8)	(1.4-5.0)	(0.0-0.4)	(0.2-4.8)	(1.3-6.4)	(0.1-0.9)	(5.0-12.0)	(2.3-7.1)	(6.4-32.8)	(9.9-65.9)	(2.9-9.0)	(2.7-7.7)
Yevatmal	399	400	10.9	11.7	27.4	22.5	7.8	4.5	0.9	0.1	1.6	0.8	9.7	5.3	32.9	39.6	8.5	10.1
			(8.0-14.7)	(7.4-17.9)	(14.7-40.1)	(8.9-36.0)	(4.9-12.0)	(2.4-8.3)	(0.3-2.6)	(0.0-0.5)	(0.6-4.5)	(0.2-3.4)	(6.5-14.3)	(3.0-9.3)	(17.4-53.3)	(17.3-67.3)	(5.9– 12.2)	(5.9-16.7)
Tamil Nadu																		
Chennai	406	408	2	8.5	24.3	26.7	4.7	8.4	0	0	1.2	0	5.9	8.4	10.1	100	1.5	0.1
			(1.0-3.9)	(4.6-15.2)	(10.6-38.1)	(14.8-38.7)	(2.8-7.7)	(4.5-15.2)	(0.0-0.8)		(0.4-3.6)		(3.6-9.3)	(4.5-15.2)	(2.6-32.0)		(0.7-3.2)	(0.0-0.6)
Madurai	401	402	2.5	10.2	9.7	21.4	3.5	1.4	0	0	0	0.6	3.5	2	10.6	71.4	2.2	9
			(1.1-5.7)	(2.5-33.5)	(0.0-19.2)	(1.0-32.5)	(1.9-6.2)	(0.4-4.6)	(0.0-0.8)		(0.0-0.8)	(0.2-2.1)	(1.9-6.2)	(0.8-5.0)	(1.4-49.5)	(29.6-93.7)	(0.9-5.5)	(1.8-35.3)
Salem	396	407	4.2	0.7	30	8.9	3.5	0.3	0	0	1	0.1	4.3	0.4	18.9	18.1	3.5	0.6
			(2.0-8.6)	0.2-2.7)	(15.1-44.8)	(1.2-16.6)	(1.9-6.4)	(0.1-0.7)	(0.0-0.8)		(0.4-2.5)	(0.0-0.7)	(2.5-7.3)	(0.2-1.0)	(7.7-39.6)	(2.4-66.3)	(1.5-7.9)	(0.1-2.8)

Table C8: Prevalence of HIV/STIs

State & District	No. of respondents		HIV (%)		HSV-2 antibody* (%)		Reactive syphilis serology** (%)		N. gonorrhoeae (%)		C. trachomatis (%)		Any STI (+ve for syphilis, gonorrhoeae, trachomatis, one or more)*** (%)		HIV among 'any STI' positive (%)		HIV among 'any STI' negative (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
Karnataka																		
Bangalore	678	NA	2.4	NA	NA	NA	3.8	NA	0.6	NA	3	NA	6.8	NA	12.9	NA	1.6	NA
			(1.3-4.5)				(2.4-6.1)		(0.2-1.4)		(1.8-5.0)		(4.8-9.7)		(4.3-32.9)		(0.8-3.4)	
Belgaum	407	NA	6.2	NA	NA	NA	4.2	NA	0	NA	1.4	NA	5.2	NA	19.5	NA	5.5	NA
			(4.1-9.3)				(2.5-7.2)		0.9		(0.5-3.8)		(3.2-8.2)		(6.8-44.7)		(3.5-8.5)	
Bellary	422	NA	6	NA	NA	NA	5.8	NA	(0.2-4.7)	NA	1.7	NA	7.2	NA	19.4	NA	5	NA
			(3.4-10.6)				(3.8-8.8)		0.5		(0.8-3.7)		(5.1-10.1)		(7.9-40.3)		(2.8-8.9)	
Shimoga	426	NA	3	NA	NA	NA	3.1	NA	(0.1-2.1)	NA	0.6	NA	4.2	NA	0	NA	3.1	NA
			(1.5-6.1)				(1.0-9.2)				(0.2-1.9)		(1.8-9.5)		0		()1.5-6.3	

NA-Not available

* Un-weighted estimates based on a random sample of 10% of sera specimens selected for HSV-2 testing

