National AIDS Control Organisation

सत्यमेव जयते
Ministry of
Health and Family Welfare

HIV Sentinel Surveillance Plus 2021

High-risk group and bridge population

National AIDS Control Organisation and All India Institute of Medical Sciences
Ministry of Health & Family Welfare, Government of India

Suggested citation

National AIDS Control Organisation & All India Institute of Medical Sciences, New Delhi (2024): HIV Sentinel Surveillance Plus 2021 High-risk group and bridge populations. New Delhi: NACO, Ministry of Health & Family Welfare, Government of India.

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GoI/NACO/Surveillance & Epidemiology/HIV Sentinel Surveillance Plus 2021: HRG and bridge populations/19042024

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आज़ादी का अमृत महोत्सव

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स्वास्थ्य और परिवार कल्याण मंत्रालय
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Foreword

The HIV epidemic in India is largely concentrated among high-risk group (HRG) population namely injecting drug users (IDUs), hijra/transgender (H/TG) people, men who have sex with men (MSM), female sex workers (FSWs) and prison population. HIV prevalence among these high-risk groups is 9–43 times that of the national adult prevalence. Even amongst the migrants and truckers, considered to be a proxy of the population groups bridging the HIV epidemic between high-risk and low-risk populations, the HIV prevalence is observed to be 4–5 times the national adult prevalence.

Acknowledging that individuals engaging in high-risk behaviours are disproportionately impacted by the HIV epidemic, targeted interventions have been a crucial aspect of India's national AIDS strategy from phase 1 of the National AIDS and STD Control Programme (NACP). Since 1998, robust surveillance of HIV infections and associated risk behaviours among high-risk and bridging populations has been conducted. This serves a dual purpose: to track the magnitude and progression of the HIV epidemic within these groups and to furnish empirical and actionable strategic data to support evidence-based policymaking.

The current report details the findings of the 2021 HIV Sentinel Surveillance for six 'at-risk' population groups: truckers, migrants, FSWs, prisoners, MSM, H/TG people and IDUs. While the prevalence data from the 2021 surveillance has already been utilized by the programme, this report offers comprehensive strategic insights into new areas such as awareness of pre-exposure prophylaxis, the use of digital platforms to find partners for high-risk behaviour, and the stigma and discrimination faced by these populations. Additionally, the report sheds light on the prevalence of HIV-Hepatitis co-infections among these groups, reinforcing the necessity for a continued, robust and integrated response given the significant rates of HIV-Hepatitis Co-infections.

Continued focus on high-risk population groups aligns with the objectives of NACP phase V, which aims for an 80% reduction in new infections. The publication of this report provides detailed epidemiological programmatic contexts, enabling all stakeholders to enhance the national AIDS response tailored to the location and population towards the attainment of the 2030 goal of ending the AIDS epidemic as a public health threat.

(V. Hekali Zhimomi)

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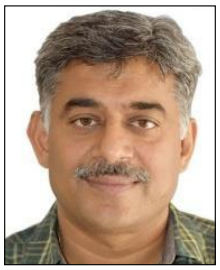

Message

Robust surveillance and epidemiology are crucial for responding to public health threats. The HIV Sentinel Surveillance (HSS) in India, the most extensive survey across the globe, monitors the prevalence and trend of HIV at National and State levels and provides latest evidence on the HIV epidemic in States/UTs.

The 17th round of the HSS Plus 2020-2021 was implemented at a critical juncture while the country was battling with the Covid-19 pandemic. It was implemented in all the 8 typologies across 1450 sites in almost every district of the country. With every round, a continuous attempt is made to enhance the surveillance to generate quality data which can be compared to previous rounds and assist policy makers. In this round, a more enhanced tool had been used for the behavioural data collection which included questions on knowledge, service uptake, HIV related risk behaviours and stigma/discrimination faced by the HRGs. Hepatitis-B and Hepatitis-C were integrated as additional biomarkers in this round of Surveillance in coordination with the National Viral Hepatitis Surveillance Programme.

I would like to acknowledge the contribution of the Ministry of Health and Family Welfare (MOHFW), National AIDS Control Organisation (NACO) team, which has been ably led by Dr. Chinmoyee Das and Dr. Pradeep Kumar, and guided by the technical expertise of Dr. D. C. S. Reddy, Dr. Arvind Pandey and Dr. Shashi Kant. I would also like to acknowledge the contribution of the National Institute (NI), all the Regional Institutes (RIs), all the State AIDS Control Societies (SACS), the entire field teams and the associated HSS testing laboratories for their support in effectively implementing this round of HSS.

The findings from this report will be instrumental in strengthening the HIV/AIDS response in India and to meet the targets of the programme in the future. It will also aid in planning services and allocating resources.

I extend my appreciation to all the stakeholders involved for the successful conduction of this round of HSS inspite of the challenges imposed by Covid-19.

[Sanjay K. Rai]

Message

'Know your HIV epidemic, know your HIV response' is a well-known adage used and practiced in global AIDS response. If there is one country in particular who has stridently been working for decades to know their epidemic and improve their understanding of the level and trend of HIV by population group at various geographic levels to be able to inform the response – it is India.

India is exemplary in the way data across various parameters are generated and used to inform programme planning at various levels. Data generated through the biennial rounds of the national HIV Sentinel Surveillance (HSS) form one of the key sources providing insight to the level and trend of the HIV epidemic by geography and population group – and informing the various programme planning processes.

The 17th round of HSS has been completed in India. The 17th round of HSS has many firsts. For the first time, biomarkers of Hepatitis B and C were integrated into this round. For the first time also, a behavioral component was added to be able to provide critical bio and behavioral information together, by population group. On behalf of UNAIDS, I would like to congratulate the National AIDS Control Organisation, Ministry of Health and Family Welfare (NACO, MOHFW) for this feat – and for leading the implementation of HSS in India over the years – along with the National Institute All India Institute of Medical Sciences, New Delhi (NI-AIIMS) and other institutes under the Integrated and Enhanced Surveillance and Epidemiology (IESE) Framework.

HSS in India is remarkable in its systematized national implementation structure, and its scale considering the number of sites covering major districts and population groups making it one of the world's largest and representative for various geographies and populations. The way Hepatitis has also been integrated into the HIV Sentinel Surveillance can provide an example to many countries.

I encourage all programmers and stakeholders to review this technical report on HSS 2021. This technical report provides information on HIV prevalence, prevalence for Hepatitis B and C, and co-infections for the population groups of female sex workers, men having sex with men, transgender people, people who inject drugs, truckers, and migrants – by States/Union Territories. Behavioral information is also provided on various indicators such as HIV/AIDS related testing and treatment service uptake, knowledge of PrEP, injecting drug use practices, sexual behavior and condom use practice, and stigma and discrimination. These findings will go a long way in informing programme planning as the NACP phase V enters its mid term and as two years remain to achieve the national targets set for 2025-2026. UNAIDS remains committed to continuing to support the national AIDS response in India led by NACO, MOHFW, with the Joint UN Team on AIDS and PEPFAR.

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Acknowledgement

The 17th round of HIV Sentinel Surveillance (HSS) was implemented at 473 sentinel sites among high-risk groups (HRGs) and 65 sentinel sites among bridge population in the year 2021 by National AIDS Control Organisation (NACO) under the Ministry of Health and Family Welfare, Government of India. NACO extends its gratitude to all stakeholders for their invaluable support and timely efforts in ensuring the successful implementation of this surveillance round.

The 17th round of HSS was a round of many firsts. These included integration of Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV) as additional bio-markers and also a very robust, enhanced tool for behavioural data collection. The Technical Resource Group for HIV Surveillance and Epidemiology (S&E), chaired by Shri Alok Saxena (the then Addl. Secretary & DG, NACO) and co-chaired by Dr. Sanjay Mehendale (Former Addl. DG, ICMR), provided strategic guidance in firming up of the transition from HSS to HSS Plus in HSS 2021. We place on record our sincere thanks to the leadership for providing vision, insights, and support towards development of a robust methodology for HIV Surveillance among HRG and bridge population.

Technical Working Group (S&E), under the Chairpersonship of Dr. DCS Reddy (Former HoD, Community Medicine, BHU, UP), and Co-Chairpersonship of Dr. Shobini Rajan (CMO-SAG, NACO) was instrumental in reviewing and recommending the method and findings of the 2021 round. Late Prof. Arvind Pandey (Former Director, ICMR NIMS, New Delhi), Dr. Shashi Kant (Former Head, CCM, AIIMS, New Delhi), and Dr. Sanjay Kumar Rai (Focal Person, National Institute for NACO's S&E, AIIMS New Delhi) provided critical inputs and technical guidance in all phases since conceptualization till publication of results and beyond.

The leadership and guidance of Ms V. Hekali Zhimomi (Addl. Secretary & DG, NACO) in publication and release of this document is gratefully acknowledged. Programmatic context for the exercise and valuable insights provided by Ms. Nidhi Kesarwani (the then Director. NACO), Dr. Anoop Kumar Puri (DDG, NACO), Dr. Uday Bhanu Das (Sr. CMO-SAG, NACO), Dr. Shobini Rajan (CMO-SAG, NACO), Dr. Bhawani Singh Kushwaha (Deputy Director, NACO), and Dr. Sai Prasad Bhavsar (Deputy Director, NACO) have been critical in completion of the activity. As the role of laboratories evolved significantly in 2021 round with dried blood spots specimen being tested for HIV, Hepatitis B and Hepatitis C; significant contribution of Dr. Bhawna Rao (DD, NACO) and Dr. Shivali Kamal (NACO) in completion of the activity is acknowledged.

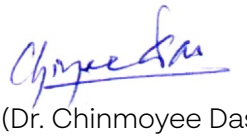
Dr. Pradeep Kumar (NACO) anchored the implementation of the 17th round of HSS among HRG and bridge population and developed this technical report with support from Dr. Arvind Kumar (NACO), Dr. Subrata Biswas (NACO) and Dr. Nidhi Priyam (NACO). Ms. Shreena Ramanathan and Mr. Lalit KS. Kharyat (Technical Experts) reviewed the data to ensure accuracy.

During the process, HIV Surveillance team at AIIMS, New Delhi (Dr. Sanjay K. Rai, Dr. Shreya Jha, Mr. Nishakar Thakur), ICMR-NARI, Pune (Dr. Sheela Godbole, Dr. Rashmi Sindhe, Dr. Garima Meena), ICMR-NIE, Chennai (Dr. A. Elangovan, Dr. Santhakumar Aridoss), ICMR-NICED, Kolkata (Dr. Shanta Dutta, Dr. Alok K. Deb, Ms. Piyali Ghosh, Mr. Pankaj Kumar Khan), PGIMER, Chandigarh (Dr. P.V.M. Lakshmi, Dr. Chandrakanta, Dr. Shivani), RIMS, Imphal (Dr. H. Sanayaima Devi, Dr. Tamphasana, Mr. Rishikesh), ICMR NIMS New Delhi (Dr. H.K. Chaturvedi, Dr. Vishal Deo, Dr. Bamali Deka), AIIMS Bhubaneswar (Dr. Arvind Kumar Singh, Dr. Subhakanta Sahu, Dr. Hrushikesh Das) and AIIMS Jodhpur (Dr. Pankaj Bhardwaj, Dr. Vibha Joshi) shared field experiences, critically reviewed the documents, tools and technical report towards their finalization, led the regional training and supervision and guided State training. Dr. Sandhya Kabra, Dr. Partha Rakshit and Dr. Hema Gogia (National Programme for Surveillance of Viral Hepatitis, MoHFW, GoI) provided inputs on Hepatitis B and Hepatitis C-related aspects.

The SIMU team at SACS under the leadership of their Project Directors coordinated with all stakeholders ensuring successful and smooth implementation, led the site-level training, arranged required consumables for HSS sites and designated testing laboratories and took leadership for troubleshooting of various operational aspects at the State level. NACO acknowledges the contribution of Project Directors of SACS, State HSS focal persons, Apex laboratory at ICMR NARI, Pune (Dr. Madhuri Thakar, Dr. Ashwini Shete, Ms. Varsha Kale) and all stakeholders in the successful implementation of the 17th round of HSS among HRG and bridge population.

The designing and printing of the technical report was supported by Dr. David Bridger (UNAIDS India) and Ms. Nalini Chandra (UNAIDS India) and we thank UNAIDS India for their support in publication of this report.

Last but not the least, the credit for successful implementation, despite having a full-blown COVID-19 pandemic, goes to our HRG HSS site personnel for timely completion of this activity while adhering to the best possible quality standards. NACO sincerely thanks all the field personnel engaged in this activity for their contribution in implementing the 17th round of HSS among HRG and bridge population.



(Dr. Chinmoyee Das)

Contents

Acronyms

AIDS	Acquired Immuno-Deficiency Syndrome
AIIMS	All India Institute of Medical Sciences
ANC	Antenatal Clinic
ART	Anti-Retroviral Therapy
BMW	Bio-medical Waste
BP	Bridge Population
CAB	Community Advisory Board
CI	Confidence Interval
COE	Centre of Excellence
CST	Care Support and Treatment
DAPCU	District AIDS Prevention and Control Unit
DBS	Dried Blood Spot
DIC	Drop-in Centre
DFTS	Data Form Transportation Sheet
EC	Ethics Committee
EQAS	External Quality Assurance System
FSW	Female Sex Worker
HBV	Hepatitis B Virus
HCTC	HIV Counselling and Testing Centre
HCV	Hepatitis C Virus
HIV	Human Immuno-deficiency Virus
HRG	High Risk Group
HRI	High Risk Individuals
HSS	HIV Sentinel Surveillance
H/TG	Hijra/Transgender people
IBBS	Integrated Biological and Behavioural Surveillance
ICF	Informed Consent Form
ICMR	Indian Council of Medical Research
ICTC	Integrated Counselling and Testing Centre
IDU	Injecting Drug User
ILC	Inter Laboratory Comparison
LAT	Linked Anonymous Testing
LDT	Long Distance Trucker
LT	Laboratory Technician
M&S	Monitoring and Supervision
MSM	Men having Sex with Men
NACO	National AIDS Control Organisation
NACP	National AIDS & STD Control Programme
NARI	National AIDS Research Institute
NGO	Non-Governmental Organization

NI	National Institute
NICED	National Institute of Cholera and Enteric Diseases
NIE	National Institute of Epidemiology
NIMS	National Institute of Medical Statistics
NRL	National Reference Laboratory
N/S	Needle Syringe
NSP	National Strategic Plan
ORW	Outreach Worker
PGIMER	Post Graduate Institute of Medical Education and Research
PIS	Participant Information Sheet
PrEP	Pre-exposure Prophylaxis
RI	Regional Institute
RIMS	Regional Institute of Medical Sciences
RPR	Rapid Plasma Reagin
SACS	State AIDS Control Society
S&D	Stigma and Discrimination
SIMS	Strategic Information Management System
SMM	Single Male Migrant
SOP	Standard Operating Procedure
SRL	State Reference Laboratory
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
STS	Sample Transportation Sheet
TI	Targeted Intervention
TRG	Technical Resource Group
TWG	Technical Working Group
UNAIDS	Joint United Nations Programme on HIV and AIDS
UT	Union Territory

Executive Summary

India has one of the world's largest and most robust HIV surveillance systems. Initiated in 1985 as sero-surveillance, HIV surveillance has evolved over the years into one of the most fundamental strategic information functions and resources, facilitating evidence-based decision-making under the National AIDS and STD Control Programme (NACP) of the Government of India. The 17th round of HIV Sentinel Surveillance (HSS) was implemented among eight population groups comprising antenatal clinic (ANC) attendees, female sex workers (FSWs), men who have sex with men (MSM), hijra/transgender (H/TG) people, injecting drug users (IDUs), prisoners, single male migrants (SMMs) and long-distance truckers (LDTs). It collected nearly five lakh bio-behavioural samples. For the first time, in the 17th round, biomarkers for Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV) were integrated into HSS. This report presents the findings from the HSS Plus 2021 among FSWs, MSM, IDUs, H/TG people, SMMs and LDTs.

HSS Plus 2021 was implemented at 473 sentinel sites among high-risk group (FSWs, MSM, IDUs and H/TG people) populations and 65 sentinel sites among bridge (SMM and LDT) populations. Eligibility criteria included those aged 18 years or above, who fulfilled the case definition and had not been already included in the current round of surveillance. Random sampling was undertaken for recruiting high-risk groups (HRG), whereas consecutive sampling was adopted for recruiting LDTs and SMMs as in the previous rounds. The target sample size for each population group at each of the sentinel sites was 250. Blood specimens from HRG and bridge population (BP) groups were collected using the Dried Blood Spot (DBS) method. The HIV testing approach adopted under HSS Plus 2021 was Linked Anonymous Testing (LAT) with informed consent. DBS specimens were tested for HIV (two test protocol) and Hepatitis B and Hepatitis C (one test protocol) at 18 DBS testing laboratories across the country. All positive and 2% of negative specimens were re-tested at the National AIDS Research Institute (NARI), Pune, which is designated as the apex laboratory for external quality assurance.

Female Sex Workers

With an estimated population of approximately 9.95 lakhs, FSWs represent the largest HRG group covered under the NACP in the country. The current round of HSS Plus 2021 among FSWs was implemented at 243 surveillance sites across 32 States/Union Territories (UTs) in India. The survey collected 60,131 bio-behavioural samples, achieving a high response rate of 98.3%.

HIV prevalence among FSWs in the 2021 HSS round was 1.85% (95% confidence interval [CI]: 1.75–1.96) vis-à-vis 1.56% (95% CI: 1.46–1.66) noted in the 2017 round. There were considerable differences in HIV prevalence by State/UT. The States/UTs with HIV prevalence of 2% or higher included Meghalaya (10.92%, 95% CI: 8.62–13.22), Punjab (3.38%, 95% CI: 2.67–4.09), Karnataka (3.01%, 95% CI: 2.56–3.46), Tripura (2.90%, 95% CI: 1.86–3.94), Rajasthan (2.75%, 95% CI: 2.03–3.46), Maharashtra (2.54%,

95% CI: 2.10–2.98), Nagaland (2.00%, 95% CI: 0.26–3.74) and Chhattisgarh (1.92%, 95% CI: 1.16–2.68). The prevalence in Mizoram was reported to be 56.15% (95% CI: 47.62-64.68); however, it needs to be interpreted in the context that the estimate is based on only one site in the State, with a sample size of 130.

With regard to co-infections, the sero-prevalence of HIV-HBV among FSWs was 0.04% (95% CI: 0.02–0.06), while the sero-prevalence of HIV-HCV was 0.17%. (95% CI: 0.13–0.20). Among respondents who tested positive for HIV, the sero-prevalence rates for HBV and HCV were 2.17% (95% CI: 1.31–3.03) and 9.06% (95% CI: 7.36–10.75), respectively.

Among FSWs who tested positive for HIV, 66.7% were aware of their HIV-positive status. Notably, 62.6% of all HIV-infected FSWs were receiving ART. Nationally, around 29.7% of the FSWs reported avoiding HIV testing services in the last 12 months due to concerns such as harassment, disclosure of identity as an FSW, physical violence or arrest. Furthermore, around 18.3% of the self-reported HIV-positive FSWs reported avoiding ART/HIV treatment services from health-care facilities at least once in the past year.

On average, an FSWs engaged in six commercial sex acts in a week. However, this number exceeded 10 in Delhi and Nagaland. The most cited places for solicitation were home (37.7%), followed by labour *naka* (34.4%) and brothel (23.6%). In Maharashtra, around 6% of the FSWs reported soliciting clients in bars/nightclubs. In the States/UTs of Assam, Chandigarh, Delhi, and Uttar Pradesh, 5%–7% of FSWs reported soliciting clients in spa/massage/beauty parlours.

A significant majority (92.6%) of the FSWs reported owning a mobile phone, with more than three-fourths (77%) reporting use of mobile phones to solicit clients. Almost 60% reported using mobile phones to connect to clients directly. Slightly less than one-third (29.2%) of respondents reported using the Internet to solicit commercial partners, with WhatsApp being the most popular app as reported by 27.5% of the FSWs, followed by Facebook (11.7%) and Instagram (1.7%).

The mean age for sexual debut was around 20.1 years, and the mean age for engaging in sexual acts with a commercial partner was 23.1 years. In the most recent sexual encounter, 53% of FSWs reported engaging in sex with a commercial partner, 32.5% with a regular partner and 10.7% with a casual partner. Condom usage during the last sexual encounter with a commercial partner was reported at 97.8%, while with regular and casual partners, it was 91.1% and 93.9% respectively.

Around 0.9% of FSWs reported injecting drugs for non-medical reasons. Among those who reported injecting drugs, more than three-quarters (78.7%) reported using a fresh needle/syringe (NS) during their last injecting episode.

Men who have Sex with Men

Men who have sex with men (MSM) are one of the four HRGs identified under the National AIDS and STD Control Programme of the Government of India. This population group has been one of the core groups covered by NACP's HSS since 2000. HSS among MSM was conducted in 2021 at 100 sites in 28 States/UTs, with a response rate of 98.2%. Overall, 24,393 eligible and willing MSM provided bio-behavioural data.

In the 2021 round, the prevalence of HIV among MSM was recorded at 3.26% (95% CI: 3.03–3.48) vis-à-vis 2.69% (95% CI: 2.47–2.91) recorded in the 2017 round. The observed prevalence among MSM is almost 16 times the prevalence seen in

the general population. The prevalence was as high as 12.80% (95% CI: 8.66–16.94) in Mizoram, followed by Punjab (11.62%, 95% CI: 9.32–13.91), Manipur (9.43%, 95% CI: 6.68–12.17), Meghalaya (9.09%, 95% CI: 3.08–15.10), Haryana (6.89%, 95% CI :5.32–8.46), Jharkhand (6.68%, 95% CI: 4.29–9.07), and Rajasthan (6.40%, 95% CI: 3.37–9.43).

The prevalence of HIV-HBV and HIV-HCV co-infection among MSM was 0.16% (95% CI: 0.11–0.21) and 0.19% (95% CI: 0.13–0.24), respectively. However, the prevalence of HBV and HCV among HIV-positive MSM was relatively high at 4.79% (95% CI: 3.31–6.28) and 5.80% (95% CI: 4.17–7.43).

Out of 794 MSM who tested HIV-positive in the HSS Plus 2021, around two-thirds (66.9%) reported their last test result as HIV-positive. This suggests that the remaining third may be unaware of their HIV-positive status. Overall, only 6 out of every 10 HIV-positive MSM reported being on antiretroviral therapy.

Overall, 27.7% of MSM reported avoiding seeking HIV testing services from hospitals/clinics/government/private health facilities at least once in the 12 months preceding the survey because of reasons related to stigma and discrimination (S&D). Among MSM who reported their last test result as HIV-positive, around one-third (31.5%) reported avoiding seeking ART/HIV treatment services at least once in the 12 months preceding the survey because of S&D-related reasons.

The most prominent S&D-related reason for avoiding HIV testing among MSM was fear or concern about the disclosure of their MSM identity in health-care settings. Nearly one-fourth (24.4%) of MSM reported avoiding HIV testing at least once in the 12 months preceding the survey due to this concern.

The mean age of the MSM recruited in HSS Plus 2021 was 30.5 years, with one-fifth (22.5%) in the age group of 18–24 years. The reported mean age of sexual debut among the recruited MSM was 17.5 years, with 18.2% reporting sexual debut before attaining the age of 15 years. MSM had an average 4.6 number of sex acts per week. Almost two-thirds (67.5%) of MSM reported having engaged in commercial transactions for sex.

In 2021, more than half (55.2%) of MSM reported using mobile phones or Internet to meet their male sexual partners. This was the most common method, followed by visiting railway stations/bus stands (43.4%) and parks (39.6%). Around 16% reported meeting partners at bars/clubs, while 14.7% mentioned private parties as a means to meet male sexual partners.

Among MSM who reported using mobile phones/Internet to meet their male sexual partner, WhatsApp, Facebook and Grindr were the most predominant apps/portals being used. Almost two-fifths (39.2%) reported using WhatsApp, followed by Facebook (31.1%) and Grindr (30.2%). Blued (18.9%) and Instagram (11.7%) were other predominant Apps used by MSM for seeking male partners.

MSM reported having regular male partners (spouse/lover/boyfriend/live-in partner), commercial male partners as well as non-commercial non-regular male partners (casual partners). In 2021, the reported condom use in the last sexual encounter was 90.8% with regular male partners, 91.1% with casual partners and 94.6% with commercial male partners. Slightly more than two-fifths (43.3%) of MSM reported having a female sexual partner. Condom use with a regular female partner was reported at 49.4%, while it was 80.6% with a casual female partner. Condom use with a commercial female partner was reported at 88.5%.

Very few (1.8%) reported having ever injected any drug for non-medical purposes. Among

those who reported injecting, around four-fifths (78.8%) reported using a new needle/syringe in their last injecting episode. Around 13.9% of the MSM reported being aware of Pre-exposure Prophylaxis (PrEP). Very few (0.6%) reported having ever taken PrEP.

Injecting Drug Users

With an estimated population size of around 2.89 lakhs, injecting drug users (IDUs) are one of the four recognized high-risk group populations under NACP. The 2021 round was implemented at 110 IDU sites across 28 States/UTs. Bio-behavioural samples were collected from 26,755 consenting men and women IDU, aged 18 years or above, who injected addictive substances or drugs for recreational or non-medical reasons at least once in three months preceding the surveillance survey. The target sample size at each site was 250.

The previous rounds of sero-surveillance surveys established IDUs as one of the populations most infected and affected by the HIV/AIDS epidemic. This trend continued in the 2021 round of surveillance, with HIV prevalence among IDUs recording a high of 9.03% (95% CI: 8.69–9.37). This is significantly higher than the observed HIV prevalence in other groups: ANC clinic attendees [0.22% (95% CI: 0.21–0.24)], single male migrants [0.89% (95% CI: 0.69–1.10)], long-distance truckers [1.00% (95% CI: 0.78–1.21)], female sex workers [1.85% (95% CI: 1.75–1.96)], inmates in central jails [1.93% (95% CI: 1.75–2.12)], men who have sex with men [3.26% (95% CI: 3.03–3.48)] and hijra/transgender people [3.78% (95% CI: 3.24–4.33)]. The prevalence level among IDUs is not only high but shows a rising trend compared to the 2017 round [6.26% (95% CI: 5.92–6.59)].

The sero-positivity of Hepatitis C among IDUs was also high. The sero-prevalence for HIV-HCV co-infections among IDUs was 7.45% (95% CI: 7.14–7.77) vis-à-vis HIV-HBV sero-prevalence of 0.62% (95% CI: 0.53–0.71). Almost 82.23% of HIV-positive IDUs were positive for HCV antibodies. The sero-prevalence for HBV in HIV-positive IDUs was 6.84% (95% CI: 5.82–7.83). This highlights the need for intensified efforts to expand access to integrated HIV and hepatitis services among IDUs.

Location-wise, in 2021, the highest level of HIV prevalence was recorded in the State of Mizoram at 32.08% (95% CI: 29.88–34.28; 7 sites), followed by 19.57% in Punjab (95% CI: 18.22–20.93; 13 sites), 18.41% in Maharashtra (95% CI: 13.05–23.77; 1 site), 18.00% in Tripura (95% CI: 13.24–22.76; 1 site), 15.87% in Delhi (95% CI: 13.25–18.48; 3 sites), 11.48% in Meghalaya (95% CI: 8.43–14.54; 2 sites) and 11.24% in Assam (95% CI: 8.69–13.80; 2 sites). In 2017, the observed prevalence among IDUs was 19.81% in Mizoram, 12.09% in Punjab, 8.55% in Tripura and 1.62% in Meghalaya.

Of the 2,416 HIV-positive IDUs, 71.6% reported being aware of their HIV status, while slightly more than half (54.2%) reported being on ART. Overall, 96.8% of the total recruited IDUs in HSS Plus 2021 reported having tested for HIV at least once in a lifetime with 59.3% reported having tested in the past six months preceding the surveillance survey. One-fourth to one-fifth of IDUs reported avoiding health-care services or HIV testing at least once in 12 months before the HSS survey for reasons associated with stigma/discrimination.