** RPR positive (any titre) and TPHA positive

*** Positive for reactive syphilis serology, N. gonorrhoeae or C.trachomatis (one or more)

Table T1: Demographic profile LDTDs

Route	No. of respondents		Mean age (years)		Can read and write (%)		Ever married (Currently married) (%)		Mean age when started having paid sex (years)		Mean Duration of working as driver (months)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
National Highways												
North-East	498	524	32	33	83	87	75	74	21	23	117	116
			(31.1-32.5)	(32.1-34.7	(77.9-86.6)	(81.0-91.6)	(70.2-80.0)	(66.2-80.8)	(20.7-22.2)	(21.9-23.4)	(108.8-124.7)	(102.5-129.9)
North-South	540	538	31	32	90	96	75	71	21	23	111	119
			(30.8-32.1)	(30.0-33.5)	(84.9-93.0)	(91.8-98.1)	(68.1-80.7)	(63.8-77.6)	(20.0-21.2)	(22.2-23.4)	(104.5-118.3)	(102.7-134.6)
North-West	515	526	30	32	88	87	73	74	22	22	96	102
			(29.5-30.8)	(30.6-34.0)	(82.6-91.1)	(77.9-92.8)	(64.0-79.7)	(65.6-80.2)	(20.6-22.3)	(21.6-23.2)	(89.5-103.0)	(88.8-114.8)
South-East	513	497	34	35	83	95	82	84	21	22	129	134
			(33.2-34.6)	(33.0-37.0)	(75.7-87.9)	(90.0-97.1)	(77.6-86.1)	(87.4-88.9)	(20.5-21.5)	(20.5-22.8)	(121.5-136.7)	(110.5-157.3)

Table T2: Exposure to services provided by any agency

Route	No. of respondents		Heard of Khushi Clinic* (%)		Contacted by a Peer/ORW* last year (%)		Contacted by a Peer/ORW Last month (%)		Received condom from Peer/ ORW (last year) (%)		Visited Khushi clinic* (last year) (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
National Highways												
North-East	498	524	55	50	5	25	2	6	6	12	14	21
			(48.8-60.5)	(42.7-58.1)	(3.0-7.6)	(19.1-32.9)	(1.1-4.6)	(4.4-9.1)	(3.6-9.4)	(7.9-16.6)	(10.7-18.6)	(16.1-27.7)
North-South	540	538	58	56	15	35	6	5	10	7	20	21
			(52.8-63.6)	(49.4-62.5)	(10.6-19.7)	(28.7-41.7)	(3.7-10.0)	(3.1-7.3)	(6.4-13.8)	(4.4-11.2)	(14.8-25.2)	(16.5-26.3)
North-West	515	526	36	62	8	32	2	12	4	19	11	31
			(28.6-43.6)	(53.9-70.1)	(4.5-13.0)	(23.8-41.5)	(0.9-3.3)	(6.8-18.7)	(2.1-6.7)	(12.3-27.1)	(7.0-16.6)	(22.5-40.4)
South-East	513	497	38	21	2	10	1	2	3	2	3	4
			(32.6-44.6)	(14.3-29.9)	(1.0-5.6)	(5.9-17.4)	(0.4-3.3)	(0.9-5.3)	(1.4-4.5)	(0.9-6.1)	(2.1-5.2)	(1.0-11.1)

* Khushi Clinic-Avahan supported STI franchise

Table T3: Treatment seeking behaviour for most recent STI

Route	No. of respondents		Ever heard of any STIs (%)		Knowledge of 3 or more STI symptoms*# (%)		Urethral discharge, ulcer, swelling, burning pain or cannot retract foreskin (Last year) (%)		Action taken for the most recent symptom (%)#			
									From trained care		Took preventive measures	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
National Highways												
North-East	498	524	74	68	5	11	8	20	24	43	4	1.2
			(68.1-78.5)	(60.2-74.6)	(2.9-9.1)	(5.7-21.2)	(5.4-11.4)	(15.2-26.0)	(12.7-40.9)	(28.1-59.5)	(0.9-17.1)	(0.2-7.9)
North-South	540	538	78	53	9	6	9	7	23	43	0	3
			(72.3-83.4)	(43.9-61.0)	(6.0-13.3)	(3.7-9.0)	(5.5-13.2)	(4.8-11.0)	(10.9-41.8)	(26.9-60.4)		(0.5-11.2)
North-West	515	526	70	72	5	11	13	15	22	44	0	0
			(64.6-75.2)	(63.9-79.6)	(2.9-8.7)	(4.3-24.9)	(9.2-18.3)	(9.0-22.5)	(11.7-37.3)	(24.3-66.5)		0
South-East	513	497	94	52	58	16	5	3	38	72	0	11
			(92.5-95.8)	(43.0-61.0)	(54.6-61.1)	(10.2-24.8)	(3.0-7.3)	(1.4-6.9)	(21.8-56.4)	(33.4-93.0)		(1.3-50.5)

Based on a subset of respondents applicable for that analysis
* Of the 5 symptoms, viz., urethral discharge, genital ulcers or sores, swelling in groin (scrotal) area, burning pain on urination, cannot retract foreskin.