Around 10.6% of IDUs reported having injected drugs for the first time before attaining the age of 18 years. Half of the recruited IDUs reported the age of the first injection at 21 years of age or earlier. The mean age of initiating injecting drug practices was reported at 23 years at the national level. This was lower in the States of Goa (17.5 years), Maharashtra (18 years) and Kerala (19.4 years). Almost two-fifths (38.8%) reported having injected daily in

the seven days preceding the surveillance survey. Half of the respondents reported injecting once during their previous days of injection, while almost one-third (30.6%) reported injecting twice. Nationally, most (91.3%) IDUs reported using a new needle/syringe during their last injecting episode. In contrast, less than two-fifths (36.0%) of IDUs in Arunachal Pradesh reported using a new needle/syringe in their last episode. In Mizoram, 80.1% reported doing so. Overall, 14.9% of IDUs reported being on opioid substitution therapy.

Almost three-fourths (73.2%) of total recruited IDUs reported being sexually active. Among those who were sexually active, almost half (48.3%) reported engaging in the last sex act less than a month ago. Almost 76.6% reported their last sex act with a regular female partner (spouse/lover/girlfriend/live-in partner), while 12.5% reported their last sex act with a paid female partner. Reported condom use with a regular female partner was 59.2%, with a paid female partner at 80.1% and with a casual partner at 71.3%. Around 13.4% of IDUs who self-reported being HIV-negative were aware of PrEP for the prevention of HIV infection, while only 1.1% reported ever having taken PrEP.

Hijra/Transgender People

People who identify as hijra or transgender (H/TG) are among the population groups deemed to be at high risk in the context of India's HIV/AIDS epidemic. About 65,000 H/TG people are covered under NACP through link-worker programmes and targeted interventions (TIs). Overall, the programme aims to reach out to around 96 thousand H/TG persons with a comprehensive package for prevention-testing-treatment services.

H/TG people are one of the population groups covered under HSS since NACP-2 when a sentinel site was initiated in Mumbai in the 2005 round. In the 2010–2011 round, two more sites were initiated in the Chennai and Thiruvallur districts of Tamil Nadu. In the 2021 round, HSS among H/TG people was implemented at 20 targeted intervention sites across the 13 States/UTs of India and collected a total of 4,679 bio-behavioural samples. States of Kerala and Odisha had three sites each, followed by two sites in each of Delhi, Karnataka and West Bengal. The rest of the States (Andhra Pradesh, Chhattisgarh, Gujarat, Maharashtra, Rajasthan, Tamil Nadu, Telangana, and Uttar Pradesh) had one HSS site among the H/TG people.

Overall, HIV prevalence among the H/TG people was 3.78% (95% CI: 3.24–4.33) with significant inter-site variation. The pooled prevalence of HIV in sites in West Bengal was 9.15% (95% CI: 6.60–11.69), followed by 6% (95% CI: 3.06–8.94) at the sites in Chhattisgarh and Maharashtra. The prevalence of HIV-HBV or HIV-HCV co-infections among H/TG people was quite low: 0.09% (CI: 0.00–0.17) and 0.06% (CI: 0.00–0.14) respectively. Among HIV-positive people, the sero-prevalence of HBV and HCV was 2.30% (CI: 0.07–4.53) and 1.72% (CI: 0.00–3.66) respectively.

The mean age of the H/TG people recruited in HSS Plus 2021 was 31.2 years, ranging from 26.8 years in Chhattisgarh to 36.3 years in Gujarat. Around 20.5% were in the age group of 18–24 years, while 6.2% were aged 45 years or older.

The majority of the H/TG people recruited under the HSS Plus 2021 were transgender women, with around 97.4% of them reporting being assigned male at birth. However, the respondents have a fluid sexual orientation. Almost all (around 99%) reported being sexually attracted to a male partner. However, around two-thirds (67.4%) also reported being sexually attracted to a

female partner. Around two-fifths (41.2%) of the H/TG people reported ever having medical/surgical interventions to make their body appear more gender-relevant. Around one-third (32.4%) reported undergoing male-to-female surgery, slightly less than two-fifths (36.4%) reported undergoing breast augmentation/implant and around 41% reported taking hormones.

Most (87.1%) were never married, while a small proportion (2.8%) were divorced/separated/widowed. Slightly less than 10% were illiterate, while 3.6% were at least post-graduate. Sex work was reported as the current main occupation by around two-fifths (38.5%) of the respondents. *Mangati/Badhai* was the next main occupation reported by H/TG people, with 27.9% reported doing so. In West Bengal, 35.4% reported being bar/club dancers.

H/TG people reported following diverse approaches to meet a sexual partner such as visiting bars/clubs, street/roadsides, railway stations/bus stands, cinema halls, parks, public toilets and massage parlours, with two-thirds to three-fourths reported meeting a sexual partner by visiting such places. Respondents (63.9%) also mentioned visiting private parties to meet sexual partners. Slightly more than three-fourths of the respondents reported using mobile/Internet to meet a sexual partner. WhatsApp (61.0%), Grindr (54.3%) and Facebook (53.8%) were the three most common apps/portals used by H/TG people to find a sexual partner. Condom use reported in the last sex act with a partner was high and ranged between 96.6% and 98.3% with regular/casual/commercial male partners.

The uptake of HIV testing among H/TG people recruited in the 2021 round of HSS was quite high, with almost all (99.3%) reporting at least one episode of HIV testing in their lifetime. A little more than four-fifths (82.1%) reported being tested for HIV in the last six months. Overall, 8.4% of H/TG people reported avoiding HIV tests in the last six months because of HIV/AIDS-related stigma/discrimination. Almost half of the H/TG people in Delhi and one-fourth in Karnataka reported avoiding HIV testing because of HIV/AIDS-related S&D. Overall, out of a total of 177 HIV-positive H/TG people in HSS Plus 2021, 110 (62.1%) reported being aware of their HIV-positive status, while 103 (58.2%) reported being on anti-retroviral treatment.

Single Male Migrants

During the 2021 round of HSS, bio-behavioural data was collected from 8,276 single male migrants from 33 sites across 20 States/UTs of the country. Eligible consenting single males, aged 18 years or above, living at a place other than 'place of usual residence' without their spouse or family for work and visiting their hometown at least once a year were recruited as respondents.

HIV prevalence among SMMs was recorded at 0.89% (95% CI: 0.69–1.10) in 2021, which was higher than the prevalence recorded in 2017 (0.51%, 95% CI: 0.34–0.68). Observed point prevalence was the highest in Mizoram at 4.80% (95% CI: 2.15–7.45; 1 site). In Assam (1 site), Punjab (2 sites) and West Bengal (1 site), observed point prevalence ranged between 3.01% and 3.21%. The prevalence of HIV-HBV co-infections and HIV-HCV co-infections was very low (0.05%). In the HSS Plus 2021, all SMMs who had HBV or HCV co-infections also tested positive for HIV.

Among 74 SMMs with HIV-positive results in HSS Plus 2021, less than half (44.6%) reported their latest test result as HIV-positive, indicating that the other HIV-positive SMMs may be unaware that they are HIV-positive. On average, 4 reported being on antiretroviral therapy for every 10 positive SMMs. Overall, 45.7% of SMMs reported being tested for HIV at least once

in their lifetime, with 34.3% being tested for HIV at least once in the last 12 months.

Around half (51.1%) of the SMMs recruited in HSS Plus 2021 reported having ever paid for sexual intercourse with a female partner in the town/district of the interview. In the States/UTs of Assam, Delhi, Gujarat, Himachal Pradesh, Rajasthan and West Bengal, almost 80% of the respondents reported having a paid female sexual partner. Around one-fifth (21.3%) reported that they met the paid female sexual partner through friends/acquaintances, 16.0% met them by visiting their locations on streets/roadsides and 11.7% visited the homes of paid female partners to meet them. Reported condom use in the last sex act with a paid female partner was 53.6% at the national level.

Around 14.2% of the single male migrants recruited in HSS Plus 2021 reported using the Internet/web application/mobile application to seek a female sexual partner at the place of interviews. This was as high as 49.9% in Andhra Pradesh, followed by 45.6% in Gujarat and 38.4% in Madhya Pradesh. WhatsApp and Facebook were the most used applications, with 9.5% of SMMs using WhatsApp and 7.2% using Facebook to seek a female sexual partner.

Very few SMMs recruited in HSS Plus 2021 reported ever having sex with a male sexual partner or ever injecting drugs for non-medical purposes (2.2% and 1.1% respectively). Only 1.2% of SMMs reported having a male sexual partner at the town/district of interview. Only 0.5% of SMMs reported injecting within 12 months of the interview.

Long-Distance Truckers

The role of truckers in the transmission of HIV is well documented. Under NACP, comprehensive prevention-testing-treatment intervention strategies have included truckers as one of the population groups to be covered through TIs. The programme aims to cover around 20 lakh truckers through peer-led interventions and link-worker schemes.

Long-distance truckers (LDTs) have been one of the population groups under HIV sentinel surveillance (HSS) in India since 2006. In the 2021 round, there were 34 HSS sites among LDTs spread across 19 States/UTs. Gujarat and Uttar Pradesh had four sites each and West Bengal had 3. There were 2 sites each in the States of Andhra Pradesh, Assam, Chhattisgarh, Jharkhand, Maharashtra, Tamil Nadu and Telangana. Delhi, Karnataka, Kerala, Madhya Pradesh, Nagaland, Odisha, Punjab, Rajasthan, and Uttarakhand had one site each. Overall, 8,428 valid samples were collected at these sites from consenting LDTs aged 18 years or older who travel more than 800 km one way between source and destination.

Overall HIV prevalence among LDTs was 1% (95% CI: 0.78–1.21), which is almost five times the adult prevalence noted in the country. In 2017, HIV prevalence among truckers was noted at 0.86% (95% CI: 0.64–1.07) among LDTs. HIV prevalence of 2% or more was noted in the States of Punjab (2.33%, 95% CI: 0.49–4.18), Assam (2.12%, 95% CI: 0.82–3.42), Uttarakhand (2.10%, 95% CI: 0.28–3.92), West Bengal (2.01%, 95% CI: 1.00–3.01), Chhattisgarh (2.00%, 95% CI: 0.77–3.23) and Odisha (2.00%, 95% CI: 0.26–3.74).

HIV-HBV and HIV-HCV co-infections were uncommon among LDTs, with prevalence rates of 0.1% and below. Nonetheless, the sero-prevalence of HBV and HCV was comparatively higher among LDTs infected with HIV, at 4.76% (95% CI: 0.21–9.32) and 9.52% (95% CI: 3.25–15.80) respectively. This very high sero-prevalence should, however, be seen in the context that there were only 84 HIV-positive LDTs in HSS Plus 2021.

Truckers recruited in HSS Plus 2021 reported relatively high engagement in high-risk behaviours. More than two-fifths (43%) of LDTs reported having at least one paid partner in their lifetime, with almost 38% reporting having sex with a paid partner within a year of the current surveillance survey. When asked about locations where they meet a paid female partner, the highway during the trip was mentioned by around 36.7% of the LDTs. The location of the trip origin was mentioned as a place to meet paid partners by around 25.7% of the truckers, while around 23.4% reported meeting them at the destination locations. Around 5.2% also reported using web/mobile-based applications, primarily Facebook (2.8%) and WhatsApp (2.7%), to meet a female sexual partner. Almost 70.7% of the LDTs who had a paid partner reported using a condom in their last sex act with the paid partner.

Slightly less than 4% of the LDTs reported having sex with a male partner in their lifetime; 3.2% reported doing so within a year of the surveillance survey. Around 2.8% reported engaging in commercial transactions, cash or in kind, for sex with a male partner. Condom use in the last sex act with a male sexual partner was reported at around 57.5%.

When asked about injecting drugs for pleasure, 3% reported doing so at least once in their lifetime, with 2% reporting doing so within a year of this surveillance survey. Only 50% of LDTs who injected drugs for pleasure reported using a new needle/ syringe in their last injecting episode.

When asked about being ever tested for HIV, around 44.5% reported doing so. Slightly less than one-third (32%) reported being tested within a year of the survey. Still, out of 84 respondents who were found to be HIV-positive in the surveillance survey, only 11 reported being aware of their status as HIV-positive and 11 were on anti-retroviral therapy.

Key Indicators at a Glance: Findings from HSS Plus 2021

Female Sex Workers	
Background Characteristics	
Mean age (in years)	31.6
FSWs below age 25 years (%)	16.3
FSWs currently married (%)	69.8
FSWs who are illiterate (%)	26.2
FSWs who own a smartphone (%)	41.2
FSWs having no other occupation apart from sex work (%)	31.6
HIV/AIDS-related Testing & Treatment Services Uptake	
Ever tested for HIV (%)	98.7
Tested for HIV in the last six months (among those who ever tested for HIV) (%)	73.7
FSWs who are aware of their HIV-positive status (%)	66.7
HIV-infected FSWs on ART (%)	62.6
HIV Pre-exposure Prophylaxis (PrEP)	
FSWs who are aware of PrEP (%)	6.0
FSWs who ever took PrEP (%)	0.3
Injecting Drug Use Practices	
FSWs who had ever injected drug for non-medical reasons (%)	0.9
FSWs who used a new needle/syringe when injected last for non-medical reasons (%)*	78.7
Sexual Behaviour and Condom Use Practices with Male Partners	
Mean age (in years) of FSWs at debut for commercial sex work	23.1
FSWs with debut age for commercial sex work before 18 years (%)	5.5
FSWs who use Internet to solicit clients (%)	29.2
Condom use during the last sexual act with commercial male partner (%)	97.8
Condom use during the last sexual act with a regular male partner (%)^^	91.1
FSWs who ever had anal sex with male partner (%)	11.1
Condom use during the last anal sexual act with commercial partner (%)**	90.5

Female Sex Workers	
Stigma and Discrimination	
FSWs who avoided health-care services due to fear of stigma (%)	30.3
FSWs who avoided HIV testing due to fear of stigma (%)	29.7
FSWs who avoided ART/HIV treatment due to fear of stigma (%)^	18.3
Levels of HIV	
HIV prevalence	1.85% (95% CI: 1.75–1.96)
Prevalence of HIV-HBV co-infection	0.04% (95% CI: 0.02–0.06)
Prevalence of HIV-HCV co-infection	0.17% (95% CI: 0.13–0.20)
Prevalence of HBV among FSWs who are HIV-positive	2.17% (95% CI: 1.31–3.03)
Prevalence of HCV among FSWs who are HIV-positive	9.06% (95% CI: 7.36–10.75)

* Among FSWs who reported having ever injected drug for non-medical reasons
** Among FSWs who ever had anal sex with a male partner
^ Among FSWs who self-reported HIV test result as positive
^^ Among FSWs who ever had sex with regular male partner

Men who have Sex with Men	
Background Characteristics	
Mean age (in years)	30.5
MSM below age 25 years (%)	22.5
MSM currently married (%)	35.2
MSM who are illiterate (%)	6.2
MSM who own a smartphone (%)	67.3
HIV/AIDS-related Testing & Treatment Services Uptake	
Ever tested for HIV (%)	97.5
Tested for HIV in the last six months (among those who ever tested for HIV) (%)	70.6
MSM who are aware of their HIV-positive status (%)	66.9
HIV-infected MSM on ART (%)	59.2
HIV Pre-exposure Prophylaxis (PrEP)	
MSM who are aware of PrEP (%)	13.9
MSM who ever took PrEP (%)	0.6
Injecting Drug Use Practices	
MSM who had ever injected drug for non-medical reasons (%)	1.8
MSM who used a new needle/syringe when injected last for non-medical reasons (%)*	78.8
Sexual Behaviour and Condom Use Practices with Male Partners	
MSM who identify themselves as Kothi	63.0
Mean age (in years) of MSM at the first sexual intercourse with male partner	17.5
MSM who use mobile/Internet to solicit male partners (%)	55.2
Condom use by MSM during the last sexual act with regular male partner (%)	90.8

Men who have Sex with Men	
Condom use by MSM during the last sexual act with casual male partner (%)	91.1
Condom use by MSM during the last sexual act with commercial male partner (%)	94.6
Sexual Behaviour and Condom Use Practices with Female Partners	
MSM who ever had sex with a female partner (%)	43.3
Condom use by MSM during the last sexual act with regular female partner (%)	49.4
Condom use by MSM during the last sexual act with casual female partner (%)	80.6
Condom use by MSM during the last sexual act with commercial female partner (%)	88.5
Stigma and Discrimination	
MSM who avoided health-care services due to fear of stigma (%)	29.0
MSM who avoided HIV testing due to fear of stigma (%)	27.7
MSM who avoided ART/HIV treatment due to fear of stigma (%)^	31.5
Levels of HIV	
HIV prevalence	3.26% (95% CI: 3.03–3.48)
Prevalence of HIV-HBV co-infection	0.16% (95% CI: 0.11–0.21)
Prevalence of HIV-HCV co-infection	0.19% (95% CI: 0.13–0.24)
Prevalence of HBV among MSM who are HIV-positive	4.79% (95% CI: 3.31–6.28)
Prevalence of HCV among MSM who are HIV-positive	5.80% (95% CI: 4.17–7.43)

* Among MSMs who reported having ever injected drug for non-medical reasons
^ Among MSMs who self-reported having HIV test result as positive

Injecting Drug Users	
Background Characteristics	
Mean age (in years)	31.3
IDUs below age 25 years (%)	19.4
IDUs currently married (%)	41.7
IDUs who are illiterate (%)	11.4
IDUs who own a smartphone (%)	42.7
HIV/AIDS-related Testing & Treatment Services Uptake	
Ever tested for HIV (%)	96.8
Tested for HIV in the last six months (among those who ever tested for HIV) (%)	59.3
IDUs who are aware of their HIV-positive status (%)	71.6
HIV-infected IDUs on ART (%)	54.2
HIV Pre-exposure Prophylaxis (PrEP)	
IDUs who are aware of PrEP (%)	13.4
IDUs who ever took PrEP (%)	1.1

Injecting Drug Users	
Injecting Drug Use Practices	
Mean age (in years) of IDUs at the first injecting drug use for non-medical reasons	23.0
IDUs with age at the first injecting drug use for non-medical reasons below 18 years (%)	10.6
IDUs who had used a new needle/syringe when injected last for non-medical reasons (%)	91.3
IDUs who had shared needle/syringe when injected last for non-medical reasons (%)	4.2
IDUs whose regular female partners also inject drugs for non-medical reasons (%)	3.6
Sexual Behaviour and Condom Use Practices	
IDUs who ever had sex (%)*	73.2
Condom use by IDUs during the last sexual act with regular female partner (%)	59.2
Condom use by IDUs during the last sexual act with casual female partner (%)	71.3
Condom use by IDUs during the last sexual act with commercial female partner (%)	80.1
Stigma and Discrimination	
IDUs who avoided health-care services due to fear of stigma (%)	24.4
IDUs who avoided HIV testing due to fear of stigma (%)	20.3
IDUs who avoided ART/HIV treatment due to fear of stigma (%)^	13.8
Levels of HIV	
HIV prevalence	9.03% (95% CI: 8.69–9.37)
Prevalence of HIV-HBV co-infection	0.62% (95% CI: 0.53–0.71)
Prevalence of HIV-HCV co-infection	7.45% (95% CI: 7.14–7.77)
Prevalence of HBV among IDUs who are HIV-positive	6.84% (95% CI: 5.82–7.83)
Prevalence of HCV among IDUs who are HIV-positive	82.23% (95% CI: 80.63–83.69)

Among IDUs who ever had sexual intercourse
^ Among IDUs who self-reported having HIV test result as positive

Hijra/Transgender People	
Background Characteristics	
Mean age (in years)	31.2
H/TG below age 25 years (%)	20.5
H/TG currently married (%)	9.0
H/TG who are illiterate (%)	9.5
H/TG who own a smartphone (%)	69.9
Gender	
H/TG who undergone medical/surgical interventions for gender affirmation (%)	41.2
HIV/AIDS-related Testing & Treatment Services Uptake	
Ever tested for HIV (%)	99.3
Tested for HIV in the last six months (among those who ever tested for HIV) (%)	82.1

Hijra/Transgender People	
H/TG who are aware of their HIV-positive status (%)	62.1
HIV infected H/TG on ART (%)	58.2
HIV Pre-exposure Prophylaxis (PrEP)	
H/TG who are aware of PrEP (%)	16.0
H/TG who ever took PrEP (%)	0.1
Sexual Behaviour and Condom Use Practices	
H/TG who ever had sex (%)	93.6
H/TG who had sex in exchange for money or kind (%)	86.2
H/TG who use Internet to solicit sex partners (%)	72.0
Condom use by H/TG during the last sexual act with regular male partner (%)	96.6
Condom use by H/TG during the last sexual act with casual male partner (%)	96.8
Condom use by H/TG during the last sexual act with commercial male partner (%)	98.3
Stigma and Discrimination	
H/TG who avoided health-care services due to fear of stigma (%)	9.1
H/TG who avoided HIV testing due to fear of stigma (%)	8.4
Levels of HIV	
HIV prevalence	3.78% (95% CI: 3.24–4.33)
Prevalence of HIV-HBV co-infection	0.09% (95% CI: 0.00–0.17)
Prevalence of HIV-HCV co-infection	0.06% (95% CI: 0.00–0.14)
Prevalence of HBV among H/TG who are HIV-positive	2.30% (95% CI: 0.07–4.53)
Prevalence of HCV among H/TG who are HIV-positive	1.72% (95% CI: 0.00–3.66)

^ Among H/TGs who self-reported having HIV test result as positive

Single Male Migrants	
Background Characteristics	
Mean age (in years)	29.8
SMMs below age 25 years (%)	28.9
SMMs currently married (%)	67.8
SMMs who are illiterate (%)	11.0
SMMs who own a smartphone (%)	59.3
SMMs who migrated a year ago or even prior to that (%)	55.0
HIV/AIDS-related Testing & Treatment Services Uptake	
Ever tested for HIV (%)	45.7
Tested for HIV in the last six months (among those who ever tested for HIV) (%)	20.3
SMMs who are aware of their HIV-positive status (%)	44.6

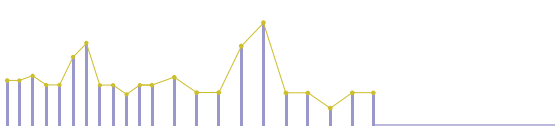
Single Male Migrants	
HIV-infected SMMs on ART (%)	58.1
Injecting Drug Use Practices	
SMMs who had ever injected drug for non-medical reasons (%)	1.1
SMMs who used a new needle/syringe when injected last for non-medical reasons (%)*	57.1
Sexual Behaviour and Condom Use Practices with Female Partners	
SMMs who had paid female sexual partners in the interviewed place (town/district) (%)	51.1
Condom use by SMMs during the last sexual act with paid female partner (%)	53.6
SMMs who had casual female sex partner in the interviewed place (town/district) (%)	20.3
Condom use by SMMs during the last sexual act with casual female partner (%)	66.1
SMMs who had regular female sex partner in the interviewed place (town/district) (%)	16.0
Condom use by SMMs during the last sexual act with regular female partner (%)	50.6
SMMs who used Internet to seek female sexual partners (%)	14.2
Sexual Behaviour and Condom Use Practices with Male Partners	
SMMs who ever had sex with a male partner (%)	2.2
Condom use by SMMs during the last sexual act with male partner (%)**	21.9
Levels of HIV	
HIV prevalence	0.89% (95% CI: 0.69–1.10)
Prevalence of HIV-HBV co-infection	0.05% (95% CI: 0.00–0.09)
Prevalence of HIV-HCV co-infection	0.05% (95% CI: 0.00–0.09)
Prevalence of HBV among SMMs who are HIV-positive	5.41% (95% CI: 0.25–10.56)
Prevalence of HCV among SMMs who are HIV-positive	5.41% (95% CI: 0.25–10.56)

* Among SMMs who reported having ever injected drug for non-medical reasons
** Among SMMs who reported ever having sex with a male partner

Long Distance Truckers	
Background Characteristics	
Mean age (in years)	34.1
LDTs below age 25 years (%)	17.2
LDTs currently married (%)	74.4
LDTs who are illiterate (%)	6.4
LDTs who own a smartphone (%)	65.3
HIV/AIDS-related Testing & Treatment Services Uptake	
Ever tested for HIV (%)	44.5
Tested for HIV in the last six months (among those who ever tested for HIV) (%)	19.3
LDTs who are aware of their HIV-positive status (%)	13.1
HIV-infected LDTs on ART (%)	11.9

Long Distance Truckers	
Injecting Drug Use Practices	
LDTs who had ever injected drug for non-medical reasons (%)	3.0
LDTs who used a new needle/syringe when injected last for non-medical reasons (%)*	50.0
Sexual Behaviour and Condom Use Practices with Female Partners	
LDTs who ever had paid female sex partner (%)	43.0
Condom use by LDTs during the last sexual act with paid female partner (%)^	70.7
LDTs who ever had casual female sex partner (%)	10.7
Condom use by LDTs during the last sexual act with casual female partner (%)^^	40.9
LDTs who had regular female sex partner (%)	35.3
Condom use by LDTs during the last sexual act with regular female partner (%)^^^	33.9
LDTs who used Internet to seek female sexual partners (%)	5.2
Sexual Behaviour and Condom Use Practices with Male Partners	
LDTs who ever had sex with a male partner (%)	3.7
Condom use by LDTs during the last sexual act with male partner (%)**	57.5
Levels of HIV	
HIV prevalence	1.00% (95% CI: 0.78–1.21)
Prevalence of HIV-HBV co-infection	0.05% (95% CI: 0.00–0.09)
Prevalence of HIV-HCV co-infection	0.10% (95% CI: 0.03–0.16)
Prevalence of HBV among LDTs who are HIV-positive	4.76% (95% CI: 0.21–9.32)
Prevalence of HCV among LDTs who are HIV-positive	9.52% (95% CI: 3.25–15.80)

* Among LDTs who reported ever injecting drugs for non-medical reasons
^ Among LDTs who reported ever having sex with a paid female partner
^^ Among LDTs who reported ever having sex with a casual female partner
^^^ Among LDTs who reported ever having sex with a regular female partner
** Among LDTs who reported ever having sex with a male partner



01

Introduction

1.1 Background

India's response to the HIV/AIDS pandemic began in 1985 with the initiation of sero-surveillance, which successfully detected the first case in April 1986. As sero-surveillance expanded, HIV was identified in various regions of the country. In this context, the National AIDS and STD Control Programme (NACP) was launched in 1992 as the first phase of efforts to combat the spread of HIV infection and reduce morbidity, mortality and impact of HIV/AIDS in the country. Since then, the programme has completed four phases of effective implementation. Currently, India is in the midst of the fifth phase of NACP, which is being implemented over a period of five years from 1 April 2021 to 31 March 2026, with a total budget of Rs. 15,471.94 crore.

Initiated in 1985, the HIV sero-surveillance gradually evolved into HIV sentinel surveillance (HSS) under NACP. HSS was initially introduced in 1994 and subsequently institutionalized as an annual surveillance system in 1998. Over time, this system has evolved into one of the largest and most comprehensive HIV surveillance systems providing evidence on the levels and trends of HIV, syphilis and associated behaviours. Table 1.1 depicts the changing pattern of the distribution of HIV surveillance sites among HRG and bridge populations in the country. The specific objectives of the HSS are outlined below:

1. To provide information on the current status and trend of the HIV epidemic within the surveillance population groups
2. To provide evidence on the geographical spread of the HIV infection and to identify emerging pockets
3. To provide information for prioritization of programme resources and evaluation of programme impact
4. To contribute to the estimation and projection of the HIV epidemic at the national, State and district levels

The HSS Plus 2021 marked several significant milestones. It was a round that simultaneously encompassed eight distinct population groups, which included ANC clinic attendees, female sex workers (FSW), men who have sex with other men (MSM), hijra/transgender persons (H/TG), injecting drug users (IDU), prison inmates, single male migrants (SMMs) and long-distance truckers (LDTs). This round gathered bio-behavioural data from nearly 5,00,000

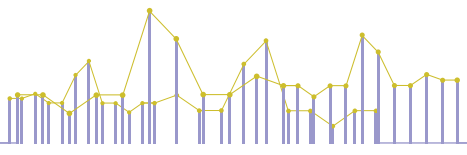


Table 1.1: Expansion of Surveillance Sites among HRG and Bridge Populations in India

Site Type	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008–09	2010–11	2016–17	2021
FSW	1	1	2	2	2	32	42	83	138	137	194	261	245	243
MSM	–	–	3	3	3	9	15	18	31	40	67	96	89	100
IDU	5	6	10	10	13	18	24	30	51	52	61	79	87	110
H/TG	–	–	–	–	–	–	–	1	1	1	1	3	18	20
Migrants	–	–	–	–	–	–	–	1	6	3	8	19	27	33
Truckers	–	–	–	–	–	–	–	–	15	7	7	20	28	34
TB	2	2	–	–	–	–	7	4	–	–	–	–	–	–
Fisher-Folk/ Seamen	–	–	–	–	–	1	–	–	1	–	–	–	–	–
Total	**8**	**9**	**15**	**15**	**18**	**60**	**88**	**137**	**243**	**240**	**338**	**479**	**494**	**540**

Note: IBBS was implemented among HRG and bridge populations during 2013–2015 and BSS lite was implemented during 2019

respondents, making it one of the most extensive HSS systems globally. It offers crucial information to understand the magnitude and trends of the HIV epidemic within the various population groups, thereby guiding resource allocation and impact assessment.

Additionally, biological specimens collected were also screened for Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV). The behavioural data collection domains were expanded to include aspects related to awareness and service utilization concerning Hepatitis B and Hepatitis C. Notably, the successful completion of this round is especially remarkable, considering that its design and implementation coincided with the challenges posed by the COVID-19 pandemic.

The seventeenth round of HSS was implemented at 1478 sites across eight population groups in 2021, with 856 of these sites for ANC surveillance. This extensive coverage ensures that almost every district in the country is included in the surveillance effort. This report presents the key findings from the HSS Plus 2021 round, focusing on HRG and bridge population groups. This round was implemented at 243 FSW sites, 100 MSM sites, 110 IDU sites, 20 H/TG sites, 33 SMM sites, and 34 LDT sites across 32 States/ Union Territories (UTs) in India (Table 1.2).

Table 1.2: State/UT-wise HRG and BP Sites for HSS Plus 2021

State/UT	FSWs	MSM	IDUs	H/TG	SMMs	LDTs
Andhra Pradesh	13	5	3	1	3	2
Arunachal Pradesh	3	-	1	-	-	-
Assam	12	3	3	-	1	2
Bihar	4	1	2	-	-	-

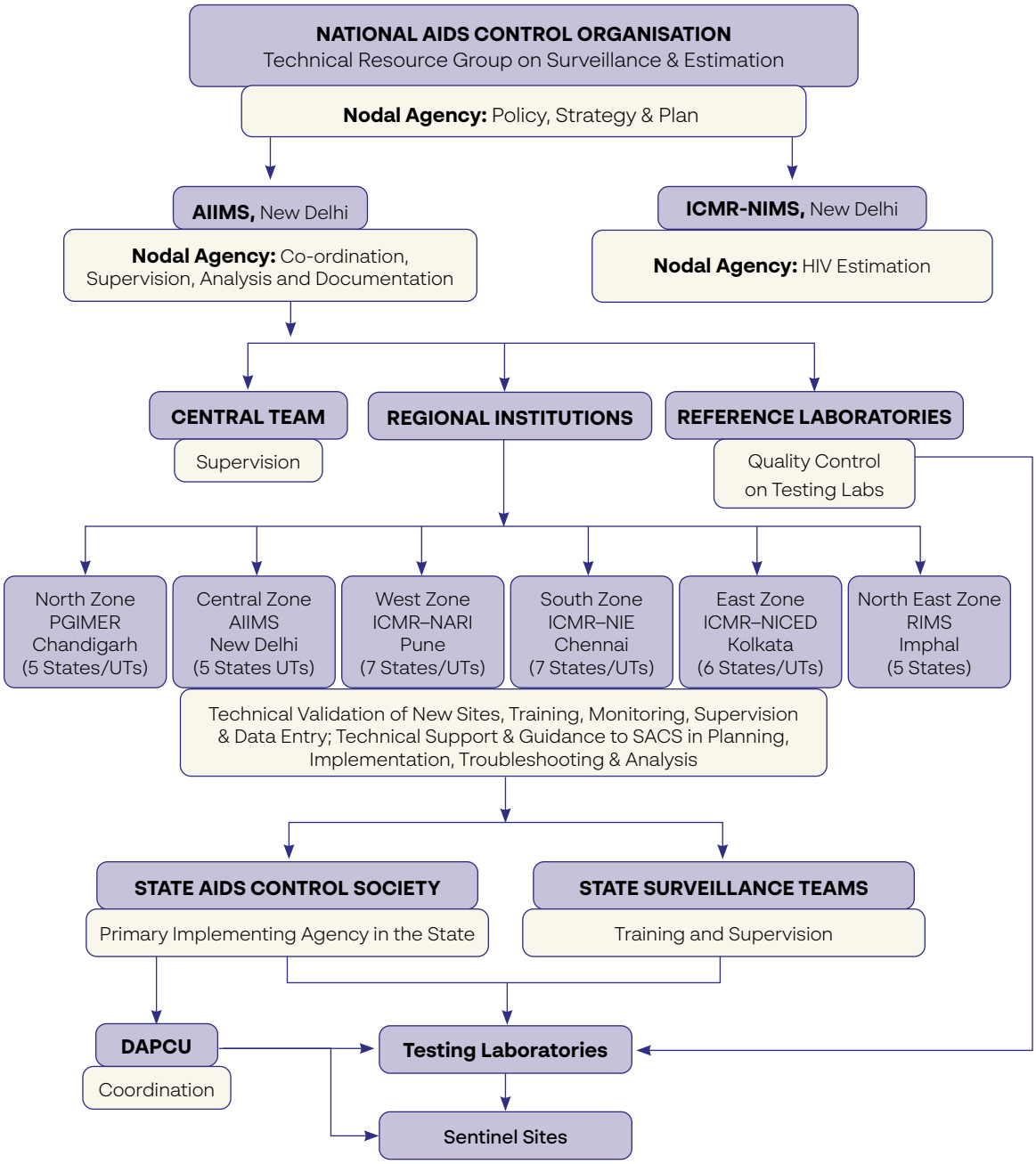
State/UT	FSWs	MSM	IDUs	H/TG	SMMs	LDTs
Chandigarh	3	1	1	–	2	–
Chhattisgarh	5	2	3	1	1	2
Delhi	4	2	3	2	1	1
Goa	2	2	1	–	–	–
Gujarat	11	8	1	1	3	4
Haryana	5	4	4	–	–	–
Himachal Pradesh	5	1	1	–	1	–
J&K and Ladakh	1	–	4	–	–	–
Jharkhand	7	2	–	–	–	2
Karnataka	22	8	1	2	2	1
Kerala	10	8	3	3	2	1
Madhya Pradesh	9	5	4	–	1	1
Maharashtra	20	5	1	1	3	2
Manipur	6	2	13	–	–	–
Meghalaya	4	1	2	–	–	–
Mizoram	1	1	7	–	1	–
Nagaland	1	2	11	–	–	1
Odisha	11	1	4	3	1	1
Puducherry	4	3	–	–	1	–
Punjab	10	3	13	–	2	1
Rajasthan	8	1	–	1	1	1
Sikkim	1	–	2	–	–	–
Tamil Nadu	24	14	–	1	2	2
Telangana	15	4	1	1	1	2
Tripura	4	–	1	–	–	–
Uttar Pradesh	9	6	16	1	3	4
Uttarakhand	3	1	2	–	–	1
West Bengal	6	4	2	2	1	3
India	**243**	**100**	**110**	**20**	**33**	**34**

The findings are expected to provide critical inputs to the NACP and its collaborators in planning, implementing and evaluating national responses among HRG and bridge populations in the future. The methodological overview of the HSS Plus 2021 has been provided in chapter 2, while the main findings by State are presented in chapters 3–8 of the report. Chapter 9 discusses the key findings of the report in the context of the NACP.

1.2 Implementation Structure

HIV surveillance and epidemiology (S&E) under NACP is designed, implemented and monitored through robust institutional arrangements at the national, regional, State and district levels (*see Figure 1.1*). Surveillance & Epidemiology (Division of Strategic Information Management) at NACO is the nodal division for HIV surveillance, *inter alia*, under NACP. NACO's Technical Resource Group (TRG) and Technical Working Group (TWG), having multi-disciplinary independent and institutional experts, steer the S&E under NACP.

Figure 1.1: Implementation Structure of HIV Epidemic Monitoring under NACP



Seven government public health institutes (AIIMS-New Delhi, ICMR-NIMS-New Delhi, ICMR-NARI-Pune, ICMR-NIE-Chennai, ICMR-NICED-Kolkata, PGIMER-Chandigarh, and RIMS-Imphal) provide technical support for the implementation of HSS through training and supportive supervision. The institutes ensure high quality of implementation by providing reference materials like operational manuals, wall charts and data collection tools. Furthermore, these institutes also support the data analysis and dissemination process, with HIV burden estimations report being one of the outcomes in each cycle of HSS.

State AIDS Control Societies (SACS) in States/UTs are the primary agencies responsible for implementing HIV surveillance activities. Under the leadership of SACS, District AIDS Prevention and Control Units (DAPCUs) coordinate the implementation of HSS activities at the district level. A network of testing and reference laboratories supports these surveillance efforts. For the 2021 HIV Sentinel Surveillance (HSS), blood samples from high-risk groups (HRG) and bridge populations were collected using the Dried Blood Spot (DBS) method. These DBS samples were tested for HIV antibodies at 18 designated laboratories. The National AIDS Research Institute (NARI), Pune, serves as the Apex Laboratory for DBS samples under HSS. It is responsible for quality assurance, including proficiency assessment of DBS testing laboratories through panel testing and retesting. The Apex Laboratory provides external quality assurance by retesting of all positive blood specimens and 2% of the negative specimens collected during surveillance.

02

Methodology

The methodology for HSS Plus 2021 among HRG and bridge populations remained consistent with HSS-2017, as detailed in the operational manual for HSS Plus 2021. However, this round introduced some notable additions, primarily the inclusion of Hepatitis. A section on Hepatitis, consisting of 13 questions, was integrated into the questionnaire. The biospecimens collected were tested for HBV and HCV as additional biomarkers. The following section presents the key elements of the HSS methodology.

2.1 Eligibility Criteria

Inclusion criteria:

Fulfil the case definitions (as mentioned below) and aged 18 years or above

Exclusion criteria:

Already approached and administered informed consent once in the current round of surveillance

Box 2.1: Operational Definitions of Respondent Groups: HSS Plus 2021

Group	Operational Definition
Female Sex Workers (FSWs)	Women, aged 18 years or above, who are engaged in consensual sex for money or payment in kind as a means of livelihood in the last six months.
Men who have Sex with Men (MSM)	Men, aged 18 years or above, who had anal or oral sex with a male partner in the last one month.
Injecting Drug Users (IDUs)	Men and women, aged 18 years or above, who use addictive substances or drugs for recreational or non-medical reasons, through injections, at least once in the last three months.
Hijras/Transgender (H/TG) people	Person, aged 18 years or above, whose self-identity does not conform unambiguously to conventional notions of male or female gender roles, but combines or moves between these. It also includes persons, aged 18 years or above, whose gender identity is different from the sex assigned at birth.
Single Male Migrants (SMMs)	Single male, aged 18 years or above, living at a place other than "place of usual residence" without his spouse or family, for the purposes of work and visiting his home town at least once a year.
Long Distance Truckers (LDTs)	Truckers, aged 18 years or above, who travel more than 800 km one way between source and destination.

2.2 Sample Size and Sampling Period

The target sample size for each HRG/bridge population HSS Plus site was 250, to be achieved during a three-month surveillance period. For each site, the recommended maximum sampling duration was three months. If a site reached its allotted target sample size in less than three months, the sample collection at that site concluded. However, in certain cases, the data collection period was extended for specific sites after a careful review of reasons for delays and an assessment of the feasibility of achieving the desired sample size within a reasonable extension period.

2.3 Sampling Methodology

A simple random sampling method was adopted for HSS Plus 2021 among HRG population sites, consistent with the previous round. As part of this method, surveillance sites shared a master list of high-risk individuals (HRI), which included only (i) HRI unique ID number for each HRI, and (ii) the age of each individual. The regional institutes then randomly selected 250 HRIs from this master list to approach for participation in HSS Plus 2021. These selected HRIs were contacted, assessed for eligibility, and, if eligible, administered informed consent. All sampled and eligible HRIs who consented were recruited into HSS Plus 2021. At sites with 300 or fewer HRIs, a 'Take All' approach was followed, including all HRIs.

For bridge population group sites, HSS Plus 2021 continued to use the consecutive sampling method, consistent with the approach adopted in the previous round. From the start of the surveillance period, every bridge population member who visited the HSS Plus sites was approached, assessed for eligibility and, if eligible, administered informed consent. All sampled and eligible bridge population members who consented were recruited into HSS Plus 2021.

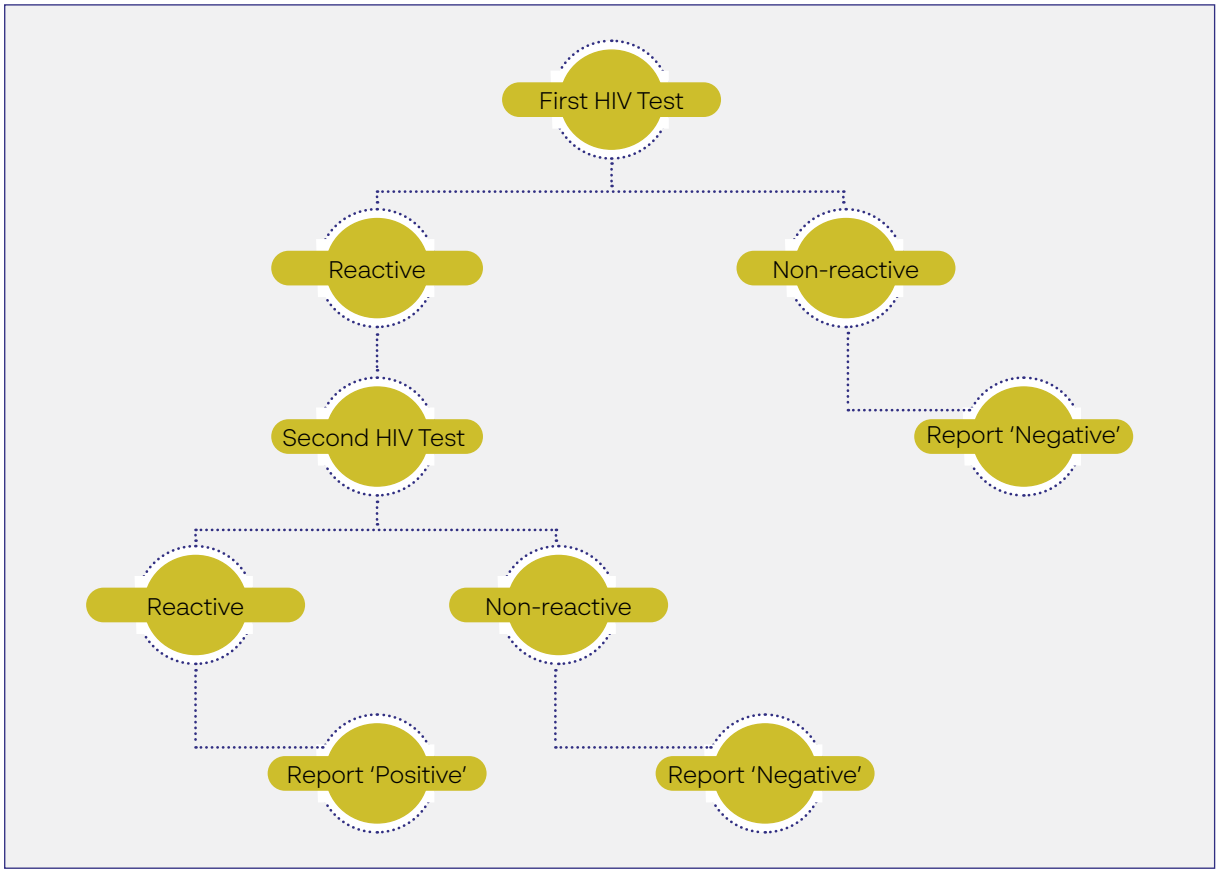
2.4 Behavioural Data Collection

A concise bilingual data form with 43–52 questions (depending on the typology) organized into six to eight sections was used to collect information. Sections included background characteristics, HIV/AIDS-related testing and treatment service uptake, HIV pre-exposure prophylaxis, injecting drug use practices, sexual behaviour and condom use practices with female and male partners, stigma and discrimination and viral hepatitis. Facility staff responsible for implementing the HSS Plus used individual data forms to collect the data through one-to-one interviews in a confidential setting. The data form did not have any personal identifier and had only a surveillance sample ID linked to the TI's unique ID code in a separate confidential register. This linkage was established to enable the provision of counselling, testing or treatment services to HRIs in accordance with the respective programme guidelines, with a focus on maintaining their overall health and well-being.

2.5 Blood Specimen Collection Methods and Testing Protocol

Under HSS Plus 2021, samples were collected from the respondents who provided their consent for both blood samples and questionnaire administration. Following the interview process, the interviewer accompanied the respondent to the Laboratory Technician (LT), responsible for collecting blood samples

Figure 2.1: Testing Protocol for HIV among HRG and BP, HSS Plus 2021



using the finger prick method or Dried Blood Spot (DBS) method. These DBS samples were transported to 18 designated National Reference Laboratories (NRLs) for testing to determine the presence of HIV antibodies. Testing for HBV and HCV was conducted at the Apex Laboratory, National AIDS Research Institute, Pune.

For HIV, a two-test strategy was adopted, consistent with the previous rounds (*see Figure 2.1*). The first test is of high sensitivity and the second one is of high specificity and confirmatory in nature. The second test was done only if the first test was found to be reactive. A sample was declared as positive only when both the test results returned as reactive.

2.6 Inter-laboratory Comparison (ILC)

Inter-laboratory comparison (ILC) is a key component of the quality assurance mechanism under HSS Plus. Under the ILC process, all positive specimens for HIV and 2% of negative specimens are sent to the Apex Laboratory at ICMR-NARI, Pune. From 18 testing laboratories, the Apex Laboratory received 5,322 HIV-reactive samples and 8,373 HIV non-reactive samples for ILC. Among them, 100% concordance was observed in HIV-positive samples, whereas 97.1% concordance was observed in HIV-negative samples.

2.7 Ethical Considerations

Under the HSS Plus 2021 among HRGs and bridge populations, written informed consent was obtained from sampled (in the case of HRG sites) and eligible HRIs who were willing to participate in HSS. A participant information sheet (PIS), provided in the local language, covered the objectives of the sentinel surveillance, expectations from the respondent, return of blood sample results, confidentiality and voluntary nature of participation. As part of the process, respondents were shown all the consumables/items used for blood sample collection using a DBS card. They were assured that confidentiality would be maintained since no individual's name was linked to the HSS Plus specimen or data form. No pressure was put on the eligible respondents to participate, and they were free to either agree or decline participation in the surveillance.

If the eligible HRG/bridge population respondents were literate, both the PIS and informed consent form (ICF) were provided to them to read. However, if the eligible respondent was illiterate, both the PIS and ICF were read out to them in the presence of a literate witness.

Subsequently, the respondent was allowed to ask any questions or seek clarification. Any queries or concerns from the respondent were promptly and comprehensively addressed. If the respondent chose not to participate in the surveillance, the reason for refusal was ascertained and documented in the HSS register.

HSS Plus data form of the consented respondents was handled with the utmost confidentiality. No one outside the surveillance team was allowed to handle either filled or blank data forms. The data forms were digitalized at RIs using the Strategic Information Management System (SIMS) under NACP. These forms were completely unlinked and anonymous.

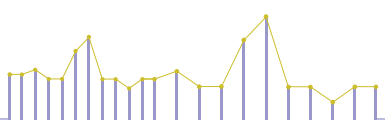
The ethical considerations for HSS Plus for HRG/bridge populations were reviewed by the Ethics Committee (EC) at NACO. The EC acknowledged the service delivery component of the HSS Plus and recommended that an EC review was not necessary, as the programme primarily focused on providing services.

2.8 Data Management

Data collection in HSS Plus 2021 was carried out through paper-based tools. The TI counsellor was responsible for recording the data, and all data forms were diligently reviewed for completeness and accuracy daily at the field by the site in-charge before the data forms were signed. These forms were also checked by the field supervisors during their field monitoring and supportive (M&S) visits. The data forms were subsequently transported to RIs periodically, where they were first checked for completeness and accuracy and then entered into the HSS module of SIMS.

Laboratory results were periodically provided by the laboratories to the RIs in a standard format. The RIs were responsible for entering the results into SIMS. The SIMS linked the laboratory results to the data forms using the unique sample IDs assigned.

To ensure data accuracy, double data entry of each data form was done by two data entry operators in SIMS. The entries were then compared using an in-built tool within SIMS, and any discrepancies identified between the two entries were corrected by referring to the original paper records. Subsequently, the database was 'frozen' and a cleaned master file was generated. For analysis, only valid records (age as per the eligibility criteria and HIV test results) were considered.



03

Female Sex Workers

Female sex workers (FSWs) are one of the core high-risk groups (HRGs) in India, covered by targeted interventions (TIs) as part of the HIV prevention programme implemented under the National AIDS and STI Control Programme (NACP). The estimated population of FSWs in India is approximately 9.95 lakhs, making them the largest HRGs covered by the NACP in the country. In HSS Plus 2021, FSWs were operationally defined as women, aged 18 years or older, who engaged in consensual sex for money or payment in kind, as a means of livelihood in the last six months. HSS Plus was implemented at 243 sites across 32 States/UTs (*see Table 3.1*). Overall, 60,131 FSWs participated by completing behavioural interviews and providing blood samples, which were subsequently tested at designated laboratories.

Table 3.1: Sample Size and Response Rate by State/UT, FSW Sites: HSS Plus 2021

State/UT	No. of HSS Sites	Final Sample Size Achieved	Response Rate (%)
Andhra Pradesh	13	3,211	98.6
Arunachal Pradesh	3	750	84.7
Assam	12	2,967	98.6
Bihar	4	999	99.9
Chandigarh	3	751	99.7
Chhattisgarh	5	1,249	98.3
Delhi	4	1,001	99.8
Goa	2	500	98.2
Gujarat	11	2,692	99.0
Haryana	5	1,275	99.6
Himachal Pradesh	5	1,269	99.9
J&K and Ladakh	1	250	89.3
Jharkhand	7	1,750	100.0

State/UT	No. of HSS Sites	Final Sample Size Achieved	Response Rate (%)
Karnataka	22	5,484	99.2
Kerala	10	2,490	100.0
Madhya Pradesh	9	2,263	99.9
Maharashtra	20	5,001	99.9
Manipur	6	1,499	100.0
Meghalaya	4	705	92.0
Mizoram*	1	130	48.7
Nagaland	1	250	96.2
Odisha	11	2,749	96.2
Puducherry	4	1,000	98.0
Punjab	10	2,487	98.6
Rajasthan	8	2,002	99.7
Sikkim	1	239	95.6
Tamil Nadu	24	5,970	95.4
Telangana	15	3,750	100.0
Tripura	4	1,000	99.9
Uttar Pradesh	9	2,207	98.9
Uttarakhand	3	750	100.0
West Bengal	6	1,491	97.8
India	**243**	**60,131**	**98.3**

*In Mizoram, less than 75% of the target sample size was achieved. Findings from Mizoram should be interpreted with caution.

The 2021 round of sentinel surveillance among FSWs achieved a high national response rate of 98.3%, with most States/UTs reporting response rates above 95%. However, some states, such as Arunachal Pradesh, Jammu & Kashmir, Ladakh, Meghalaya and Mizoram, reported relatively lower response rates. Detailed sample sizes and response rates for each State/ are provided in Table 3.1. The surveillance data provides a comprehensive profile of FSWs, including demographic and socio-economic characteristics such as age, marital status, educational level, place of residence, primary occupation and type of cell phone. The data also cover key aspects of HIV/AIDS-related service uptake, awareness and use of pre-exposure prophylaxis (PrEP), injecting drug use, sexual behaviour, condom use, and experiences of stigma and discrimination. Furthermore, the prevalence of HIV among FSWs, both nationally and by State/UT, is presented, offering valuable insights into the current HIV/AIDS landscape within this high-risk population.

3.1 Respondents' Characteristics

This section provides an overview of the profile characteristics of FSWs across various States/UTs in the country. At the

national level, the mean age of FSWs was 31.6 years. However, the mean age was notably lower in Arunachal Pradesh (22.4 years) and Assam (25.8 years). In contrast, the mean age was significantly higher than the national average in Kerala (38.4 years), Jammu & Kashmir and Ladakh (38.1 years), Tamil Nadu (36.8 years) and Puducherry (36.4 years).

When examining age distribution, it was observed that less than one-fifth of FSWs were aged between 18 and 24 years, while the majority (51%) were in the 25–34 age group (*see Figure 3.1*). A similar age distribution was observed in Andhra Pradesh, Haryana, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Odisha, Punjab, Telangana and West Bengal.

A significant proportion of FSWs in Arunachal Pradesh (74.7%), Assam (42.9%), Nagaland (37.6%) and Rajasthan (30.6%) were between 18 and 24 years old. In contrast, among FSWs recruited in Gujarat, Tamil Nadu, Puducherry, Kerala, Jammu & Kashmir and Ladakh, the proportion of those aged over 45 years ranged from 10% to 27% (*see Table 3.2*).

Approximately 14.1% of all recruited FSWs reported never having been married, while a similar proportion (14.7%) indicated they were divorced, separated or widowed (*see Figure 3.2*). In Arunachal Pradesh, 60.9% of FSWs and in Bihar, 49.6% reported never being married. Conversely, in Andhra Pradesh, Chandigarh, Gujarat, Haryana, Himachal Pradesh, Puducherry, Tamil Nadu, Tripura and Uttarakhand, a high proportion, ranging from 80% to 90%, reported being currently married. In Manipur, nearly half (49.6%) of FSWs were divorced, separated or widowed. Similarly, in Mizoram (36.9%) and West Bengal (35.2%), over one-third of recruited FSWs were divorced, separated or widowed at the time of their interview (*see Table 3.3*).