Table T4: HIV/AIDS awareness and knowledge

Route	No. of respondents		Ever heard of HIV/AIDS (%)		Feel at risk of being infected with HIV/AIDS# (%)		Ever undergone HIV test# (%)	
	RI	RII	RI	RII	RI	RII	RI	RII
National Highways								
North-East	498	524	99	92	5	11	9	16
			(98.4-99.9)	(86.1-95.7)	(3.2-8.1)	(7.2-17.6)	(6.2-12.6)	(10.5-23.3)
North-South	540	538	98	94	17	1.5	15	6
			(92.5-99.7)	(90.9-96.3)	(11.4-24.3)	(0.8-3.0)	(9.8-22.1)	(3.7-10.7)
North-West	515	526	98	94	8	12	12	15
			(94.8-99.2)	(84.8-97.9)	(5.6-12.3)	(7.1-20.2)	(8.1-18.0)	(9.7-22.5)
South-East	513	497	100	77	12	5	34	35
			(0.0-100)	(68.9-83.6)	(7.9-18.6)	(1.5-15.4)	(30.0-37.3)	(25.6-46.4)

Based on a subset of respondents applicable for that analysis

Table T5: Sexual history, condom use with wife

Route	No. of respondents		Wife sexual partner (%)					
			Had sex with wife in last one month		Condom use			
					Last time#		Consistent#	
	RI	RII	RI	RII	RI	RII	RI	RII
National Highways								
North-East	498	524	85	92	12	22	5	3
			(80.4-89.3)	(86.5-95.3)	(8.2-16.8)	(15.5-29.3)	(3.1-9.3)	(1.1-7.1)
North-South	540	538	91	92	16	11	3	1.3
			(83.9-94.8)	(87.0-94.8)	(10.4-23.2)	(7.0-16.8)	(1.3-5.8)	(0.4-3.9)
North-West	515	526	88	87	19	13	5	0.9
			(82.5-92.2)	(76.3-93.3)	(13.7-25.3)	(7.5-20.8)	(2.1-10.0)	(0.3-2.8)
South-East	513	497	98	89	6	2	0.5	0
			(97.2-99.0)	(81.1-94.3)	(3.9-8.3)	(0.7-7.3)	(0.2-1.3)	

Based on a subset of respondents applicable for that analysis

Table T6: Sexual history, condom use with paid female sexual partners

Route	No. of respondents		Mean number of paid female partners		Paid female sexual partner (%)					
					Had sex with paid female partner		Condom use			
							Last time#		Consistent#	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
National Highways										
North-East	498	524	5	7	25	26	73	75	70	66
			(3.9-6.0)	(4.4-10.4)	(19.9-30.5)	(18.3-34.5)	(60.8-82.8)	(46.7-91.1)	(57.5-79.8)	(42.7-83.5)
North-South	540	538	6.2	3	30	29	91	93	74	79
			(5.0-7.4)	(2.7-4.04)	(22.7-39.1)	(22.4-36.5)	(81.1-95.8)	(87.3-96.4)	(62.8-82.3)	(63.9-88.4)
North-West	515	526	4.5	4	29	29	88	95	68	76
			(3.7-5.3)	(3.2-5.24)	(22.9-36.2)	(21.3-37.1)	(71.1-95.7)	(83.2-98.6)	(48.2-82.5)	(57.0-88.3)
South-East	513	497	6.8	4	44	14	92	96	64	95
			(5.8-7.8)	(3.3-4.9)	(38.2-49.3)	(9.1-20.5)	(85.6-95.7)	(87.7-98.8)	(44.6-80.1)	(86.9-98.1)

Based on a subset of respondents applicable for that analysis

Table T7: Sexual history, condom use with non-paid sexual partners

Route	No. of respondents		Non-paid female partner (%)							
			Mean number of non-paid female partners		Had sex with non-paid female partner		Condom use			
							Last time#		Consistent#	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
National Highways										
North-East	498	524	1.7	1.7	18	23	27	43	20	34
			(1.3-2.1)	(1.4-2.0)	(13.4-23.1)	(16.6-31.3)	(14.8-44.1)	(33.8-52.4)	(9.0-37.5)	(24.1-44.8)
North-South	540	538	1.8	1.8	22	17	26	63	21	50
			(1.4-2.3)	(1.5-2.1)	(16.1-28.3)	(13.1-22.2)	(17.5-37.6)	(49.5-74.2)	(12.8-33.6)	(36.7-63.7)
North-West	515	526	1.9	1.8	22	34	36	45	17	35
			(1.4-2.4)	(1.4-2.1)	(17.5-26.5)	(26.1-43.0)	(20.8-54.9)	(28.7-61.4)	(8.6-30.0)	(19.7-53.1)
South-East	513	497	2.8	2.1	21	15	22	33	14	32
			(2.4-3.3)	(1.6-2.6)	(16.7-25.7)	(10.3-22.0)	(15.9-30.7)	(17.3-54.4)	(9.0-21.2)	(16.0-52.9)