Figure 3.1: Distribution of FSWs by Age Group, HSS Plus 2021 (in %)

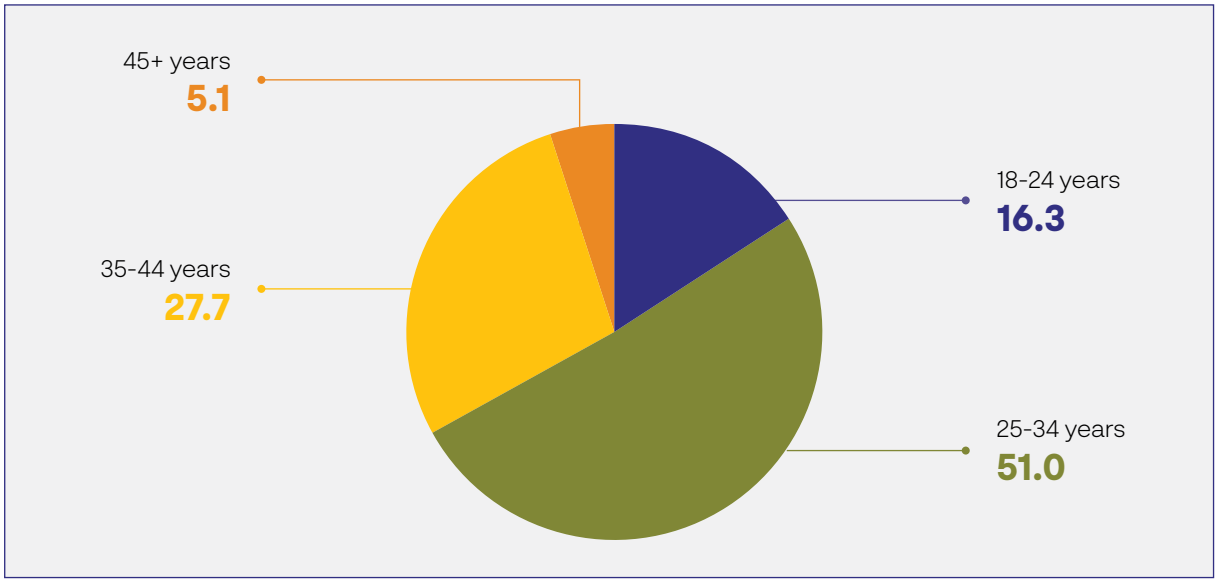


Figure 3.2: Distribution of FSWs by Current Marital Status, HSS Plus 2021 (in %)

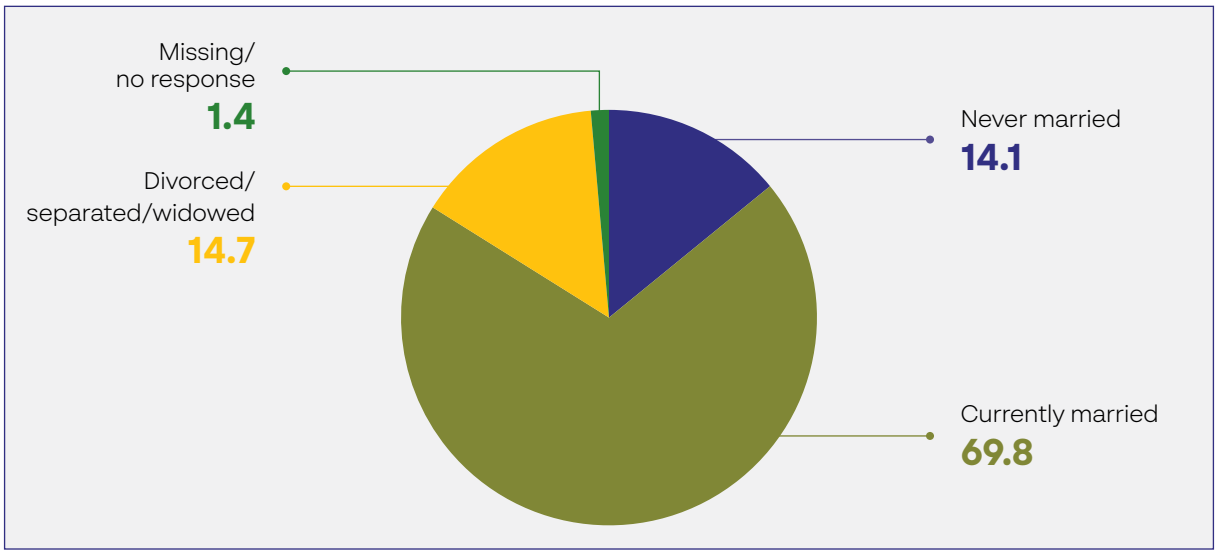


Figure 3.3: Distribution of FSWs by Education Status, HSS Plus 2021 (in %)

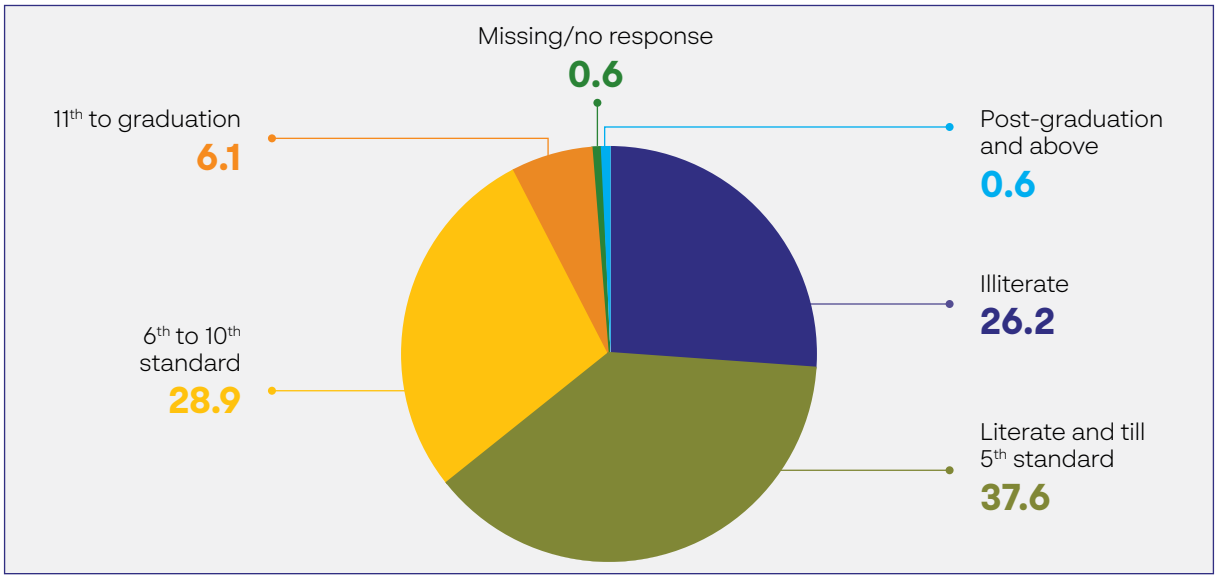


Table 3.2: Age Distribution of FSWs by State/UT, HSS Plus 2021

State/UT	N	Mean Age (Years)	Age Group of FSWs (%)			
			18–24 Years	25–34 Years	35–44 Years	45+ Years
Andhra Pradesh	3,211	29.5	13.0	76.7	10.0	0.2
Arunachal Pradesh	750	22.4	74.7	22.9	2.4	0.0
Assam	2,967	25.8	42.9	50.5	6.5	0.1
Bihar	999	28.5	24.9	58.7	16.4	0.0
Chandigarh	751	29.7	17.3	63.9	18.1	0.7
Chhattisgarh	1,249	27.2	34.0	54.7	11.1	0.2

State/UT	N	Mean Age (Years)	Age Group of FSWs (%)			
			18–24 Years	25–34 Years	35–44 Years	45+ Years
Delhi	1,001	29.8	26.2	47.9	21.9	4.1
Goa	500	29.6	16.6	65.6	17.6	0.2
Gujarat	2,692	34.9	7.5	39.9	42.3	10.3
Haryana	1,275	30.2	20.6	52.9	23.1	3.3
Himachal Pradesh	1,269	31.9	10.6	53.9	34.3	1.2
J&K and Ladakh	250	38.1	3.6	31.2	38.4	26.8
Jharkhand	1,750	28.1	23.9	65.4	10.6	0.1
Karnataka	5,484	33.5	9.6	46.5	37.3	6.7
Kerala	2,490	38.4	2.4	28.6	48.8	20.2
Madhya Pradesh	2,263	30.1	20.2	53.5	25.4	1.0
Maharashtra	5,001	33.4	10.0	46.7	35.2	8.1
Manipur	1,499	30.7	17.8	54.4	25.3	2.5
Meghalaya	705	31.3	17.6	50.9	24.7	6.8
Mizoram*	130	30.4	24.6	45.4	25.4	4.6
Nagaland	250	27.3	37.6	48.4	13.2	0.8
Odisha	2,749	30.1	17.5	59.2	21.9	1.4
Puducherry	1,000	36.4	7.2	31.6	46.7	14.5
Punjab	2,487	30.0	15.8	62.2	21.3	0.7
Rajasthan	2,002	27.9	30.6	58.0	11.4	0.0
Sikkim	239	28.2	27.2	59.0	13.8	0.0
Tamil Nadu	5,970	36.8	2.6	33.9	50.6	12.8
Telangana	3,750	32.4	8.5	57.4	29.8	4.3
Tripura	1,000	29.3	21.2	58.8	19.5	0.5
Uttar Pradesh	2,207	27.8	28.5	56.7	13.8	1.0
Uttarakhand	750	29.2	15.7	68.7	15.6	0.0
West Bengal	1,491	30.8	17.4	54.7	25.4	2.5
India	**60,131**	**31.6**	**16.3**	**51.0**	**27.7**	**5.1**

*In Mizoram, less than 75% of the target sample size was achieved. Findings from Mizoram should be interpreted with caution.

All FSWs in HSS Plus 2021 were asked if they had any additional source of income apart from sex work (*see Figure 3.4*). The most common income sources, other than sex work, included non-agricultural or agricultural labour (22.4%) and employment as a domestic servant (18%). Additionally, about 15% of FSWs reported being involved in diverse occupations such as small business, large business, skilled or semi-skilled work or service in either government/ private sector. A small proportion of FSWs (4.8%) nationwide reported alternative income sources, which included roles like bar girl, beauty/massage parlour worker or hotel staff (*see Table 3.4*).

Table 3.3: Current Marital Status and Level of Education of FSWs by State/UT, HSS Plus 2021

State/UT	N	Current Marital Status (%)#			Level of Education# (%)				
		Never Married	Currently Married	Divorced/ Separated/ Widowed	Illiterate	Literate and till 5th Standard	6th to 10th Standard	11th to Graduation	Post-Graduation & Above
Andhra Pradesh	3,211	3.1	89.8	6.5	17.5	42.1	35.4	4.4	0.1
Arunachal Pradesh	750	60.9	25.7	9.1	8.5	37.3	46.3	6.7	0.5
Assam	2,967	22.8	60.1	16.0	26.9	41.6	22.8	5.4	2.5
Bihar	999	49.6	47.3	1.0	55.8	22.8	12.7	7.7	0.0
Chandigarh	751	8.4	80.4	9.2	6.9	36.5	47.4	7.6	0.0
Chhattisgarh	1,249	28.3	66.1	5.0	10.9	32.0	38.4	18.3	0.2
Delhi	1,001	21.6	64.2	11.4	51.2	27.7	16.1	3.2	0.8
Goa	500	13.8	73.8	12.0	17.8	62.6	19.0	0.4	0.0
Gujarat	2,692	3.3	81.9	14.2	44.1	29.5	23.3	2.6	0.3
Haryana	1,275	9.3	81.5	8.6	36.3	35.3	18.6	8.4	1.1
Himachal Pradesh	1,269	6.5	90.3	1.6	9.5	19.7	52.1	17.4	0.6
J&K and Ladakh	250	10.8	75.2	10.8	9.6	26.0	50.0	14.4	0.0
Jharkhand	1,750	22.1	73.1	3.8	39.0	35.4	14.5	10.5	0.3
Karnataka	5,484	10.2	65.7	21.6	30.3	34.4	27.0	6.9	0.8
Kerala	2,490	5.7	65.5	27.7	6.8	27.4	54.1	10.7	0.5
Madhya Pradesh	2,263	26.5	67.3	5.5	24.0	50.0	22.8	2.2	0.2
Maharashtra	5,001	20.2	51.0	27.3	44.0	34.4	19.5	1.5	0.1
Manipur	1,499	16.7	31.5	49.6	17.4	41.0	35.2	5.4	0.2
Meghalaya	705	8.7	70.5	17.2	6.2	55.2	32.2	6.1	0.0
Mizoram*	130	26.2	36.9	36.9	1.5	6.9	73.1	17.7	0.0
Nagaland	250	32.0	62.4	5.2	45.6	11.6	32.0	10.4	0.0
Odisha	2,749	23.4	69.2	5.6	12.8	48.0	27.1	8.8	2.7
Puducherry	1,000	3.6	87.6	6.8	9.9	22.9	56.7	10.1	0.2
Punjab	2,487	14.8	78.6	6.4	20.7	24.7	40.2	14.0	0.2
Rajasthan	2,002	32.1	59.7	7.4	20.3	62.9	13.2	2.9	0.5
Sikkim	239	18.8	66.9	7.9	3.8	48.1	39.7	7.1	0.0
Tamil Nadu	5,970	1.7	82.6	14.7	13.3	33.7	45.0	7.2	0.3
Telangana	3,750	3.7	76.6	18.1	37.7	44.1	14.5	1.9	0.1
Tripura	1,000	1.9	85.2	11.9	5.3	56.5	34.9	2.6	0.7
Uttar Pradesh	2,207	20.2	74.6	4.3	46.9	32.0	17.1	3.0	0.6
Uttarakhand	750	8.5	88.1	3.1	33.2	54.7	10.5	1.5	0.1
West Bengal	1,491	6.8	54.5	35.2	38.5	50.6	9.7	0.7	0.2
India	**60,131**	**14.1**	**69.8**	**14.7**	**26.2**	**37.6**	**28.9**	**6.1**	**0.6**

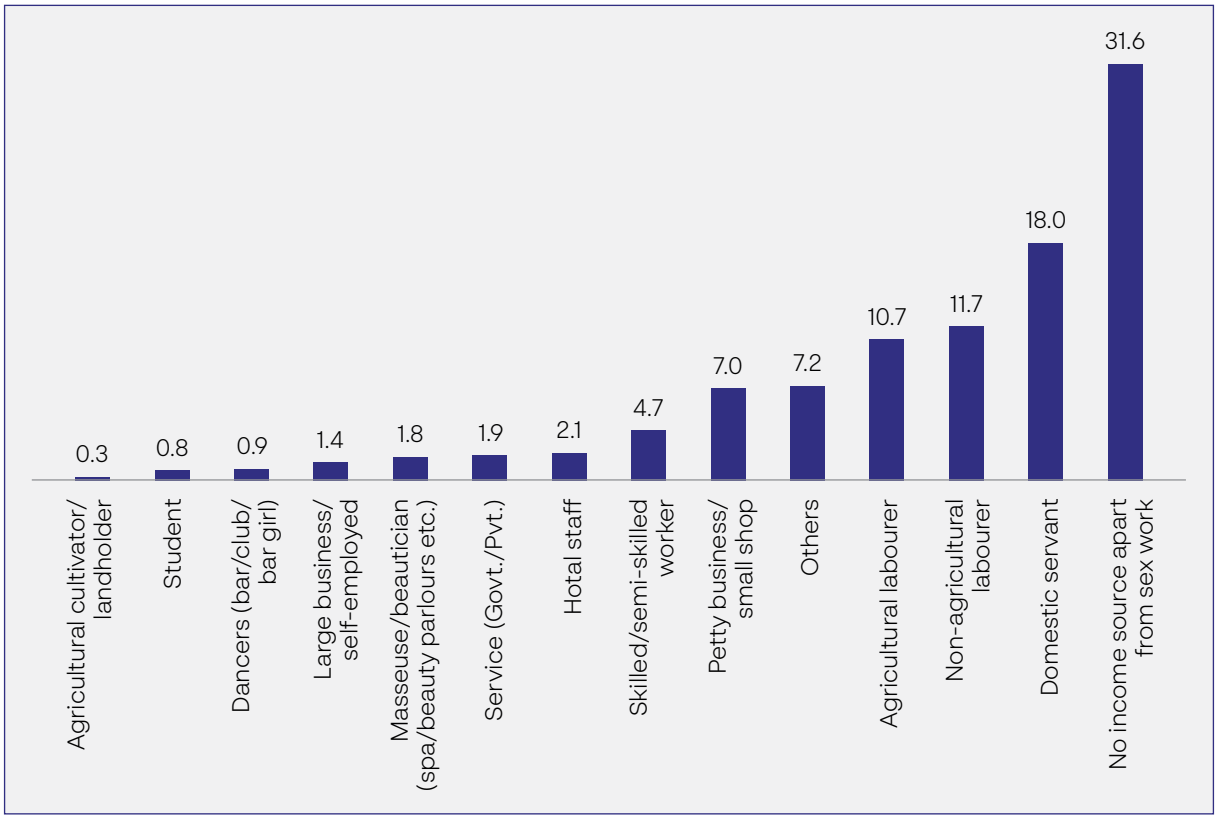
*In Mizoram, less than 75% of the target sample size was achieved. Findings from Mizoram should be interpreted with caution.; #Total may not add up to 100% due to missing/no response.

Table 3.4: Sources of Income Other than Sex Work by State/UT, HSS Plus 2021

State/UT	N	Other Income Source (%)													
		Agri-cultural Labourer	Non-Ag-ricultural Labourer	Domestic Servant	Skilled/ Semi-skilled Worker	Petty Busi-ness/ Small Shop	Large Business/ Self-employed	Service (Govt./ Pvt.)	Student	Hotel Staff	Agricultural Cultivator/ Landholder	Dancers (Bar/ Club/ Bar Girl)	Masseuse/ Beautician (Spa/ Beauty Parlours, etc.)	Others	No Other Income Source
Andhra Pradesh	3,211	16.4	11.9	15.6	13.2	10.6	0.7	2.4	0.3	6.1	0.1	0.0	0.4	2.4	19.8
Arunachal Pradesh	750	0.9	2.3	11.1	0.8	26.0	0.1	0.1	4.4	2.4	0.0	1.1	2.0	2.0	46.8
Assam	2,967	13.0	6.5	17.5	3.3	3.5	2.5	1.0	3.3	4.1	0.2	1.3	2.5	3.8	37.4
Bihar	999	0.6	1.4	19.8	6.6	0.4	0.0	0.1	2.3	.7	0.0	7.4	0.7	4.5	55.5
Chandigarh	751	1.2	0.8	26.4	1.9	9.6	0.7	12.3	0.3	1.2	0.0	3.6	6.4	10.3	25.6
Chhattisgarh	1,249	8.8	20.9	20.8	11.9	8.8	0.1	0.6	1.9	1.3	0.0	0.0	2.6	18.3	3.9
Delhi	1,001	0.3	0.0	7.3	0.2	1.3	0.0	0.0	0.1	0.7	0.0	1.2	5.9	12.9	70.1
Goa	500	8.0	0.4	37.8	0.4	10.2	13.2	4.8	0.0	11.4	0.0	0.0	0.4	7.4	6.0
Gujarat	2,692	15.0	6.4	31.1	1.6	5.0	0.1	0.7	0.1	0.3	0.0	0.2	0.8	5.9	32.6
Haryana	1,275	0.2	5.6	27.0	2.4	7.1	0.1	2.6	0.0	0.1	0.0	0.1	6.0	2.4	46.6
Himachal Pradesh	1,269	16.3	6.7	22.6	2.8	10.9	0.3	3.5	1.0	1.2	6.4	0.1	1.3	4.6	22.4
J&K and Ladakh	250	0.0	1.6	24.4	4.0	0.8	0.0	9.2	4.0	0.4	0.0	0.0	0.0	0.0	55.6
Jharkhand	1,750	24.0	11.2	17.8	3.3	2.2	0.2	2.3	3.9	0.1	0.0	0.1	0.1	2.3	32.5
Karnataka	5,484	17.1	14.6	10.1	6.4	12.3	3.3	1.2	0.1	3.8	0.7	0.0	4.6	9.2	16.6
Kerala	2,490	14.9	18.0	15.9	4.5	2.2	1.3	1.3	0.2	0.8	0.0	0.0	1.7	4.5	34.6
Madhya Pradesh	2,263	6.8	9.8	20.0	10.4	3.0	0.4	0.4	0.8	0.4	0.3	1.2	1.2	7.8	37.6
Maharashtra	5,001	2.2	3.6	19.7	3.0	1.5	0.3	1.0	0.1	3.3	0.0	4.8	0.7	8.7	51.0
Manipur	1,499	12.6	8.2	9.9	4.2	17.8	0.9	0.2	3.4	3.5	0.4	0.0	5.5	18.8	14.6
Meghalaya	705	0.7	2.7	29.6	0.1	15.3	0.4	0.9	0.3	0.0	0.0	0.0	0.1	7.1	42.7
Mizoram	130	0.0	0.0	0.0	8.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	89.2
Nagaland	250	0.0	0.0	2.4	0.4	10.4	1.2	0.0	2.8	1.6	0.0	1.6	2.4	6.8	70.4
Odisha	2,749	4.9	32.7	15.8	6.8	9.8	1.1	1.4	1.0	0.9	0.2	0.1	0.1	3.5	21.7
Puducherry	1,000	16.6	16.2	24.0	1.3	5.3	9.7	2.8	0.0	3.2	0.0	0.2	1.2	0.6	18.9
Punjab	2,487	0.7	2.5	31.8	7.4	9.0	0.9	4.8	0.4	0.3	0.0	0.8	4.7	6.7	30.0
Rajasthan	2,002	9.2	22.1	8.8	0.2	0.1	0.0	0.3	0.9	0.1	0.0	0.9	0.9	4.9	51.3
Sikkim	239	2.9	0.0	7.5	0.4	8.8	1.3	4.2	3.3	12.6	0.4	1.7	4.2	8.8	43.9
Tamil Nadu	5,970	11.8	21.9	24.8	6.0	7.1	2.1	3.7	0.0	2.6	0.2	0.1	0.7	7.7	11.2
Telangana	3,750	29.9	14.3	13.7	4.0	12.4	0.3	3.2	0.2	1.9	0.2	0.3	0.6	14.7	4.4
Tripura	1,000	7.4	31.6	9.2	0.1	1.2	0.0	0.4	0.1	0.0	0.0	0.0	0.0	8.6	41.4
Uttar Pradesh	2,207	1.7	2.4	12.8	3.9	6.8	4.0	1.5	1.6	0.4	0.0	1.0	2.1	4.8	57.1
Uttarakhand	750	0.3	0.1	1.6	0.1	0.1	0.0	0.1	0.4	0.1	0.0	0.0	0.3	2.5	94.3
West Bengal	1,491	4.2	2.0	10.3	0.1	1.4	0.0	0.1	0.0	1.9	0.1	0.6	0.5	9.0	69.8
India	**60,131**	**10.7**	**11.7**	**18.0**	**4.7**	**7.0**	**1.4**	**1.9**	**0.8**	**2.1**	**0.3**	**0.9**	**1.8**	**7.2**	**31.6**

*In Mizoram less than 75% of the target sample size was achieved. Findings from Mizoram should be interpreted with caution. #Total may not add up to 100% due to missing/no response.

Figure 3.4: Distribution of FSWs by Sources of Income Other than Sex Work, HSS Plus 2021 (in %)



The reliance on sex work as the primary source of income among FSWs largely followed the national trend across most States. In Uttarakhand, a vast majority (94.3%) of FSWs relied solely on sex work for income. Similarly, a majority of FSWs in Mizoram (89.2%), Nagaland (70.4%), Delhi (70.1%) and West Bengal (69.8%) did not have any other source of income. Notably, around 12.6% of FSWs in Sikkim and 11.4% in Goa reported income from working as a hotel staff (*see Table 3.4*).

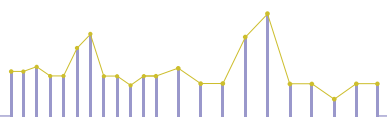
All FSWs in HSS Plus 2021 were asked about their current place of residence, whether in urban or rural areas, and the type of cell phone they possessed. A majority of FSWs at the national level reported residing in urban areas (60.3%). However, in Tripura, a vast majority (85.2%) of FSWs reported residing in rural areas. Similarly, a majority of FSWs in Meghalaya (83.1%), Kerala (76.6%), Manipur (72.8%) and Jharkhand (71.1%) reported that they were currently residing in rural areas (*see Table 3.5*).

Nationally, a nearly equal proportion of FSWs reported having either a basic keypad phone (45.8%) or a smartphone (41.2%), with 5.6% of FSWs reporting ownership of both type of phones. At the State/UT level, about one-third of FSW respondents (30.2%) in Bihar mentioned that they did not own any cell phones. A similar proportion reported not having cell phones in Mizoram (24.6%) and Rajasthan (22.2%). In contrast, 72.8% of FSW respondents from Sikkim and more than 60% respondents in Delhi, Himachal Pradesh, Manipur, Meghalaya and West Bengal reported owning a smart phone. However, in Jammu & Kashmir and Ladakh, more than 90% of the respondents had only the basic keypad phone (see Table 3.5).

Table 3.5: Current Place of Residence of FSWs and Status of Cell Phones by State/UT, HSS Plus 2021

State/UT	N	Current Place of Residence (%)		Having Cell Phone (%)#			
		Urban (Municipal Corporation/ Council/ Cantonment)	Rural	Only Basic Keypad Phone	Only Smart Phone	Both	Do Not Own a Cell Phone
Andhra Pradesh	3,211	72.6	18.9	38.6	50.6	7.3	3.1
Arunachal Pradesh	750	94.7	2.9	16.1	46.8	15.9	18.9
Assam	2,967	44.1	53.9	35.5	51.6	2.5	8.5
Bihar	999	40.4	57.7	46.1	17.2	4.0	30.2
Chandigarh	751	96.7	1.3	32.9	50.7	13.7	0.4
Chhattisgarh	1,249	73.7	25.0	34.9	47.2	1.9	13.3
Delhi	1,001	93.9	3.8	20.2	61.7	13.2	3.8
Goa	500	56.0	40.4	58.4	40.4	0.0	0.6
Gujarat	2,692	73.7	24.6	42.0	36.6	1.8	18.7
Haryana	1,275	70.0	28.2	55.6	31.5	12.5	0.2
Himachal Pradesh	1,269	37.9	59.9	35.8	60.0	2.3	0.2
J&K and Ladakh	250	60.8	38.8	96.0	1.2	1.6	0.0
Jharkhand	1,750	27.0	71.1	64.0	23.4	2.6	9.3
Karnataka	5,484	71.0	23.9	47.7	35.8	11.4	2.8
Kerala	2,490	22.2	76.6	41.5	46.0	9.2	2.4
Madhya Pradesh	2,263	66.1	30.2	45.6	43.9	5.8	3.0
Maharashtra	5,001	85.8	10.2	41.7	44.2	7.0	6.4
Manipur	1,499	25.9	72.8	32.2	61.6	5.0	0.3
Meghalaya	705	15.0	83.1	26.0	67.0	0.4	5.5
Mizoram*	130	90.0	8.5	1.5	73.1	0.0	24.6
Nagaland	250	84.8	15.2	37.6	43.6	0.4	17.6
Odisha	2,749	61.9	31.5	51.9	35.8	2.8	6.8
Puducherry	1,000	60.2	33.1	54.8	41.8	0.1	3.2
Punjab	2,487	69.0	29.5	37.4	51.4	9.4	0.6
Rajasthan	2,002	55.1	36.4	34.0	37.4	5.4	22.2
Sikkim	239	66.1	25.5	14.2	72.8	5.0	5.4
Tamil Nadu	5,970	51.2	46.9	58.0	36.2	1.9	3.2
Telangana	3,750	59.1	22.4	67.3	23.3	5.2	1.0
Tripura	1,000	14.8	85.2	44.5	35.5	1.2	17.9
Uttar Pradesh	2,207	61.3	36.4	63.4	27.3	2.6	5.8
Uttarakhand	750	98.5	1.2	64.3	26.9	7.3	0.8
West Bengal	1,491	53.6	46.2	23.1	68.6	4.6	2.2
India	**60,131**	**60.3**	**35.5**	**45.8**	**41.2**	**5.6**	**6.1**

*In Mizoram, less than 75% of the target sample size was achieved. Findings from Mizoram should be interpreted with caution;
#Total may not add up to 100% due to missing/no response.



3.2 HIV/AIDS-related Testing and Treatment Services Uptake

At the national level, a significant 98.7% of FSWs reported undergoing HIV testing at least once in their lifetime. Within this group, nearly 93.2% had undergone an HIV test in the past 12 months. However, about one-fourth of FSWs had not been tested in the last six months, and more than three-fourths of FSWs had not undergone HIV testing in the last three months. Notably, over one-third of the FSWs in Bihar had never been tested for HIV. Similarly, almost half of the respondents in Mizoram and 42.4% in Meghalaya had never undergone HIV testing in the last 12 months (*see Table 3.6*).

Table 3.6: HIV Testing History of FSWs by State/UT, HSS Plus 2021

State/UT	N	Ever Tested for HIV (%)	Tested for HIV in Last 3 Months (%)	Tested for HIV in Last 6 Months (%)	Tested for HIV in Last 12 Months (%)
Andhra Pradesh	3,211	99.4	25.8	72.7	88.7
Arunachal Pradesh	750	96.1	24.3	79.1	93.6
Assam	2,967	98.2	12.8	59.3	92.3
Bihar	999	73.2	21.1	41.4	61.5
Chandigarh	751	99.7	16.4	64.7	97.2
Chhattisgarh	1,249	99.6	28.4	77.2	96.9
Delhi	1,001	96.9	15.8	61.7	88.5
Goa	500	100.0	53.8	89.6	98.8
Gujarat	2,692	99.6	18.1	84.9	96.7
Haryana	1,275	98.9	43.0	78.9	97.1
Himachal Pradesh	1,269	99.7	25.4	80.7	91.8
J&K and Ladakh	250	100.0	70.4	90.4	98.8
Jharkhand	1,750	99.4	34.7	97.3	98.7
Karnataka	5,484	99.0	17.7	71.6	93.5
Kerala	2,490	99.7	20.9	84.2	99.0
Madhya Pradesh	2,263	99.2	30.3	78.6	97.3
Maharashtra	5,001	98.7	20.3	63.6	92.6
Manipur	1,499	99.6	17.2	45.9	76.7
Meghalaya	705	99.4	6.1	16.3	57.6
Mizoram*	130	100.0	21.5	33.8	49.2
Nagaland	250	100.0	19.2	40.8	83.2
Odisha	2,749	99.0	18.7	87.7	96.9
Puducherry	1,000	99.0	17.5	74.5	98.3
Punjab	2,487	99.6	38.3	84.9	97.5
Rajasthan	2,002	97.5	20.1	76.0	95.0
Sikkim	239	89.5	39.3	68.6	89.1
Tamil Nadu	5,970	99.5	25.6	73.7	94.2
Telangana	3,750	99.5	18.8	79.8	94.0

State/UT	N	Ever Tested for HIV (%)	Tested for HIV in Last 3 Months (%)	Tested for HIV in Last 6 Months (%)	Tested for HIV in Last 12 Months (%)
Tripura	1,000	99.8	23.5	67.3	96.3
Uttar Pradesh	2,207	99.8	32.4	90.8	97.0
Uttarakhand	750	99.9	35.1	91.3	99.9
West Bengal	1,491	99.0	24.1	56.1	94.9
India	**60,131**	**98.7**	**23.5**	**73.7**	**93.2**

*In Mizoram, less than 75% of the sample was achieved. Findings from Mizoram should be interpreted with caution.

In the HSS Plus 2021 round, a total of 1,112 FSWs (1.85%) tested positive for HIV. Out of these, 66.7% were aware of their HIV-positive status. Notably, 62.6% of total HIV-infected FSWs were on ART.

3.3 HIV Pre-exposure Prophylaxis (PrEP)

FSWs who took the HIV test but did not report being HIV-positive were asked questions related to HIV pre-exposure prophylaxis (PrEP) to assess their awareness of the issue. Nationally, only 6% of FSW respondents reported being aware of HIV PrEP, and only 0.3% of FSW respondents had ever taken PrEP. In contrast to the national average, a significantly higher proportion of FSW respondents (23%) in Chandigarh, Manipur and West Bengal reported being aware of HIV PrEP (*see Table 3.7*).

Table 3.7: Awareness and Use of HIV PrEP among FSWs by State/UT, HSS Plus 2021

State/UT	N#	Aware of HIV PrEP (%)	Ever Taken PrEP (%)
Andhra Pradesh	3,110	2.0	0.0
Arunachal Pradesh	712	8.6	3.4
Assam	2,804	2.9	0.0
Bihar	691	1.2	0.0
Chandigarh	740	23.4	0.5
Chhattisgarh	1,196	1.5	0.3
Delhi	880	1.4	0.0
Goa	492	0.0	0.0
Gujarat	2,633	9.1	0.1
Haryana	1,249	15.8	0.2
Himachal Pradesh	1,253	10.5	0.0
J&K and Ladakh	250	0.0	0.0
Jharkhand	1,732	0.1	0.1
Karnataka	5,169	5.4	0.1
Kerala	2,445	9.4	0.1
Madhya Pradesh	2,213	2.7	0.1

State/UT	N#	Aware of HIV PrEP (%)	Ever Taken PrEP (%)
Maharashtra	4,703	2.2	0.0
Manipur	1,473	23.5	0.0
Meghalaya	635	0.3	0.0
Mizoram*	63	1.6	0.0
Nagaland	245	13.5	7.3
Odisha	2,706	14.7	0.4
Puducherry	970	1.4	0.0
Punjab	2,426	10.8	0.0
Rajasthan	1,902	2.0	0.9
Sikkim	211	0.0	0.0
Tamil Nadu	5,766	1.7	0.0
Telangana	3,659	3.8	0.3
Tripura	968	0.0	0.0
Uttar Pradesh	2,183	5.5	0.8
Uttarakhand	742	0.1	0.0
West Bengal	1,407	23.7	2.6
India	**57,628**	**6.0**	**0.3**

*In Mizoram, less than 75% of the target sample size was achieved. Findings from Mizoram should be interpreted with caution;
#N represents those who were aware of HIV or AIDS and did not report to be HIV-positive

3.4 Injecting Drug Use Practices

Injecting drug use, which is prevalent among FSWs in some parts of the country, tends to further compound the vulnerability of FSWs.

Table 3.8: Injecting Drug Use Practices among FSWs by State/UT, HSS Plus 2021

State/UT	N	Ever Injected Drugs for Non-medical Reasons (%)	Injected Drugs for Non-medical Reasons in Last 12 Months (%)	Used New Needle/ Syringe (%)
Andhra Pradesh	3,211	0.2	0.1	–
Arunachal Pradesh	750	0.1	0.0	–
Assam	2,967	1.0	0.1	69.6
Bihar	999	0.1	0.0	–
Chandigarh	751	4.4	0.5	75.8
Chhattisgarh	1,249	0.0	0.0	–
Delhi	1,001	1.2	0.1	–
Goa	500	0.2	0.0	–
Gujarat	2,692	0.3	0.0	–

State/UT	N	Ever Injected Drugs for Non-medical Reasons (%)	Injected Drugs for Non-medical Reasons in Last 12 Months (%)	Used New Needle/ Syringe (%)
Haryana	1,275	0.3	0.0	–
Himachal Pradesh	1,269	0.1	0.0	–
J&K and Ladakh	250	0.0	0.0	–
Jharkhand	1,750	0.2	0.0	–
Karnataka	5,484	5.5	2.9	86.5
Kerala	2,490	0.2	0.0	–
Madhya Pradesh	2,263	0.2	0.0	–
Maharashtra	5,001	0.4	0.0	–
Manipur	1,499	0.2	0.0	–
Meghalaya	705	1.6	0.0	–
Mizoram*	130	41.5	4.6	68.5
Nagaland	250	0.4	0.0	–
Odisha	2,749	0.5	0.0	–
Puducherry	1,000	0.0	0.0	–
Punjab	2,487	0.2	0.0	–
Rajasthan	2,002	1.2	0.0	–
Sikkim	239	1.7	0.0	–
Tamil Nadu	5,970	0.0	0.0	–
Telangana	3,750	0.1	0.0	–
Tripura	1,000	0.1	0.0	–
Uttar Pradesh	2,207	0.3	0.0	–
Uttarakhand	750	0.1	0.0	–
West Bengal	1,491	0.0	0.0	–
India	**60,131**	**0.9**	**0.3**	**78.7**

*In Mizoram, less than 75% of the target sample size was achieved. Findings from Mizoram should be interpreted with caution.

Therefore, understanding the geographic patterns of drug use can contribute to strengthening the existing programmes. All FSWs were asked about injecting drugs for non-medical reasons preceding the survey. Nationally, 0.9% of FSWs reported having engaged in injection drug use at some point in their lives. Among these FSWs, about 0.3% stated that they had injected drugs for non-medical reasons within the last 12 months. About 78.7% of FSWs reported using a new needle/syringe for injecting themselves. A significant proportion of FSWs (41.5%) in Mizoram reported having injected drugs for non-medical reasons at some point in their lives, with nearly 5% of them having done so in the past 12 months. In comparison to the national estimate, a higher proportion of FSWs in Chandigarh (4.4%) and Karnataka (5.5%) reported ever engaging in non-medical drug injection use (*see Table 3.8*).

3.5 Sexual Behaviour and Condom Use Practices

During HSS Plus 2021, FSWs were asked about sexual risk behaviours and sex work practices to better understand the epidemiology and the factors contributing to increased HIV infection risk. This inquiry covered topics such as the onset of sexual behaviour, initiation into sex work, and client solicitation locations. The survey also explored FSWs' use of mobile phones and Internet for client contact, providing insights into newer forms of solicitation.

Additionally, the HSS Plus questionnaire also included questions about condom use and anal sex practices with different types of male partners (regular, commercial and casual). Understanding the geographic patterns and variations in the places of solicitation or entertainment and other sex work practices can benefit HIV prevention programmes by improving targeting, reach and coverage.

The mean age at first sexual intercourse among FSWs was 20.1 years at the national level. Across different States, this average varied, ranging from 15.9 years in Arunachal Pradesh to 24.7 years in Karnataka. At the national level, about 2.1% of FSWs reported having their sexual debut at the age of 14 years or younger. However, some States showed relatively higher rates of early sexual debut: Haryana (8.7%), Rajasthan (10.4%) and Arunachal Pradesh (20.0%). Furthermore, nationally around 52% of FSWs had their sexual debut between the ages 18 and 21 years. In contrast, a sizeable proportion of FSWs in Chhattisgarh (46.1%), Meghalaya (58.9%) and Arunachal Pradesh (57.9) had their sexual debut between the ages 15 and 17 years (*see Table 3.9*).

Commercial sex, commonly referred to as sex work, involves engaging in sexual activities with a male partner in exchange for cash or kind. At the national level, the mean age at the initiation of commercial sex work was 23.1 years, with State-level variations ranging from 17.5 years in Arunachal Pradesh to 28.9 years in Kerala. About 5% of FSWs nationally reported initiating commercial sex work between the ages 15 and 17 years. Significant disparities were observed across States, with a notable proportion of FSWs in Arunachal Pradesh (35.9%), Rajasthan (23.1%) and Uttar Pradesh (22.1%) initiating sex work at an early age. Conversely, over half of the FSWs (57%) from a majority of the States/UTs reported initiating commercial sex work when they were 22 years or older (*see Table 3.9*).

All FSWs were asked about the commercial male sexual partners they had during the past week and the frequency of sex acts with commercial male sexual partners during that time. This information is aimed to assess the client load and frequency of sex acts. FSWs are at heightened risk as they have multiple sexual partners, which is associated with a higher risk of HIV transmission. At the national level, FSWs reported an average 5.1 commercial male sexual partners in the last week, with Delhi (9.7) and Punjab (8.0) showing significantly higher numbers. There were notable variations in the number of commercial partners among different States/UTs. At the national level, FSWs engaged in an average of 6.3 sex acts with commercial male sexual partners per week, while Delhi (10.3), Punjab (9.8), Andhra Pradesh (9.0), Uttarakhand (8.7) and West Bengal (8.5) reported higher frequencies.

Table 3.9: Age at Initiation of Sex and Commercial Sex, FSWs by State/UT, HSS Plus 2021

State/UT	N	Mean Age at First Sex	Age of Sexual Debut (%)#				N	Mean Age at First Commercial Sex	Age of Commercial Sex Debut (%)#				Commercial Partners and Sex Acts in the Last Week (%)			
			≤14	15–17	18–21	22+			≤14	15–17	18–21	22+	N	Mean Number of Commercial Male Partners	N	Mean Number of Commercial Sex Acts
Andhra Pradesh	3,189	18.7	1.3	18.7	75.1	4.9	3,175	22.0	0.5	0.4	47.4	51.7	3,211	6.7	3,211	9.0
Arunachal Pradesh	451	15.9	20.0	57.9	22.0	0.2	449	17.5	12.0	35.9	46.1	6.0	750	3.3	748	3.7
Assam	1,987	18.9	3.2	19.6	65.2	12.0	1,829	21.0	0.4	6.0	53.9	39.7	2,967	4.9	2,967	5.2
Bihar	718	19.3	0.4	13.0	72.8	13.8	721	21.2	0.0	1.4	68.9	29.7	719	3.3	708	3.2
Chandigarh	727	19.3	0.1	27.2	55.7	16.9	721	21.3	0.3	18.7	35.9	45.1	751	5.4	751	7.8
Chhattisgarh	1,158	17.5	0.9	46.1	50.9	2.0	1,160	19.9	0.3	9.2	72.0	18.4	1,249	6.6	–	–
Delhi	951	19.6	0.5	29.1	47.7	22.6	946	21.1	0.1	8.6	49.7	41.6	910	9.7	907	10.3
Goa	437	21.2	0.5	13.5	46.5	39.6	441	22.8	0.0	2.9	40.8	56.2	–	.–	500	4.9
Gujarat	2,378	18.4	7.9	23.4	59.0	9.7	2,160	22.9	0.2	1.7	41.3	56.8	–	–	2,692	7.8
Haryana	1,258	18.7	8.7	26.5	45.6	19.2	1,225	23.3	0.1	5.0	35.4	59.5	1,275	6.9	1,275	7.9
Himachal Pradesh	1,028	21.0	0.2	9.4	56.7	33.7	877	22.9	0.0	2.4	41.4	56.2	1,269	2.6	1,269	3.2
J&K and Ladakh	185	20.7	0.0	0.0	77.8	22.2	194	22.8	0.0	0.0	29.9	70.1	250	4.9	250	6.2
Jharkhand	1,147	22.6	0.1	3.6	43.7	52.7	1,145	24.1	0.1	1.0	29.6	69.3	–	–.	1,749	8.7
Karnataka	4,903	24.7	0.5	3.8	28.8	66.9	4,911	24.8	0.2	2.3	28.8	68.7	5,482	4.2	5,481	4.6
Kerala	2,221	20.7	0.6	10.7	53.9	34.8	1,666	28.9	0.0	.5	5.5	93.9	2,490	4.4	2,489	5.9
Madhya Pradesh	2,229	19.0	0.3	17.8	72.6	9.3	2,221	21.8	0.0	5.2	48.4	46.3	–	.–	2,263	6.7
Maharashtra	4,478	19.2	3.9	26.6	51.6	17.9	4,437	22.6	0.3	5.4	44.8	49.5	–	–.	2,309	5.7
Manipur	938	21.7	0.4	7.8	52.8	39.0	1,004	23.6	0.1	1.6	39.1	59.2	1,499	3.4	1,499	3.5
Meghalaya	531	17.5	1.9	58.9	33.7	5.5	574	22.0	0.0	9.4	47.2	43.4	705	2.0	–	–
Mizoram*	130	18.1	5.4	33.1	51.5	10.0	126	21.4	1.6	8.7	42.9	46.8	130	1.0	130	1.4
Nagaland	170	18.1	1.2	42.9	47.1	8.8	177	22.9	0.0	4.0	40.7	55.4	250	6.0	250	11.0
Odisha	2,520	22.1	0.6	9.4	37.7	52.3	2,526	23.4	0.0	4.7	34.3	61.0	2,749	5.3	2,749	6.2
Puducherry	782	19.6	1.9	23.8	50.1	24.2	801	24.4	0.0	1.5	37.5	61.0	1,000	5.2	1,000	5.9
Punjab	2,423	20.9	0.2	9.0	55.6	35.3	2,419	23.2	0.1	4.8	34.4	60.7	2,487	8.0	2,487	9.8
Rajasthan	1,500	17.5	10.4	34.5	50.1	5.0	1,490	19.3	3.6	23.1	55.1	18.3	–	–	2,002	4.4
Sikkim	97	18.9	0.0	27.8	55.7	16.5	91	19.7	0.0	13.2	63.7	23.1	–	–	239	2.0
Tamil Nadu	5,048	21.2	0.5	13.2	47.8	38.6	4,949	26.7	0.0	0.7	12.9	86.4	5,970	4.9	5,970	5.4
Telangana	3,618	20.3	0.8	21.1	49.9	28.2	3,554	23.4	0.1	1.7	29.4	68.9	3,749	4.2	3,750	7.8
Tripura	997	19.4	1.3	18.6	58.1	22.1	994	23.0	0.1	8.7	27.2	64.1	1,000	3.0	1,000	4.2
Uttar Pradesh	1,974	17.9	1.7	37.6	55.4	5.3	1,968	20.0	0.4	22.1	51.4	26.2	–	.–	2,013	6.8
Uttarakhand	678	19.7	1.3	10.0	69.6	19.0	721	22.4	0.0	4.3	35.2	60.5	–	–	747	8.7
West Bengal	1,326	17.8	4.2	36.8	55.4	3.5	1,357	21.8	0.6	3.6	49.7	46.1	–	–	1,491	8.5
India	**52,177**	**20.1**	**2.1**	**19.3**	**52.0**	**26.6**	**51,029**	**23.1**	**0.4**	**5.1**	**37.5**	**57.0**	**42,591**	**5.1**	**56,846**	**6.3**

*In Mizoram, less than 75% of the target sample size was achieved. Findings from Mizoram should be interpreted with caution; #Total may not add up to 100% due to missing/no response.

Table 3.10: FSWs' Places of Solicitation in the Last Three Months by State/UT, HSS Plus 2021

State/UT	N	Place of Solicitation (%)#													Do Not Solicit through Physical Locations (%)
		Brothel	Street/ Road-sides	Railway Station/ Bus Stands	Market Areas	Cinema Halls	Labour *Naka*	Home	Lodge/ Hotels	Dhaba	High-way	Bar/ Night-club	Spa/ Massage /Beauty Parlours	Others	
Andhra Pradesh	3,211	28.0	16.1	19.3	12.2	5.2	68.6	31.8	4.1	17.8	0.4	1.1	0.6	0.0	0.0
Arunachal Pradesh	750	3.3	0.5	3.6	0.4	2.7	51.7	21.2	0.9	0.4	8.1	2.1	1.2	13.6	0.0
Assam	2,967	19.5	2.1	4.6	0.7	6.6	52.6	19.5	25.2	2.4	1.2	0.6	5.2	10.0	0.0
Bihar	999	34.4	26.3	3.3	2.9	0.4	0.8	28.5	15.4	0.7	0.2	0.4	0.1	0.4	8.4
Chandigarh	751	1.3	1.1	4.0	0.9	2.4	0.4	94.4	11.9	2.5	1.2	0.4	6.4	0.0	0.0
Chhattisgarh	1,249	51.9	0.6	31.8	0.1	1.4	60.4	10.4	1.8	6.6	0.1	0.6	2.8	0.0	0.0
Delhi	1,001	39.0	13.2	3.1	1.6	1.2	2.2	34.6	7.3	10.3	18.8	3.7	6.8	6.9	22.6
Goa	500	.0	44.6	1.2	20.2	0.4	0.2	52.6	15.2	0.0	6.0	0.2	0.4	0.2	0.0
Gujarat	2,692	23.1	18.8	3.9	7.8	0.7	10.1	50.2	21.8	1.0	8.8	0.1	2.5	1.8	0.0
Haryana	1,275	00.9	10.6	.5	2.2	0.1	0.0	72.9	9.9	18.7	0.5	0.8	2.3	0.0	0.0
Himachal Pradesh	1,269	14.9	1.3	9.5	2.0	1.8	0.0	72.6	7.6	0.4	0.2	0.9	3.2	0.7	0.0
J&K and Ladakh	250	0.0	7.2	0.0	0.0	0.0	0.0	88.4	39.2	0.0	0.0	0.0	0.0	0.0	0.0
Jharkhand	1,750	2.9	42.5	1.7	0.2	0.1	0.6	43.5	9.5	2.5	0.0	0.0	0.1	3.5	0.1
Karnataka	5,484	22.0	3.4	10.4	0.8	0.3	54.8	25.2	2.1	1.4	0.3	3.2	2.9	0.0	0.0
Kerala	2,490	15.2	6.3	3.1	0.5	1.2	75.9	34.9	0.1	1.4	0.0	0.2	0.4	0.2	0.0
Madhya Pradesh	2,263	7.8	14.0	1.1	7.4	0.1	6.4	84.4	9.3	7.8	9.3	1.0	0.9	1.6	0.0
Maharashtra	5,001	29.4	6.2	2.2	0.9	0.3	5.6	37.1	24.6	1.0	0.4	5.8	0.5	0.5	0.0
Manipur	1,499	10.9	5.3	5.5	0.3	2.1	74.8	31.6	0.0	0.4	0.0	0.0	1.9	0.0	0.0
Meghalaya	705	9.5	0.7	12.6	0.0	1.0	76.2	17.9	0.1	0.4	1.1	0.0	2.6	4.5	0.0
Mizoram*	130	52.3	0.0	0.0	0.0	0.0	63.8	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nagaland	250	4.8	1.6	3.2	0.8	0.4	43.6	44.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0
Odisha	2,749	27.5	0.9	3.7	0.5	1.3	51.9	10.0	1.0	0.0	0.3	0.1	0.1	2.8	0.0
Puducherry	1,000	67.0	4.6	10.8	1.1	1.3	58.8	15.9	0.4	16.5	1.3	0.6	0.2	3.1	0.0
Punjab	2,487	1.9	5.4	3.9	1.2	0.3	0.2	90.3	42.4	17.7	0.8	1.0	0.4	1.0	0.0
Rajasthan	2,002	25.7	9.6	2.9	2.7	0.5	0.9	59.5	20.8	10.9	4.7	0.4	2.6	5.9	0.0
Sikkim	239	15.1	0.0	0.4	0.0	0.0	46.4	49.4	0.0	0.4	0.4	0.8	0.4	11.7	0.0
Tamil Nadu	5,970	43.6	23.2	19.2	3.8	0.1	47.1	14.7	0.0	2.8	0.1	0.4	0.4	4.6	0.0
Telangana	3,750	55.0	21.8	35.6	18.3	25.9	58.9	20.0	6.4	3.0	4.6	2.6	3.7	0.0	0.0
Tripura	1,000	1.6	0.4	3.7	0.0	0.2	97.7	0.1	0.0	0.4	0.0	0.0	0.7	0.2	0.0
Uttar Pradesh	2,207	0.0	19.3	3.4	8.5	5.2	1.7	73.2	18.9	2.5	0.7	0.6	6.8	2.4	1.4
Uttarakhand	750	0.0	11.6	6.3	0.0	0.0	0.3	98.4	30.7	0.3	0.0	0.1	3.6	2.1	0.0
West Bengal	1,491	11.3	0.3	0.4	0.3	0.4	8.3	20.9	2.5	0.1	0.4	0.3	0.0	0.0	0.0
India	**60,131**	**23.6**	**11.3**	**9.2**	**3.9**	**2.9**	**34.4**	**37.7**	**10.6**	**4.5**	**2.0**	**1.4**	**1.9**	**2.2**	**0.6**

*In Mizoram, less than 75% of the target sample size was achieved. Findings from Mizoram should be interpreted with caution; #Total may not add up to 100% due to missing/no response.

The place where FSWs pick up or solicit their clients determines the typology of sex work. All FSWs in HSS Plus were asked about where they primarily solicit/pick their clients. At the national level, the most frequently reported primary place of solicitation was home (37.7%), followed by labour *naka* (34.4%), brothel (23.6%), streets/roadsides (11.3%) and lodge/hotel (10.6%). A small proportion of FSWs reported that they primarily solicited clients in places such as bars/nightclubs, highways, spa/massage/beauty parlours (1.4% to 2%). Moreover, only 0.6% of FSWs reported relying exclusively on virtual networks for solicitation, with Delhi being a notable exception where 22.6% of respondents reported using virtual networks as their primary solicitation method. At the State/UT level, more than three-fourths of FSWs in Uttarakhand (98.4%), Chandigarh (94.4%), Punjab (90.3), Jammu & Kashmir and Ladakh (88.4%) and Madhya Pradesh (84.4%) reported home as the primary solicitation place (*see Table 3.10*).

All FSWs were asked whether cell phones and/or the Internet were used to solicit clients. Nationally, 77% of the FSW respondents reported using cell phones to solicit clients. About 58.9% reported that they directly contacted clients by phone, 38.1% connected through peer FSWs, and 26.3% of FSW respondents connected on call through a broker/agency. At the State/UT level, more than 90% of FSWs in Andhra Pradesh, Himachal Pradesh, Jammu & Kashmir and Ladakh, Puducherry and Telangana used cell phones for solicitation. In comparison to cell phones, the use of the Internet for solicitation was reported by fewer FSWs. Nearly 2% to 4.6% of FSW respondents connected to clients through agents using websites/applications or the Internet (*see Table 3.11*).

When enquired about the use of Internet for solicitation, at the national level, about 29.2% of FSWs acknowledged using the Internet for solicitation. However, there were significant variations across States/UTs. Over half of the respondents in Chandigarh, Chhattisgarh, Delhi, Himachal Pradesh, Manipur, Mizoram and Punjab used the Internet for solicitation. Conversely, in Bihar, Jharkhand, Jammu & Kashmir and Ladakh, Nagaland, Telangana, Uttar Pradesh and Uttarakhand, between 2% and 15% of respondents reported the use of Internet for this purpose (*see Table 3.12*).

At the national as well as the State level, the most widely used Internet applications for solicitation were WhatsApp (27.5%), Facebook (11.7%) and Instagram (1.7%) (*see Figure 3.5*). At the State/UT level, over half of the respondents in Chhattisgarh, Delhi, Manipur and Mizoram reported using WhatsApp for solicitation. However, around 13% of FSW respondents from Puducherry reported Instagram as one of the Internet applications used for solicitation. Some other States where Instagram was reportedly used were Chhattisgarh (7.8%), Madhya Pradesh (7%) and Kerala (6.7) (*see Table 3.12*).

Table 3.11: Use of Cell Phones by FSWs to Solicit Clients by States/UTs, HSS Plus 2021

State/UT	N	Use of Phone to Solicit Clients	Cell Phones used to Solicit Clients (%) #					
			Connected on Call with Agents/Brokers	Connected Directly with Clients	Connected through Peer FSWs	Connect to Agents through Website/ Applications	Connected to Client through Website	Other Ways
Andhra Pradesh	3211	92.0	30.1	79.3	60.4	3.8	18.0	0.3
Arunachal Pradesh	750	39.7	19.9	28.9	10.3	0.8	1.7	0.3
Assam	2967	77.5	17.7	53.5	48.5	0.2	0.8	0.3
Bihar	999	39.5	3.1	34.6	2.9	0.0	0.0	0.1
Chandigarh	751	79.8	15.4	57.1	40.7	2.3	0.8	0.0
Chhattisgarh	1249	79.6	44.8	62.3	59.0	0.3	0.4	2.1
Delhi	1001	86.2	68.7	70.6	58.9	1.4	0.7	3.5
Goa	500	28.6	0.4	26.0	3.2	0.2	17.4	0.0
Gujarat	2692	58.3	20.9	45.5	25.0	0.6	5.7	0.5
Haryana	1275	80.2	21.7	30.1	38.6	0.0	10.3	0.0
Himachal Pradesh	1269	94.2	13.7	70.3	32.2	4.4	0.2	1.1
J&K and Ladakh	250	98.8	6.0	93.2	48.4	0.0	0.0	0.0
Jharkhand	1750	72.9	16.4	52.4	16.3	0.0	3.3	0.0
Karnataka	5484	80.3	30.7	67.0	30.2	7.0	3.9	1.5
Kerala	2490	77.3	31.3	60.2	36.7	2.7	2.7	0.3
Madhya Pradesh	2263	85.6	38.2	62.7	41.1	0.9	2.0	0.1
Maharashtra	5001	61.4	14.0	52.3	19.5	0.8	0.1	0.2
Manipur	1499	94.5	15.1	73.9	49.6	5.1	14.7	0.3
Meghalaya	705	65.1	0.6	61.1	15.2	1.3	0.4	2.0
Mizoram*	130	66.2	0.8	65.4	3.1	0.0	0.0	0.0
Nagaland	250	40.0	2.0	35.6	1.2	0.0	0.4	0.4
Odisha	2749	72.9	23.6	36.4	25.1	0.4	0.1	0.0
Puducherry	1000	93.5	3.4	81.7	53.9	1.4	22.1	0.1
Punjab	2487	83.9	59.3	59.1	46.6	0.2	0.2	0.0
Rajasthan	2002	59.7	21.3	38.3	16.6	2.0	7.9	0.1
Sikkim	239	63.6	1.3	61.5	3.3	0.0	0.0	0.0
Tamil Nadu	5970	87.4	38.4	74.2	54.0	3.7	10.0	0.2
Telangana	3750	90.5	37.3	62.2	67.4	1.8	0.5	0.8
Tripura	1000	66.7	3.1	58.6	16.9	0.1	0.9	0.0
Uttar Pradesh	2207	88.6	26.9	56.2	44.4	0.4	2.0	0.2
Uttarakhand	750	83.5	18.9	73.2	58.4	0.0	0.0	0.0
West Bengal	1491	53.6	10.1	51.2	28.0	1.5	7.0	0.1
India	**60131**	**77.0**	**26.3**	**58.9**	**38.1**	**2.0**	**4.6**	**0.5**

*In Mizoram, less than 75% of the target sample size was achieved. Findings from Mizoram should be interpreted with caution. #Totals may not add up to 100% due to multiple responses

Table 3.12: Use of the Internet by FSWs to Solicit Clients by State/UT, HSS Plus 2021

State/UT	N	Use of Internet to Solicit Clients	Internet-based Applications Used to Solicit Clients (%)#							
			Facebook	WhatsApp	Tinder	Bumble	Own Website	Hinge	Instagram	Others
Andhra Pradesh	3,211	49.1	14.4	46.5	0.1	0.1	0.0	0.3	2.2	0.1
Arunachal Pradesh	750	30.8	23.6	25.6	1.6	3.1	0.1	3.1	2.5	0.5
Assam	2,967	20.7	8.7	19.7	0.4	0.0	0.0	0.0	0.2	0.0
Bihar	999	13.7	3.9	12.6	0.1	0.0	0.0	0.0	0.0	0.0
Chandigarh	751	52.3	13.8	47.8	2.0	0.4	0.0	0.0	0.0	0.0
Chhattisgarh	1,249	51.6	16.7	50.9	0.9	0.0	0.4	0.0	7.8	0.8
Delhi	1,001	64.6	29.1	62.1	2.0	0.0	1.0	0.0	5.0	0.7
Goa	500	21.6	20.2	20.6	0.0	0.0	0.0	0.0	1.2	0.0
Gujarat	2,692	20.2	0.7	19.8	0.0	0.0	0.0	0.0	0.1	0.0
Haryana	1,275	37.5	14.8	37.2	1.2	0.0	0.0	0.0	0.0	0.0
Himachal Pradesh	1,269	52.8	24.3	41.3	0.1	2.0	0.0	0.0	0.0	0.0
J&K and Ladakh	250	2.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
Jharkhand	1,750	10.5	1.1	9.9	0.1	0.0	0.0	0.0	0.0	0.1
Karnataka	5,484	31.5	15.2	29.1	0.0	0.1	0.2	0.0	1.3	0.2
Kerala	2,490	35.0	17.3	33.9	0.2	0.0	0.0	0.2	6.7	0.6
Madhya Pradesh	2,263	40.6	23.0	36.1	0.0	0.0	0.0	0.0	7.0	0.0
Maharashtra	5,001	17.8	5.5	17.3	0.1	0.0	0.0	0.0	0.3	0.0
Manipur	1,499	62.4	39.0	57.5	0.6	0.0	0.1	0.0	1.9	0.1
Meghalaya	705	41.1	15.0	38.3	0.0	0.0	0.1	0.0	2.4	0.1
Mizoram*	130	63.8	56.9	60.8	0.0	0.0	0.0	0.0	0.0	0.0
Nagaland	250	12.8	3.6	7.6	0.0	0.0	0.0	0.0	1.6	0.8
Odisha	2,749	20.3	4.3	17.8	0.2	0.1	0.0	0.0	0.3	0.1
Puducherry	1,000	25.2	11.2	24.8	0.1	0.0	0.0	0.0	13.0	0.0
Punjab	2,487	53.0	24.5	52.8	0.0	0.0	0.0	0.0	0.0	0.0
Rajasthan	2,002	22.4	4.7	21.1	0.1	0.1	0.0	0.0	2.8	0.0
Sikkim	239	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tamil Nadu	5,970	19.2	6.7	18.9	0.0	0.1	0.0	0.0	0.8	0.0
Telangana	3,750	15.3	2.8	14.0	0.0	0.0	0.0	0.0	0.6	0.0
Tripura	1,000	26.5	6.0	25.3	0.0	0.0	0.0	0.0	0.7	0.0
Uttar Pradesh	2,207	14.1	5.4	13.6	0.0	0.0	0.0	0.0	1.4	0.0
Uttarakhand	750	11.1	0.7	11.1	0.0	0.0	0.0	0.0	0.0	0.0
West Bengal	1,491	41.7	28.0	39.9	0.0	0.1	0.0	1.1	1.8	0.0
India	**60,131**	**29.2**	**11.7**	**27.5**	**0.2**	**0.1**	**0.0**	**0.1**	**1.7**	**0.1**

*In Mizoram, less than 75% of the target sample size was achieved. Findings from Mizoram should be interpreted with caution. #Total may not add up to 100% due to multiple responses.