Based on a subset of respondents applicable for that analysis

Table T8: Sexual history, condom use with male/hijra sexual partners

Route	No. of respondents		Mean number of male partners		Mean number of hijra partners		Male/Hijra sexual partner (%)					
							Had anal sex with male/hijra partner		Condom use			
									Last time#		Consistent#	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
National Highways												
North-East	498	524	1.2	0.7	1	2.6	1	4	50	43	50	32
			(0.7-1.7)	(-.21-1.7)	(1.0-1.0)	(1.7-3.6)	(0.6-2.3)	(1.8-7.1)	(19.2-80.3)	(16.2-74.6)	(19.2-80.3)	(10.9-64.6)
North-South	540	538	3.3	0.1	2.9	2.08	2	3	77	52	74	41
			(1.9-4.7)	(-.09-0.4)	(0.9-4.9)	(0.6-3.5)	(0.8-3.6)	(1.0-6.3)	(48.9-92.0)	(13.9-87.9)	(45.3-90.5)	(11.0-80.1)
North-West	515	526	2.5	1.2	4	1.4	5	5	20	21	14	17
			(1.4-3.6)	(0.47-2.05)	(-1.6-9.6)	(0.3-2.5)	(2.0-10.0)	(2.6-10.0)	(4.6-56.0)	(5.6-54.7)	(2.3-51.6)	(3.4-53.1)
South-East	513	497	2.3	0	1	2	1	0.6	17	0	17	0
			(-6.5-11.2)	0	(1.0-1.0)	(2.0-2.0)	(0.6-2.2)	(0.1-3.9)	(6.9-34.9)		(6.9-34.9)	

Based on a subset of respondents applicable for that analysis

Table T9: Prevalence of HIV/STIs

Route	No. of respondents		HIV (%)		HSV-2 antibody* (%)		Reactive syphilis serology** (%)		N.gonorrhoeae (%)		C. trachomatis (%)		Any STI*** (%)		HIV among "any STI" positive (%)		HIV among "any STI" negative (%)	
	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII	RI	RII
National Highways																		
North-East	498	524	3.1	2.5	16.1	26.5	3.7	3.7	0.3	0.3	0.9	0.7	4.8	4.4	6.4	0.0	3	2.6
			(1.6-5.9)	(1.3-4.7)	(6.7-25.5)	(13.7-39.3)	(2.3-5.9)	(1.2-10.9)	(0.0-2.2)	(0.0-2.5)	(0.2-3.7)	(0.2-2.3)	(3.0-7.6)	(1.7-11.1)	(0.9-34.6)		(1.6-5.5)	(1.4-4.9)
North-South	540	538	2.4	2.2	20	18.8	3.2	1.3	0.4	0.0	0.0	0.6	3.6	1.9	0.0	19	2.5	1.9
			(1.3-4.4)	(1.1-4.5)	(7.8-32.1)	(7.9-29.7)	(1.6-6.4)	(0.6-2.9)	(0.1-2.2)			(0.1-2.9)	(1.9-6.8)	(0.9-4.0)		(5.1-51.7)	(1.4-4.6)	(0.8-4.1)
North-West	515	526	3.8	1.9	12.9	23	3	1.3	0.0	0.0	0.0	0.8	3	2.1	9.8	0.0	3.6	1.9
			(2.3-6.1)	(1.0-3.6)	(4.3-21.4)	(11.2-34.9)	(1.5-5.9)	(0.4-4.0)	(0.0-0.2)		(0.0-0.2)	(0.2-3.3)	(1.5-6.0)	(0.9-5.0)	(2.1-35.2)		(2.1-6.0)	(1.0-3.7)
South-East	513	497	6.8	3.3	38.7	44.4	1.2	0.2	0.0	0.0	0.4	0.9	1.6	1	25	6	6.3	3.3
			(4.5-9.7)	(1.6-6.7)	(20.5-56.8)	(29.3-59.5)	(0.5-2.6)	(0.0-0.6)			(0.1-1.1)	(0.3-2.1)	(0.8-2.9)	(0.5-2.2)	(11.4-46.3)	(0.8-34.7)	(4.2-9.6)	(1.6-6.7)

* Un-weighted estimates based on a random sample of 10% of sera specimens selected for HSV-2 testing
** RPR positive (any titre) and TPHA positive
*** Positive for reactive syphilis serology, N. gonorrhoeae or C.trachomatis (one or more)

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