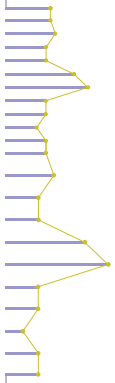
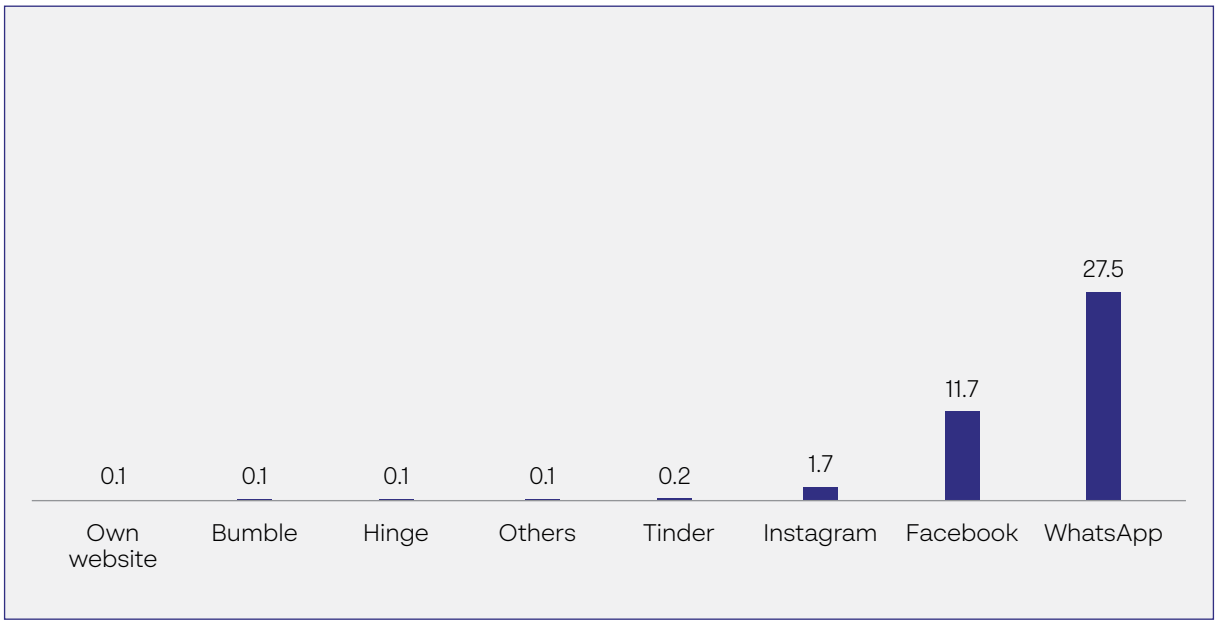
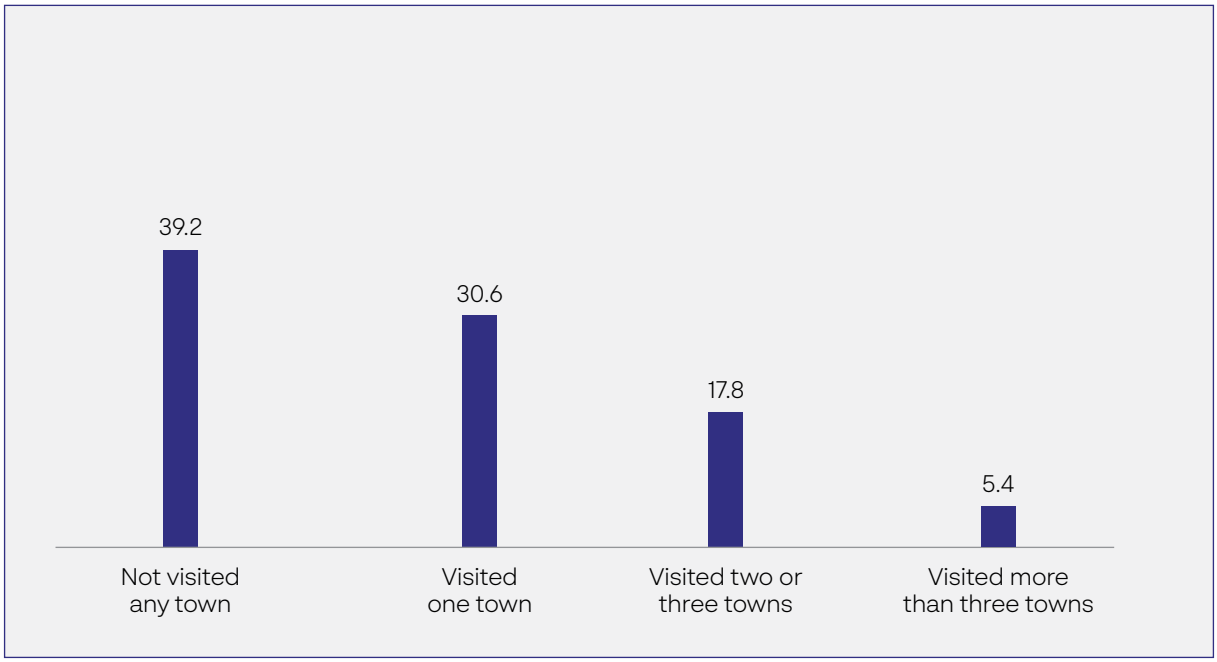


Figure 3.5: Distribution of FSWs by Use of the Internet to Solicit Clients, HSS Plus 2021 (in %)



All FSWs were asked how many other towns they had visited for soliciting commercial male sexual partners in the last three months. At the national level, 39.2% of FSWs mentioned that they did not visit any other town for this reason, whereas, 30.6% of FSWs reported visiting one town, 17.8% visited two or three towns and 5.4% visited more than three towns in the past three months (*see Figure 3.6*).

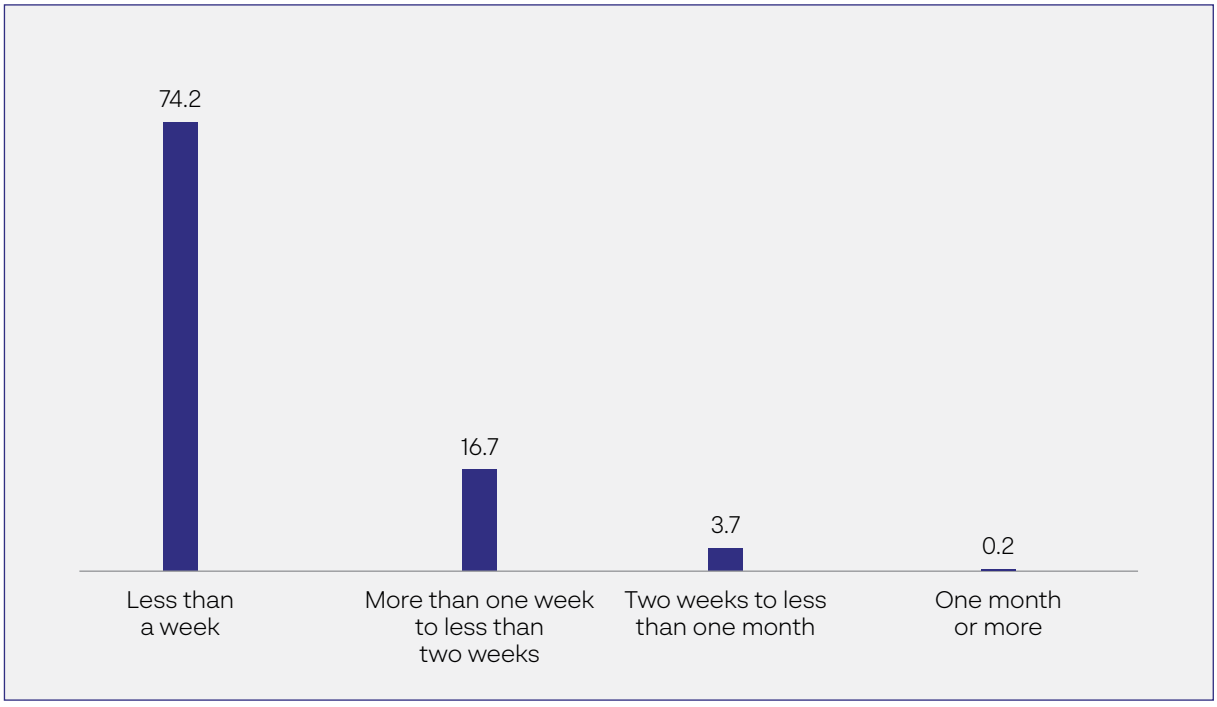
Figure 3.6: Distribution of FSWs by Mobility to Other town(s) for Solicitation, HSS Plus 2021 (in %)



Nationwide, about three-fourths of FSWs engaged in sex acts with different partners in the week prior to the survey, with Nagaland, Puducherry, Uttar Pradesh and Tripura exceeding 90% (*see Figure 3.7 and Table 3.13*). FSWs' most recent sexual encounter involved regular partners (32.5%), commercial partners (53%) and casual partners (10.7%), with 15%–35% of respondents in Arunachal Pradesh, Bihar, Delhi, Gujarat, Maharashtra, Rajasthan, Telangana, Uttar Pradesh and West Bengal reporting their last sex act was with a casual partner.

Reported condom use during the last sex act was high: 91.1% with regular partners, 97.8% with commercial partners and 93.9% with casual partners. At the State/UT level, most States reported condom use was high, except for Arunachal Pradesh and Meghalaya where over half of the FSWs did not use condoms with casual partners (*see Table 3.13*).

Figure 3.7: Distribution of FSWs by the Time of Last Sex Act, HSS Plus 2021 (in %)



FSWs were also asked about their engagement in anal sex with male partners. About 11.1% of FSWs reported ever participating in anal sex, with 5% of them indicating recent involvement within the last month. Notably, respondents from specific States/UTs including Goa (27.2%), Chandigarh (23.6%), Madhya Pradesh (23.4%), Chhattisgarh (18.6%), Punjab (18.5%), Manipur (17.9%), Haryana (16.5%), Uttar Pradesh (15.3%), Karnataka (15%), Telangana (14.6%), Arunachal Pradesh (14.1%) and Himachal Pradesh (13.4%) reported a higher prevalence of anal sex practice. The reported condom use during anal sex was 82.8% with regular partners, 90.5% with commercial partners and 79.8% with casual partners (*see Table 3.14*).

Table 3.13: Sexual Behaviour among FSWs by State/UT, HSS Plus 2021

State/UT	N	Last Sexual Intercourse (%)#				Partners During Last Sexual Intercourse and Condom Use Practices (%)#					
		Less Than a Week	Between One Week and Less Than Two Weeks	Between Two Weeks and Less Than One Month Ago	More Than a Month Ago	Regular Male Partner	Condom Use with Regular Male Partner	Commercial Male Partner	Condom Use with Commercial Male Partner	Casual Male Partner	Condom Use with Casual Male Partner
Andhra Pradesh	3,211	89.9	6.5	2.7	0.0	40.5	85.4	54.5	99.6	4.0	98.4
Arunachal Pradesh	750	33.6	23.5	1.6	0.0	24.9	81.7	45.5	65.5	27.2	40.9
Assam	2,967	72.1	16.1	3.1	0.0	28.2	85.0	65.0	99.0	5.3	62.7
Bihar	999	57.6	15.4	13.3	8.7	28.4	61.5	32.8	97.5	34.7	98.8
Chandigarh	751	67.2	28.0	3.5	0.0	56.6	87.1	38.2	90.5	3.9	72.4
Chhattisgarh	1,249	83.3	14.5	0.5	0.0	55.6	84.8	33.5	93.3	9.7	84.2
Delhi	1,001	74.6	16.5	2.3	2.6	49.1	94.1	26.6	96.6	22.3	96.4
Goa	500	70.6	24.0	4.4	0.0	49.8	100.0	47.2	99.2	2.0	100.0
Gujarat	2,692	75.6	17.9	1.7	0.0	23.8	98.1	52.0	98.8	23.0	97.4
Haryana	1,275	87.0	5.8	0.2	0.0	32.5	99.0	60.1	97.0	6.7	89.5
Himachal Pradesh	1,269	73.5	20.9	1.3	0.0	43.8	92.1	45.9	97.6	5.6	90.1
J&K and Ladakh	250	85.2	12.8	0.0	0.0	18.8	93.6	80.4	98.0	0.0	0.0
Jharkhand	1,750	64.5	33.5	1.0	0.1	38.2	98.9	52.8	99.9	8.3	99.3
Karnataka	5,484	57.1	25.7	9.2	0.0	42.5	96.9	40.2	97.6	8.3	93.9
Kerala	2,490	72.6	22.4	2.2	0.0	31.5	87.1	60.3	97.5	6.1	96.0
Madhya Pradesh	2,263	84.9	11.6	0.7	0.0	21.5	87.0	58.8	95.5	9.2	97.6
Maharashtra	5,001	70.1	16.9	5.9	0.0	28.3	91.7	51.2	99.6	18.9	98.7
Manipur	1,499	56.1	25.6	5.5	0.0	28.2	99.5	65.7	99.6	4.6	97.0
Meghalaya	705	53.6	27.8	11.5	0.0	54.2	80.1	42.8	91.7	1.6	45.5
Mizoram*	130	52.3	9.2	2.3	0.0	59.2	40.3	33.8	77.3	5.4	71.4
Nagaland	250	92.8	4.8	0.8	0.0	57.6	98.6	32.0	98.8	8.8	100.0
Odisha	2,749	74.8	15.5	5.1	0.0	26.6	92.3	59.4	98.3	2.0	83.6
Puducherry	1,000	90.8	6.9	1.2	0.0	8.5	91.5	82.0	100.0	9.1	98.8
Punjab	2,487	82.8	10.4	4.4	0.0	19.7	97.5	70.8	97.3	3.3	100.0
Rajasthan	2,002	67.1	18.6	2.5	0.0	21.1	100.0	49.6	99.8	18.0	93.0
Sikkim	239	84.5	8.4	2.5	0.0	48.5	89.5	44.8	93.5	2.9	85.7
Tamil Nadu	5,970	75.4	17.3	4.1	0.0	26.5	83.9	69.1	98.0	3.8	99.1
Telangana	3,750	82.9	13.0	1.3	0.0	39.0	92.7	34.3	99.9	22.5	99.9
Tripura	1,000	91.1	4.9	0.5	0.0	35.4	99.4	59.0	99.3	1.5	100.0
Uttar Pradesh	2,207	91.6	6.0	0.8	0.1	35.1	99.1	46.1	97.6	18.3	97.3
Uttarakhand	750	68.8	28.1	1.3	0.0	46.0	98.5	39.5	94.9	13.3	100.0
West Bengal	1,491	81.4	9.5	4.4	0.0	23.5	77.8	52.9	99.2	16.8	89.4
India	**60,131**	**74.2**	**16.7**	**3.7**	**0.2**	**32.5**	**91.1**	**53.0**	**97.8**	**10.7**	**93.9**

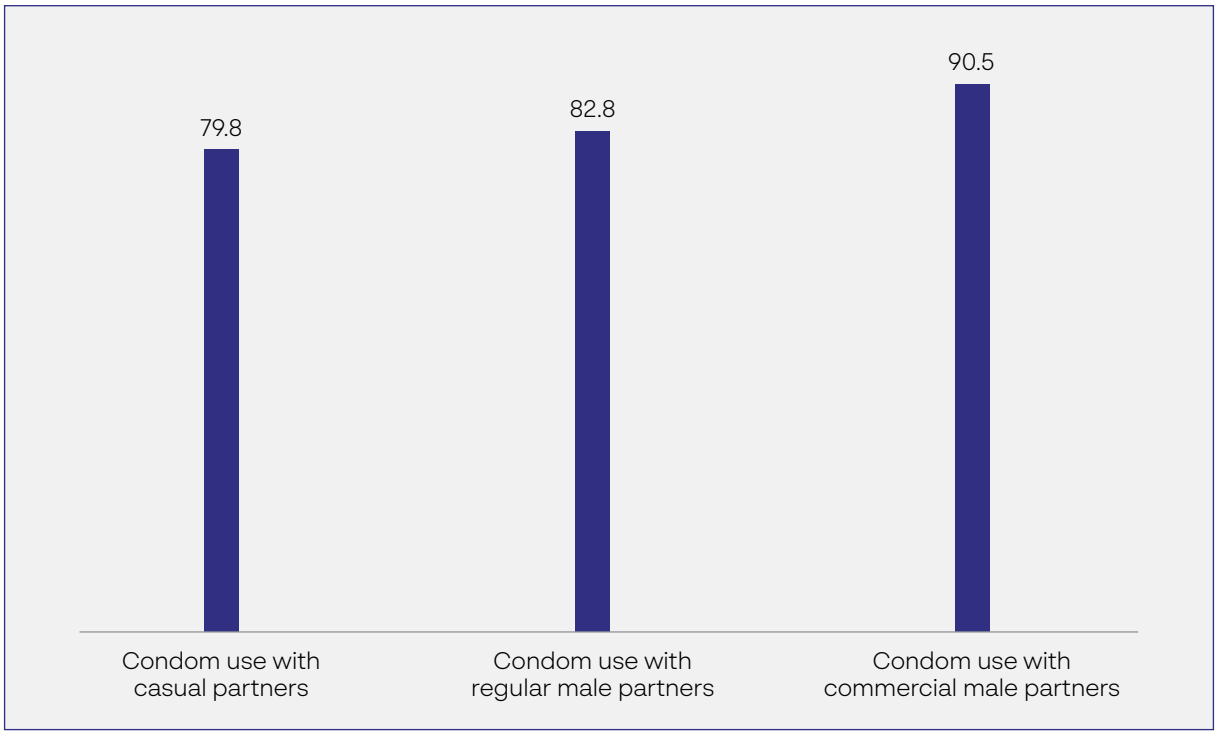
*In Mizoram, less than 75% of the target sample size was achieved. Findings from Mizoram should be interpreted with caution. #Total may not add up to 100% due to missing/no response.

Table 3.14: Sexual Behaviour (Anal Sex) among FSWs by State/UT, HSS Plus 2021

State/UT	N	Ever Had Anal Sex	Time of Last Anal Sex Act (%)#			
			Less Than a Month	One Month to Less Than Three Months	Three Months to Less Than One Year	One Year or More
Andhra Pradesh	3,211	3.7	1.4	1.2	0.5	0.5
Arunachal Pradesh	750	14.1	4.3	4.9	2.5	2.3
Assam	2,967	4.9	1.1	2.1	0.9	0.8
Bihar	999	0.7	0.2	0.0	0.2	0.3
Chandigarh	751	23.6	11.1	5.6	3.9	2.5
Chhattisgarh	1,249	18.6	6.6	8.4	2.5	0.7
Delhi	1,001	8.5	1.9	0.7	2.8	2.6
Goa	500	27.2	7.4	7.8	8.6	3.4
Gujarat	2,692	12.3	7.7	3.2	1.0	0.4
Haryana	1,275	16.5	15.8	0.2	0.0	0.3
Himachal Pradesh	1,269	13.4	8.6	2.0	1.1	0.3
J&K and Ladakh	250	0.0	0.0	0.0	0.0	0.0
Jharkhand	1,750	3.9	2.2	0.3	0.5	1.0
Karnataka	5,484	15.0	3.2	5.1	4.6	1.8
Kerala	2,490	10.7	2.3	2.9	3.5	1.9
Madhya Pradesh	2,263	23.4	14.1	7.5	1.3	0.2
Maharashtra	5,001	9.6	1.3	5.4	1.3	1.4
Manipur	1,499	17.9	5.3	10.8	1.5	0.3
Meghalaya	705	8.4	1.1	1.8	3.1	2.3
Mizoram*	130	2.3	2.3	0.0	0.0	0.0
Nagaland	250	6.8	1.6	1.2	0.4	3.6
Odisha	2,749	7.4	3.7	2.0	0.8	0.5
Puducherry	1,000	4.7	0.2	.5	2.9	0.8
Punjab	2,487	18.5	11.2	5.7	1.4	0.1
Rajasthan	2,002	7.6	3.8	2.1	1.1	0.5
Sikkim	239	7.1	1.7	1.7	2.9	0.8
Tamil Nadu	5,970	8.8	4.8	2.2	1.1	0.7
Telangana	3,750	14.6	10.7	2.4	0.8	0.3
Tripura	1,000	2.8	0.0	0.0	0.6	2.2
Uttar Pradesh	2,207	15.3	9.1	4.8	1.3	0.1
Uttarakhand	750	5.7	.3	1.3	3.1	1.1
West Bengal	1,491	6.7	2.9	1.4	1.5	0.9
India	**60,131**	**11.1**	**5.0**	**3.4**	**1.7**	**0.9**

*In Mizoram, less than 75% of the target sample size was achieved. Findings from Mizoram should be interpreted with caution.
#Total may not add up to 100% due to missing/no response.

Figure 3.8: Distribution of Condom Use during the Last Anal Sex Act with Different Male Partners, HSS Plus 2021 (in %)



3.6 Stigma and Discrimination

Female sex workers face considerable marginalization and discrimination due to the nature of their sexual behaviours. Such discrimination hinders their access to essential services and impedes the adoption of safe practices. To better understand the perceived and enacted stigma and discrimination that FSWs face, HSS Plus included specific questions on this issue. All FSWs were asked whether they avoided seeking health-care services from the health facility and/or avoided seeking HIV testing services because of fear or concern of harassment/bad words/negative attitudes/comments in the health-care setting, fear or concern that someone in the health-care setting might learn that they were FSW, fear of physical violence in the health-care setting, or risk of harassment/arrest by law enforcement officials in the health-care setting. The same questions were also asked to those FSWs who already knew their HIV positivity status to understand the extent of stigma and discrimination experienced by those FSWs availing ART/HIV testing services. About 30.3% and 29.7% reported stigma and discrimination in seeking health-care services and HIV-testing services, respectively. More than 70% of respondents in Goa reported stigma in both seeking health-care and HIV-testing services. Almost half of the FSW respondents in Arunachal Pradesh, Bihar, Chhattisgarh, Delhi, Himachal Pradesh and Telangana also reported the same (*see Table 3.15*). Almost 18.3% of the FSW respondents who already knew their HIV positivity status had faced stigma in ART facilities at the national level (*see Figure 3.9*).

Figure 3.9: Distribution of FSWs by Services Avoided due to Stigma and Discrimination, HSS Plus 2021 (in %)

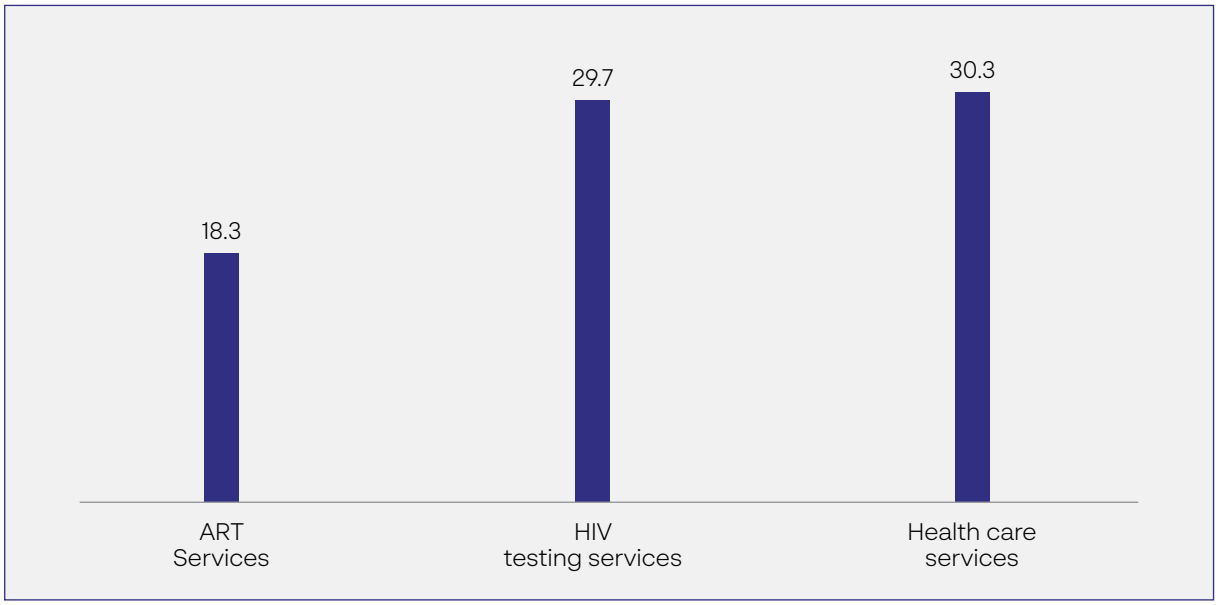


Table 3.15: Stigma and Discrimination among FSWs by State/UT, HSS Plus 2021

State/UT	N	Avoided Seeking Health-care Services because of Stigma (%)	Avoided Seeking HIV Testing Services because of Stigma (%)
Andhra Pradesh	3,211	2.3	2.7
Arunachal Pradesh	750	49.3	47.9
Assam	2,967	18.9	7.8
Bihar	999	46.7	45.9
Chandigarh	751	39.3	37.5
Chhattisgarh	1,249	53.8	56.4
Delhi	1,001	47.9	49.4
Goa	500	77.4	81.6
Gujarat	2,692	37.9	31.5
Haryana	1,275	44.5	44.6
Himachal Pradesh	1,269	57.1	57.1
J&K and Ladakh	250	37.2	37.6
Jharkhand	1,750	23.5	5.0
Karnataka	5,484	36.9	36.0
Kerala	2,490	4.2	8.6
Madhya Pradesh	2,263	20.1	19.7
Maharashtra	5,001	22.1	20.9

State/UT	N	Avoided Seeking Health-care Services because of Stigma (%)	Avoided Seeking HIV Testing Services because of Stigma (%)
Manipur	1,499	26.4	25.1
Meghalaya	705	7.9	13.0
Mizoram	130	14.6	11.5
Nagaland	250	39.6	39.2
Odisha	2,749	17.4	17.8
Puducherry	1,000	16.0	12.3
Punjab	2,487	39.5	38.8
Rajasthan	2,002	41.1	50.6
Sikkim	239	43.5	43.1
Tamil Nadu	5,970	33.4	34.6
Telangana	3,750	49.2	51.1
Tripura	1,000	5.2	29.7
Uttar Pradesh	2,207	41.5	40.4
Uttarakhand	750	9.1	2.9
West Bengal	1,491	29.4	24.5
India	**60,131**	**30.3**	**29.7**

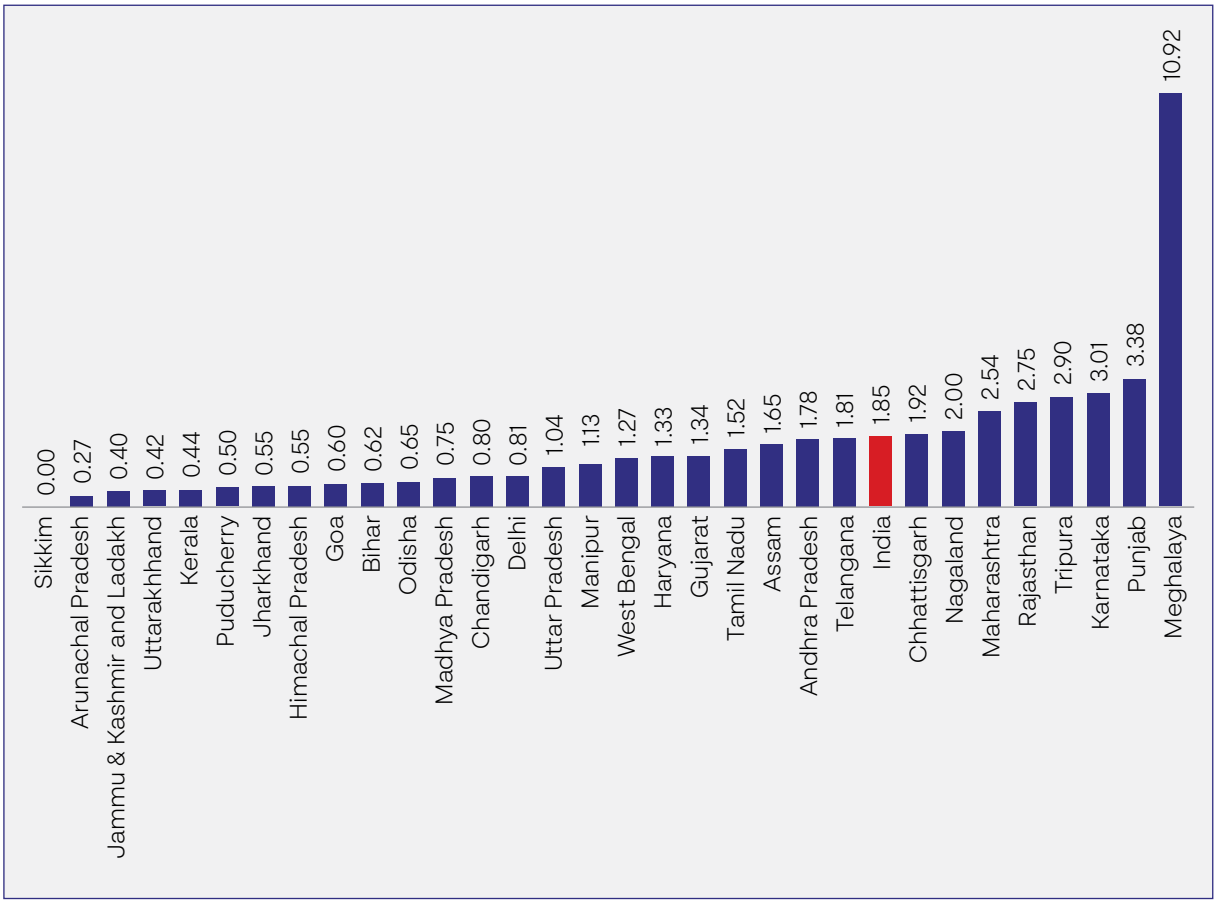
3.7 Levels of HIV

Nationally, the observed HIV prevalence among FSWs was 1.85% (95% CI: 1.75–1.96) vis-à-vis 1.56% (95% CI: 1.46–1.66) noted in the 2017 round. Figures 3.10, 3.11 and Table 3.16 depict the sero-prevalence of HIV at the State/UT level. In terms of co-infections, the sero-prevalence of HIV-HBV among FSWs was 0.04% (95% CI: 0.02–0.06), while the sero-prevalence of HIV-HCV was 0.17%. (95% CI: 0.13–0.20). The sero-prevalence for HBV and HCV among the HIV-positive respondents was 2.17% (95% CI: 1.31–3.03) and 9.06% (95% CI: 7.36–10.75), respectively.

HIV prevalence of 2% or more was noted in the States of Meghalaya (10.92%, 95% CI: 8.62–13.22), Punjab (3.38%, 95% CI: 2.67–4.09), Karnataka (3.01%, 95% CI: 2.56–3.46), Tripura (2.90%, 95% CI: 1.86–3.94), Rajasthan (2.75%, 95% CI: 2.03–3.46), Maharashtra (2.54%, 95% CI: 2.10–2.98), Nagaland (2.00%, 95% CI: 0.26–3.74) and Chhattisgarh (1.92%, 95% CI: 1.16–2.68). The prevalence in Mizoram was reported to be 56.15% (95% CI: 47.62–64.68); however, it is essential to consider that this estimate is based on a single site in the State, with a sample size of 130.

The HIV epidemic in India continues to be concentrated, with high prevalence among HRGs. While prevalence levels vary, pockets of high epidemic persist. Pockets with high HIV prevalence among FSWs are largely in southern States of Karnataka, Maharashtra and Tamil Nadu and in north-eastern States of Meghalaya and Mizoram. There were 11 FSW sites, across seven States, which recorded a prevalence of 5% or more during the 17th round of HSS. Out of these, three sites are from Karnataka, and two sites each from Meghalaya and Rajasthan. Comparing HSS 2017, 17 FSW sites recorded a prevalence of 5% or more.

Figure 3.10: State/UT-wise HIV Prevalence among FSW, HSS Plus 2021 (in %)



*Please note HIV prevalence estimate for Mizoram is available in Table 3.16

Figure 3.11: District-wise HIV Prevalence among FSWs, HSS Plus 2021 (in %)

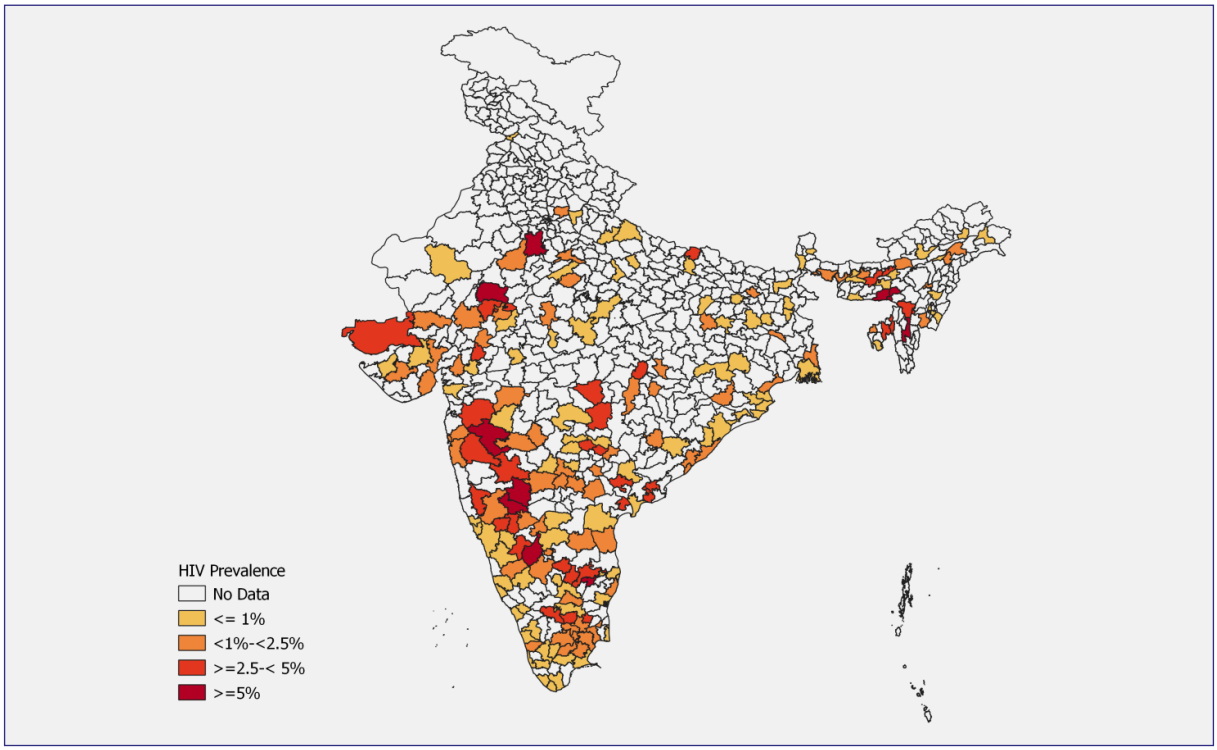
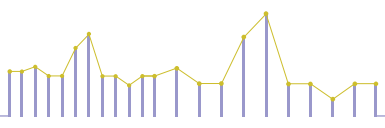


Table 3.16: State/UT-wise Sero-prevalence of HIV among FSWs, HSS Plus 2021 (in %)

State/UT	HIV	
	N	Sero-prevalence
Andhra Pradesh	3,211	1.78 (1.32–2.23)
Arunachal Pradesh	750	0.27 (0.00–0.64)
Assam	2,967	1.65 (1.19–2.11)
Bihar	999	0.62 (0.12–1.11)
Chandigarh	751	0.80 (0.16–1.44)
Chhattisgarh	1,249	1.92 (1.16–2.68)
Delhi	1,001	0.81 (0.25–1.36)
Goa	500	0.60 (0.00–1.28)
Gujarat	2,692	1.34 (0.90–1.77)
Haryana	1,275	1.33 (0.70–1.96)
Himachal Pradesh	1,269	0.55 (0.00–1.18)
J&K and Ladakh	250	0.40 (0.19–0.90)
Jharkhand	1,750	0.55 (0.19–0.90)
Karnataka	5,484	3.01 (2.56–3.46)
Kerala	2,490	0.44 (0.18–0.70)
Madhya Pradesh	2,263	0.75 (0.40–1.11)
Maharashtra	5,001	2.54 (2.10–2.98)
Manipur	1,499	1.13 (0.60–1.67)
Meghalaya	705	10.92 (8.62–13.22)
Mizoram*	130	56.15 (47.62–64.68)
Nagaland	250	2.00 (0.26–3.74)
Odisha	2,749	0.65 (0.35–0.96)
Puducherry	1,000	0.50 (0.06–0.94)
Punjab	2,487	3.38 (2.67–4.09)
Rajasthan	2,002	2.75 (2.03–3.46)
Sikkim	239	0.00 (0.00–0.00)
Tamil Nadu	5,970	1.52 (1.21–1.84)
Telangana	3,750	1.81 (1.39–2.24)
Tripura	1,000	2.90 (1.86–3.94)
Uttar Pradesh	2,207	1.04 (0.62–1.47)
Uttarakhand	750	0.42 (0.00–0.88)
West Bengal	1,491	1.27 (0.70–1.84)
India	**60,131**	**1.85 (1.75–1.96)**

*In Mizoram, less than 75% of the target sample size was achieved. Findings from Mizoram should be interpreted with caution.



3.8 HIV Prevalence by Respondents' Characteristics

Table 3.17 presents the HIV prevalence among FSWs categorized by background characteristics at the national level in HSS Plus 2021. In general, HIV prevalence among FSWs has been observed to increase with age. Specifically, the prevalence among 45+ years age group is almost twice the prevalence among those in 35–44 years age group (*see Figure 3.12*). HIV prevalence was higher among those who were divorced/ separated/widowed (4.20%) than those who were never married (1.99%) or currently married (1.34%) (*see Figure 3.13*). Additionally, higher HIV prevalence was noted among illiterate FSWs (2.33%), followed by post-graduates (1.82%), and those with 6th to 10th standard education (1.74 %) (*see Figure 3.14*). HIV prevalence was at 1.95% among FSWs belonging to rural areas in comparison to 1.83% among those who belonged to urban areas (*see Figure 3.15*).

HIV prevalence was 2% or higher among FSWs reporting income from agricultural or non-agricultural labour or service whether in government or private sectors. This was followed by those who did not have any other income apart from sex work (*see Figure 3.16*).

Figure 3.12: HIV Prevalence among FSWs by Age Group, HSS Plus 2021 (in %)

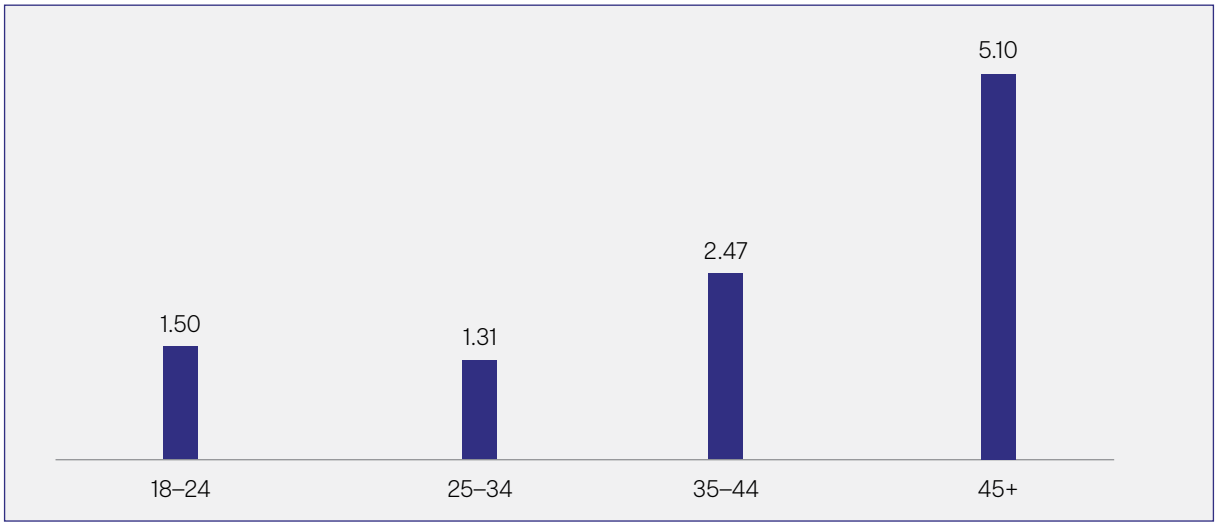


Figure 3.13: HIV Prevalence among FSWs by Marital Status, HSS Plus 2021 (in %)

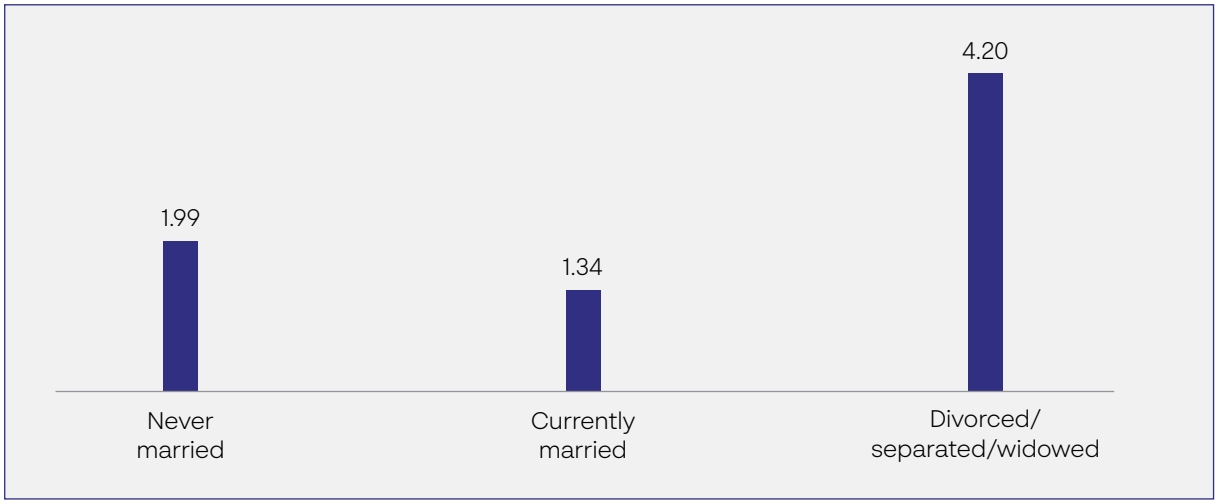


Figure 3.14: HIV Prevalence among FSWs by Education, HSS Plus 2021 (in %)

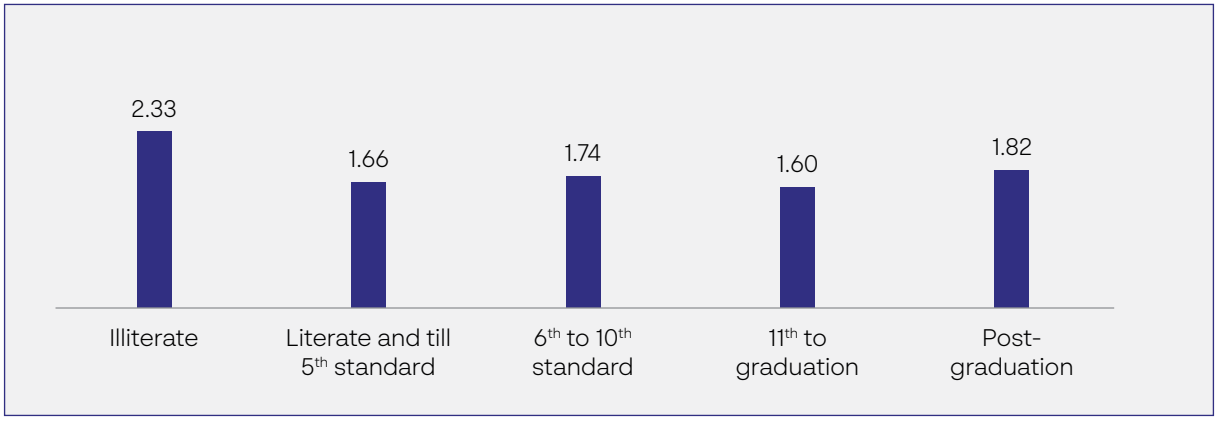


Figure 3.15: HIV Prevalence among FSWs by Place of Residence, HSS Plus 2021 (in %)

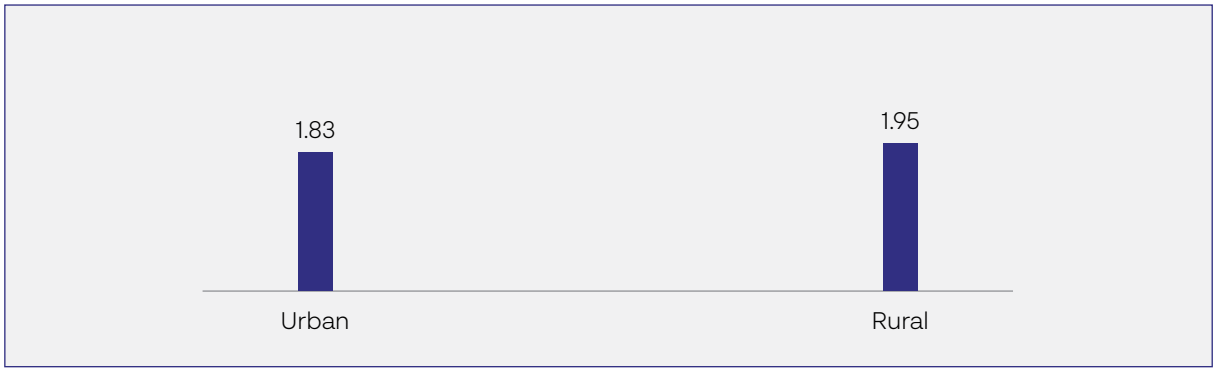


Figure 3.16: HIV Prevalence among FSWs by Occupation, HSS Plus 2021 (in %)

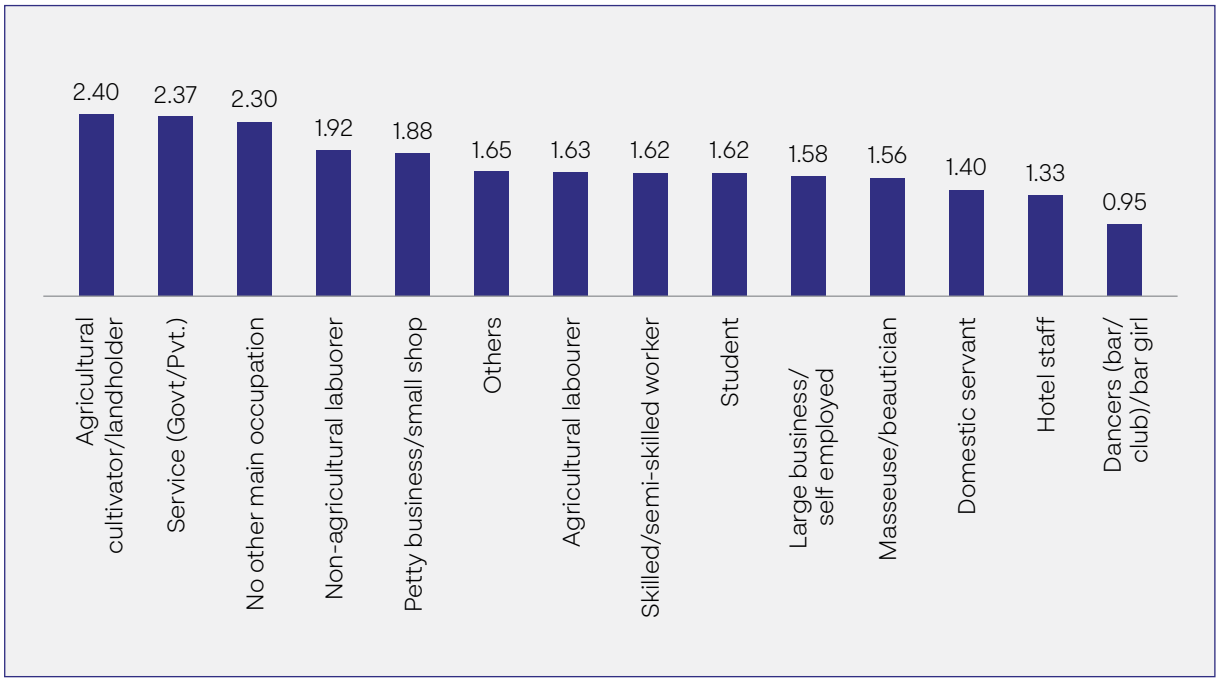


Table 3.17: HIV Prevalence among FSWs by Background Characteristics, HSS Plus 2021 (in %)

Background Characteristics	Disaggregation	Distribution		HIV-positive
		Frequency*	Percent	Percent
Age	18–24 years	9,758	16.3	1.50
	25–34 years	30,553	51.0	1.31
	35–44 years	16,616	27.7	2.47
	45+ years	3,039	5.1	5.10
Residence	Urban	36,181	60.3	1.83
	Rural	21,248	35.4	1.95
Marital status	Never married	8,451	14.1	1.99
	Currently married	41,846	69.8	1.34
	Divorced/separated/widowed	8,820	14.7	4.20
Education	Illiterate	15,680	26.1	2.33
	Literate and till 5th standard	22,563	37.6	1.66
	6th to 10th standard	17,362	29.0	1.74
	11th to graduation	3,686	6.1	1.60
	Post-graduation	330	0.6	1.82
Respondent's primary occupation	Agricultural labourer	6,384	10.6	1.63
	Non-agricultural labourer	6,989	11.7	1.92
	Domestic servant	10,780	18.0	1.40
	Skilled/semi-skilled worker	2,835	4.7	1.62
	Petty business/small shop	4,207	0.5	1.88
	Large business/self employed	563	0.2	1.58
	Service (Govt./Pvt.)	10,853	3.1	2.37
	Student	3,097	0.9	1.62
	Hotel staff	1,276	2.1	1.33
	Agricultural cultivator/landholder	167	0.3	2.40
	Dancers (bar/club)/bar girl	529	0.9	0.95
	Masseuse/beautician	1,092	1.8	1.56
	Others	4,316	7.2	1.65
	No other main occupation	18,938	31.6	2.30

*Total may not add up to 60,131 because of missing/not applicable response

04

Men who Have Sex with Men

India has the largest number of HIV infections in Asia and the second highest globally. Men who have sex with men (MSM) are among the most affected populations. MSM constitute a core group at a notably higher risk for HIV, and they have been a central focus of the targeted interventions since the inception of the National AIDS and STD Control Programme. As of 2017, the HIV prevalence across different population groups continues to reflect a concentrated epidemic. Among these groups, MSM show the third highest prevalence at 2.69%, trailing behind IDUs at 6.26% and H/TG at 3.14%. Given the substantial population of sexually active MSM estimated at 3.51 lakhs and numerous localized pockets with high rates of HIV, male-to-male sexual transmission significantly contributes to the overall HIV prevalence in the country.

Table 4.1: Sample Size and Response Rate by State/UT, MSM Sites, HSS Plus 2021

State/UT	No. of HSS sites	Final Sample Size achieved	Response Rate (%)
Andhra Pradesh	5	1,213	97.0
Assam	3	747	100.0
Bihar	1	246	98.4
Chandigarh	1	249	100.0
Chhattisgarh	2	499	100.0
Delhi	2	502	100.0
Goa	2	500	100.0
Gujarat	8	1,975	97.4
Haryana	4	1,001	100.0
Himachal Pradesh	1	257	100.0
Jharkhand	2	419	100.0
Karnataka	8	1,955	99.6
Kerala	8	2,000	100.0

State/UT	No. of HSS sites	Final Sample Size achieved	Response Rate (%)
Madhya Pradesh	5	1,253	87.7
Maharashtra	5	1,195	99.3
Manipur	2	435	100.0
Meghalaya*	1	88	–
Mizoram	1	250	100.0
Nagaland	2	490	97.2
Odisha	1	250	100.0
Puducherry	3	750	97.4
Punjab	3	749	99.6
Rajasthan	1	250	97.7
Tamil Nadu	14	3,482	100.0
Telangana	4	974	100.0
Uttar Pradesh	6	1,453	98.8
Uttarakhand	1	224	100.0
West Bengal	4	987	91.4
India	**100**	**24,393**	**98.2**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution.

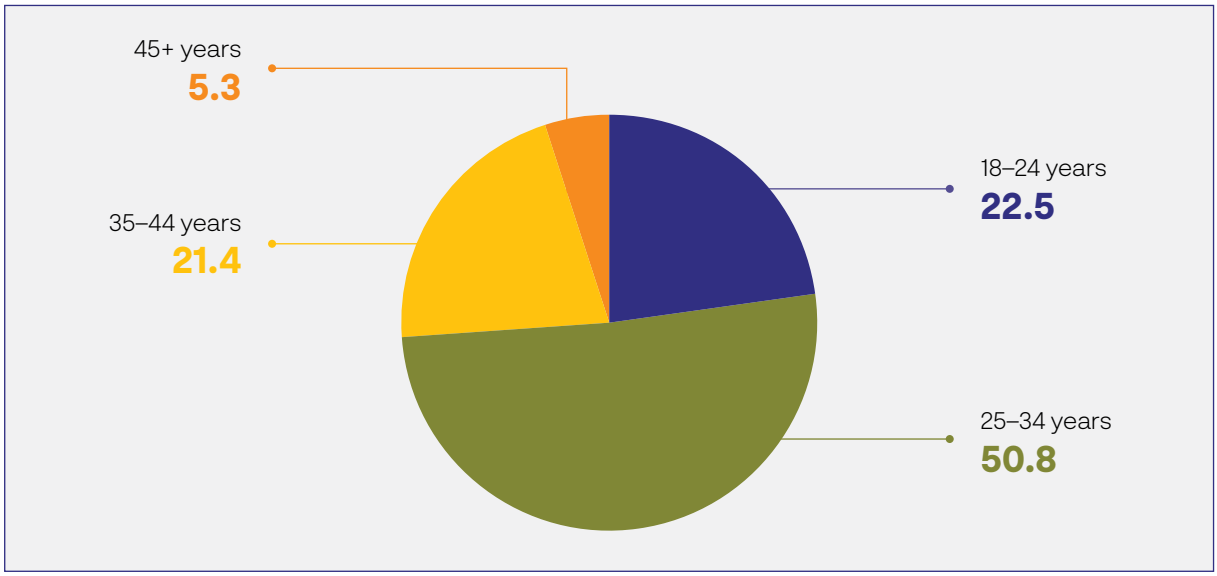
In the HSS Plus study, MSM were operationally defined as men, aged 18 years or more, who had anal or oral sex with a male partner in the last one month. The surveillance for the MSM group was carried out at 100 sentinel sites across 28 States/UTs (*see Table 4.1*). A total of 24,393 MSM were recruited in the surveillance, achieving a response rate of 98.2%. In almost all the States, the response rate exceeded 90%, except in Madhya Pradesh at 87.7%. The findings presented in this report are based on an analysis of 24,393 valid bio-behavioural data.

Initially, the respondents' background characteristics are presented, which include age, current marital status, education status, current place of residence, primary occupation, and type of cell phones owned. The HIV/AIDS-related service uptake, awareness and use of pre-exposure prophylaxis (PrEP), injecting drug use practices, sexual behaviour and condom use practices, and stigma and discrimination have been presented next, followed by the prevalence of HIV among MSM nationally and by State/UT to provide a comprehensive perspective.

4.1 Respondents' Characteristics

HIV-related risks and behaviours are known to vary by socio-demographic characteristics. This section provides an overview of the profile characteristics of MSM across various States/UTs in the country. The mean age of respondents at the national level was 30.5 years and ranged between 24.9 and 34.1 years across different States. States with higher mean age among MSM included Bihar, Gujarat, Manipur, Odisha and Tamil Nadu. In contrast, the mean age of MSM was relatively lower

Figure 4.1: Distribution (in %) of MSM by Age Group, HSS Plus 2021



in Delhi, Mizoram, Nagaland, Rajasthan, Punjab and Uttar Pradesh, (*see Table 4.2*). Overall, approximately half of the MSM surveyed were between the ages 25–34 years (50.8%) followed by an almost similar proportion in the age groups of 18–24 years (22.5%) and 35–44 years (21.4%). Only, 5.3% of MSM belonged to the 45+ years age group as illustrated in Figure 4.1.

In a majority of the States, the largest proportion of the surveyed MSM belonged to the 25–34 years age group. However, there were notable exceptions in Delhi and Nagaland, where over 45% of the respondents were aged 18–24 years. Additionally, in Tamil Nadu and Manipur, more than 10% of the MSM respondents were over 45 years old (*see Table 4.2*).

Table 4.2: Age Distribution of MSM by State/UT, HSS Plus 2021

State/UT	N	Mean Age	Age Group of MSM Respondents (%)#			
			18–24 Years	25–34 Years	35–44 Years	45+ Years
Andhra Pradesh	1,213	30.1	15.3	65.8	16.9	2.1
Assam	747	28.5	36.3	42.7	14.9	6.2
Bihar	246	32.0	6.1	66.3	20.3	7.3
Chandigarh	249	29.3	24.9	55.8	16.9	2.4
Chhattisgarh	499	28.7	31.7	47.3	17.2	3.8
Delhi	502	24.9	58.6	35.9	5.4	0.2
Goa	500	29.4	17.8	65.6	14.6	2.0
Gujarat	1,975	33.2	17.0	40.1	33.3	9.6
Haryana	1,001	28.3	30.4	54.5	13.2	1.9
Himachal Pradesh	257	30.2	17.1	63.0	19.1	0.8
Jharkhand	419	28.9	30.1	45.6	21.7	2.6
Karnataka	1,955	30.2	19.5	56.2	20.9	3.4

State/UT	N	Mean Age	Age Group of MSM Respondents (%)#			
			18–24 Years	25–34 Years	35–44 Years	45+ Years
Kerala	2,000	30.8	21.3	49.7	22.7	6.3
Madhya Pradesh	1,253	30.6	16.0	61.4	18.2	4.5
Maharashtra	1,195	31.8	19.5	43.4	30.0	7.0
Manipur	435	34.1	15.9	37.2	31.0	15.9
Meghalaya*	88*	30.5	25.0	45.5	26.1	3.4
Mizoram	250	27.6	32.4	57.2	8.4	2.0
Nagaland	490	26.4	45.9	43.5	8.8	1.8
Odisha	250	32.8	9.6	56.0	26.0	8.4
Puducherry	750	31.8	20.7	44.7	29.6	5.1
Punjab	749	27.6	34.7	50.2	13.5	1.6
Rajasthan	250	25.9	42.4	54.4	3.2	0.0
Tamil Nadu	3,482	33.8	11.7	46.7	30.3	11.3
Telangana	974	30.8	16.0	59.3	22.9	1.7
Uttar Pradesh	1,453	26.9	39.6	48.5	11.5	0.5
Uttarakhand	224	30.0	22.3	54.0	18.3	5.4
West Bengal	987	29.1	23.8	58.9	13.5	3.9
India	**24,393**	**30.5**	**22.5**	**50.8**	**21.4**	**5.3**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution. #Total may not add up to 100% due to missing/No response

All respondents were asked about their current marital status. Results revealed that a majority of MSM had never been married (61.3%), over one-third of respondents were currently married (35.2%), and a small proportion (2.5%) were either widowed/divorced/separated (*see Figure 4.2*). At the State/UT level, more than three-fourths of the MSM respondents in Odisha (76.8%), and over half in Rajasthan (57.2%), Telangana (57.9%) and Chandigarh (54.2%) reported being married. Moreover, in the States of Andhra Pradesh, Gujarat, Himachal Pradesh, and Madhya Pradesh, about 45%–50% of respondents reported being currently married (*see Table 4.3*).

Around 93.8% of MSM respondents were literate, and a substantial majority (70.9%) had received more than five years of education (*see Figure 4.3*). In the States of Haryana, Karnataka, Nagaland, Punjab and Uttar Pradesh, between 10% and 17% of the MSM respondents were found to be illiterate (*see Table 4.3*). Conversely, in Bihar, 22.4% of MSM respondents had attained post-graduate level of education.

Figure 4.2: Distribution of MSM by Current Marital Status, HSS Plus 2021 (in %)

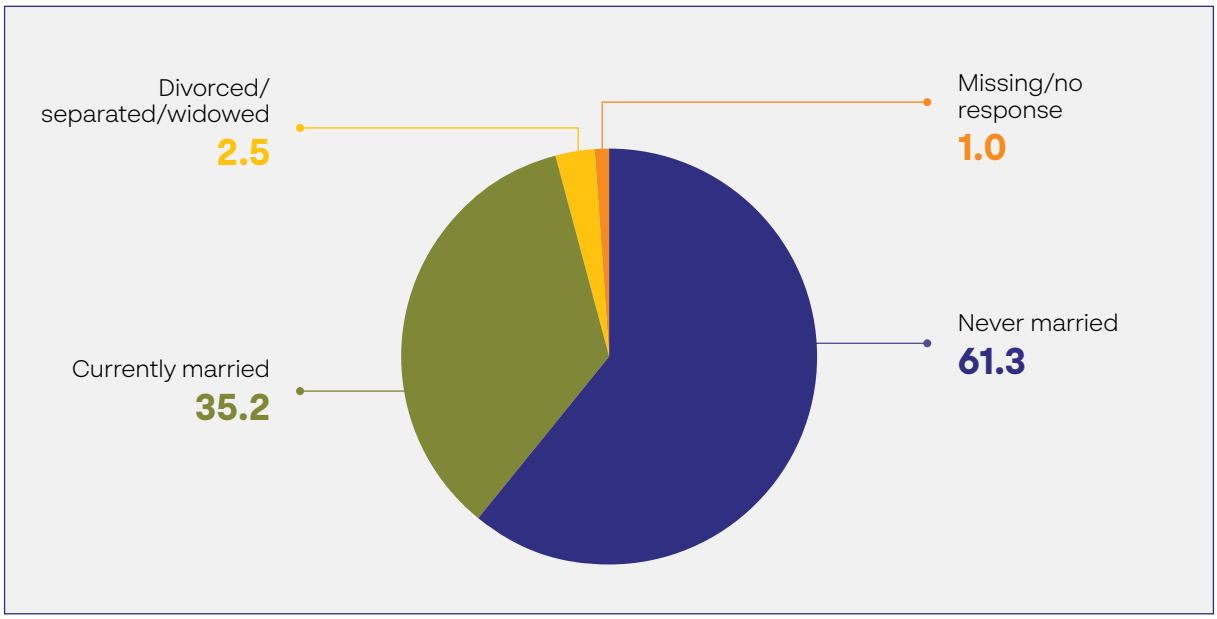


Figure 4.3: Distribution of MSM by Education Status, HSS Plus 2021 (in %)

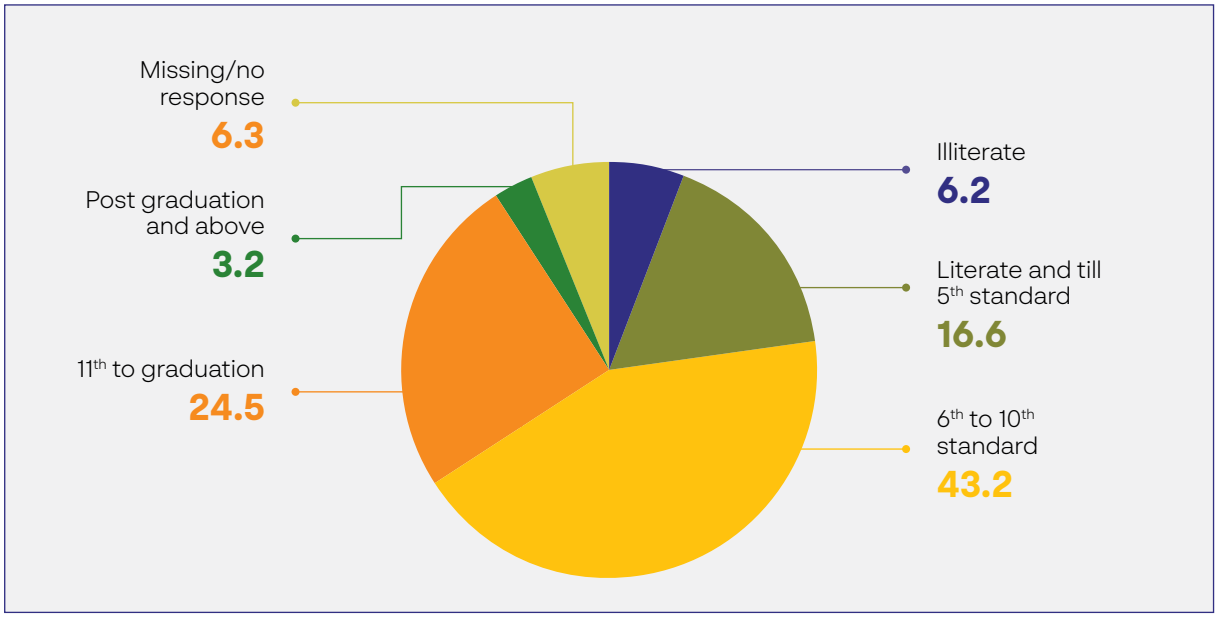


Table 4.3: Level of Education and Current Marital Status of MSM by State/UT, HSS Plus 2021

State/UT	N	Education Status (%)#					Marital Status (%)#		
		Illiterate	Literate and till 5th Standard	6th to 10th Standard	11th to Graduation	Post-Graduation & Above	Never Married	Currently Married	Divorced/ Separated/ Widowed
Andhra Pradesh	1,213	7.7	16.7	48.5	25.1	0.7	49.7	48.8	1.0
Assam	747	0.3	0.9	36.9	60.5	1.3	90.1	5.4	3.2
Bihar	246	6.5	2.0	9.8	58.9	22.4	61.8	38.2	0.0
Chandigarh	249	0.4	18.1	46.2	33.7	1.6	38.2	54.2	7.6
Chhattisgarh	499	6.8	18.8	41.3	24.0	8.6	66.7	26.7	4.8
Delhi	502	2.8	18.1	40.6	34.9	3.6	83.7	13.9	1.4
Goa	500	6.4	13.6	62.4	17.0	0.4	64.8	33.4	0.8
Gujarat	1,975	8.1	24.7	44.4	18.7	3.6	47.7	48.5	2.8
Haryana	1,001	16.5	18.0	46.8	17.4	1.2	64.7	33.1	2.1
Himachal Pradesh	257	1.2	3.5	53.3	35.0	5.1	47.5	48.6	0.0
Jharkhand	419	5.5	33.4	36.8	24.3	0.0	58.5	40.1	0.5
Karnataka	1,955	14.7	22.6	42.4	17.2	2.4	59.2	37.7	2.6
Kerala	2,000	1.0	8.2	55.2	34.5	1.0	61.1	34.7	3.5
Madhya Pradesh	1,253	1.0	15.1	39.3	37.4	6.6	45.9	49.2	4.0
Maharashtra	1,195	2.0	12.8	52.0	28.3	4.8	68.6	27.4	2.8
Manipur	435	0.2	1.4	64.5	33.2	0.7	69.9	18.9	9.9
Meghalaya*	88	0.0	48.9	36.4	10.2	3.4	87.5	10.2	2.3
Mizoram	250	0.0	4.8	45.4	47.0	2.8	96.0	0.0	2.8
Nagaland	490	15.5	12.9	51.4	16.5	2.0	92.4	4.3	0.0
Odisha	250	0.4	29.6	60.0	9.6	0.4	22.0	76.8	0.0
Puducherry	750	4.9	5.1	53.7	29.2	6.3	54.7	43.6	0.5
Punjab	749	10.9	23.1	40.9	22.7	2.1	65.4	31.5	1.9
Rajasthan	250	0.0	53.2	31.6	14.4	0.8	40.4	57.2	2.0
Tamil Nadu	3,482	3.4	12.3	52.5	28.0	3.6	64.2	34.3	1.3
Telangana	974	6.5	22.9	34.7	29.1	6.2	37.8	57.9	2.9
Uttar Pradesh	1,453	15.0	25.5	44.6	13.3	1.1	63.7	30.3	2.8
Uttarakhand	224	1.3	18.3	29.0	47.3	3.6	59.8	39.3	0.9
West Bengal	987	3.3	19.1	30.1	40.9	6.4	84.1	10.1	4.2
India	**24,393**	**6.2**	**16.6**	**43.2**	**24.5**	**3.2**	**61.3**	**35.2**	**2.5**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution. #Total may not add up to 100% due to missing/no response

In HSS Plus 2021, all MSM were asked about their current primary source of income (*see Figure 4.4*). Overall, around 7.5% of MSM respondents were unemployed, while 9.0% identified sex work as their primary occupation. Notably, a considerable proportion of MSM respondents in Delhi (38.4%), Haryana (39.4%), Rajasthan (36.4%), Uttar Pradesh (36.9%) and West Bengal (30.3%) reported sex work to be their primary source of income. Nationally, 16.1% of the MSM respondents reported working as labourers. Furthermore, specific regional variations were observed: around 22.8% of MSM in Gujarat, 26.8% in Karnataka, 66% in Odisha, 38.4% in Puducherry, 41.2% in Rajasthan and 32.2% in Tamil Nadu were engaged as labourers. In Jharkhand, around 39.1% of MSM respondents and 20.2% in Nagaland reported working as transport workers (*see Table 4.4*).

All MSM in HSS Plus 2021 were asked about their current place of residence, specifically whether they live in urban or rural areas, as well as the type of cell phone they possessed. Nationally, a majority of MSM respondents resided in urban areas (75.2%). However, a significant majority of MSM resided in rural areas in the States of Manipur (85.7%) and Uttarakhand (79.0%).

Overall, nearly 98.0% of MSM reported owning a cell phone. Among them, 25.2% had only basic keypad phones, and 67.3% had smartphones, and about 3.7% had both types of phones. In Odisha, 30.4% of MSM respondents stated that they did not own any cell phones (*see Table 4.5*). Additionally, more than half of MSM respondents in every State/UT, except in Jharkhand and Odisha, reported not owning a smartphone. In contrast, more than 90% of the respondents in Meghalaya and Rajasthan reported owning smartphones.

Table 4.4: Current Main Occupation of MSM by State/UT, HSS Plus 2021

State/UT	N	Main Occupation (%)#											
		Domestic Servant	Skilled/ Semi-skilled worker	Petty Business/ Small Shop	Large Business/ Self-employed	Service (Govt./ Pvt.)	Student	Hotel Staff	Unemployed	Labourers	Transport Workers	Sex Work/ Masseur/ Dancers (bar/ clubs)	Others
Andhra Pradesh	1,213	0.1	20.4	13.2	5.2	21.4	1.8	8.0	6.1	12.2	6.1	1.4	1.9
Assam	747	1.2	3.9	15.7	13.0	18.3	17.9	7.9	13.4	0.0	6.8	0.5	0.8
Bihar	246	8.9	5.7	19.9	3.3	0.8	9.8	14.2	22.4	1.2	4.1	9.3	0.4
Chandigarh	249	8.8	4.8	12.0	5.6	23.3	6.0	4.0	0.4	1.2	14.5	13.7	1.6
Chhattisgarh	499	6.2	3.8	5.8	1.0	23.2	6.4	14.2	20.4	2.4	12.4	1.2	2.0
Delhi	502	0.8	0.0	1.2	0.0	10.6	6.4	5.8	2.6	0.2	4.6	38.4	3.4
Goa	500	3.8	4.8	4.4	2.2	56.2	1.0	6.4	3.8	3.0	11.4	1.2	0.6
Gujarat	1,975	2.5	13.9	15.5	7.1	13.5	.9	2.2	4.8	22.8	7.0	1.3	7.9
Haryana	1,001	4.0	4.0	3.5	1.8	15.9	5.9	2.3	8.1	7.8	1.5	39.4	3.0
Himachal Pradesh	257	6.6	11.3	18.7	11.7	9.7	0.8	5.8	21.0	0.8	2.3	2.3	5.8
Jharkhand	419	7.2	5.7	5.7	5.7	12.4	1.2	4.1	1.9	6.9	39.1	5.5	4.3
Karnataka	1,955	4.5	6.0	11.1	6.2	12.0	1.9	6.5	5.1	26.8	4.5	3.7	6.6
Kerala	2,000	3.2	17.1	13.0	1.1	10.2	3.5	7.6	10.1	21.6	8.2	3.9	0.4
Madhya Pradesh	1,253	3.9	16.2	12.0	1.0	20.9	15.1	3.5	2.6	13.3	3.3	4.9	3.1
Maharashtra	1,195	0.9	14.1	8.4	5.7	35.5	3.6	3.0	4.1	12.3	6.2	2.8	3.4
Manipur	435	0.2	37.0	17.0	0.5	1.4	3.7	0.0	19.3	0.0	0.0	0.2	0.2
Meghalaya*	88	34.1	6.8	20.5	3.4	4.5	0.0	1.1	11.4	2.3	8.0	2.3	4.5
Mizoram	250	2.0	16.0	9.6	15.2	20.4	14.8	0.8	19.2	1.6	0.0	0.0	0.0
Nagaland	490	2.4	2.0	14.3	4.3	2.0	3.5	11.6	26.3	11.6	20.2	0.0	1.0
Odisha	250	0.0	2.4	21.2	6.8	2.4	0.4	0.4	0.4	66.0	0.0	0.0	0.0
Puducherry	750	1.1	12.0	9.3	3.1	14.0	1.5	5.9	6.3	38.4	7.6	0.5	0.3
Punjab	749	4.1	13.4	5.2	0.3	13.8	0.9	2.4	7.5	2.5	0.9	20.8	3.2
Rajasthan	250	0.4	0.0	0.4	0.0	0.8	13.6	2.8	1.2	41.2	2.4	36.4	0.8
Tamil Nadu	3,482	3.0	12.2	7.7	6.1	18.6	2.4	2.7	3.7	32.2	4.7	3.4	1.7
Telangana	974	1.6	12.5	7.5	1.6	23.6	3.1	2.4	25.9	8.6	8.6	0.4	2.9
Uttar Pradesh	1,453	4.5	11.4	7.6	0.7	4.1	3.0	3.6	3.0	3.3	8.9	36.9	3.6
Uttarakhand	224	0.0	0.0	21.9	21.4	54.5	0.4	0.0	0.0	0.0	0.0	1.8	0.0
West Bengal	987	2.3	1.0	9.1	2.4	17.3	14.3	6.1	3.7	3.4	7.4	30.3	2.3
India	**24,393**	**3.1**	**11.0**	**10.2**	**4.3**	**16.6**	**4.5**	**4.7**	**7.5**	**16.1**	**6.7**	**9.0**	**2.9**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution; #Total may not add up to 100% due to missing/no response

Figure 4.4: Distribution of MSM by Current Primary Occupation, HSS Plus 2021 (in %)

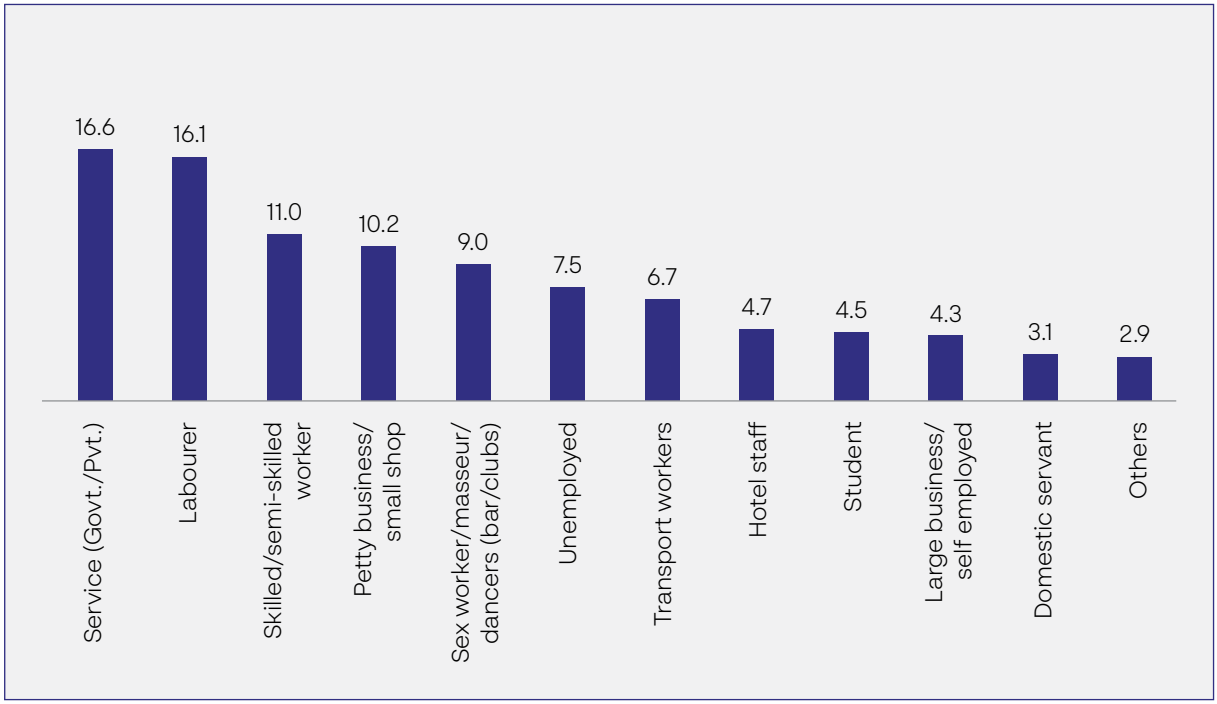


Table 4.5: Current Place of Residence of MSM and Having Cell Phones by State/UT, HSS Plus 2021

State/UT	N	Location of Place of Residence (%)#		Cell Phones (%)#			
		Urban (Municipal Corporation/ Council/ Cantonment)	Rural	Basic Keypad Phone	Smart-phone	Both	Do Not Own a Cell Phone
Andhra Pradesh	1,213	91.7	5.2	22.8	73.0	1.4	0.2
Assam	747	55.3	44.2	10.4	69.5	19.3	0.1
Bihar	246	99.2	0.4	41.1	50.0	6.9	1.6
Chandigarh	249	99.6	0.0	14.9	81.1	3.6	0.0
Chhattisgarh	499	91.2	8.6	13.4	64.3	20.8	0.0
Delhi	502	95.0	4.4	15.5	77.3	1.0	0.6
Goa	500	68.2	31.2	6.0	87.8	1.0	1.8
Gujarat	1,975	84.4	15.2	30.2	64.4	1.8	2.2
Haryana	1,001	80.4	18.9	35.3	61.2	1.7	0.2
Himachal Pradesh	257	54.1	44.0	8.2	86.4	0.8	0.4
Jharkhand	419	83.1	16.5	51.6	34.1	11.0	0.5
Karnataka	1,955	65.6	33.9	30.4	63.6	2.3	1.4
Kerala	2,000	50.5	49.3	25.0	68.4	5.3	0.1

State/UT	N	Location of Place of Residence (%)#		Cell Phones (%)#			
		Urban (Municipal Corporation/ Council/ Cantonment)	Rural	Basic Keypad Phone	Smart-phone	Both	Do Not Own a Cell Phone
Madhya Pradesh	1,253	89.8	9.3	29.4	60.1	6.9	1.4
Maharashtra	1,195	86.4	7.4	17.1	80.3	0.2	0.9
Manipur	435	13.1	85.7	58.9	39.1	0.2	0.5
Meghalaya*	88	89.8	9.1	0.0	94.3	0.0	1.1
Mizoram	250	98.0	0.8	0.0	98.8	0.0	0.8
Nagaland	490	97.8	0.4	29.6	65.1	1.2	1.8
Odisha	250	49.2	49.6	63.2	6.4	0.0	30.4
Puducherry	750	56.8	39.2	15.9	80.8	0.7	1.7
Punjab	749	77.0	21.1	19.2	68.4	8.9	1.5
Rajasthan	250	81.6	17.6	7.2	91.2	1.2	0.4
Tamil Nadu	3,482	73.6	25.0	28.4	64.2	4.0	2.8
Telangana	974	82.8	11.9	24.8	71.6	0.2	0.2
Uttar Pradesh	1,453	91.3	7.8	24.2	62.2	1.2	10.0
Uttarakhand	224	21.0	79.0	13.8	84.8	0.9	0.0
West Bengal	987	72.0	27.5	17.9	78.0	2.5	0.0
Total	**24,393**	**75.2**	**23.3**	**25.2**	**67.3**	**3.7**	**2.0**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution; #Total may not add up to 100% due to missing/no response.

4.2 HIV/AIDS-related Testing and Treatment Services Uptake

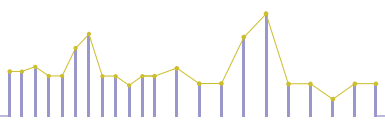
At the national level, 97.5% of MSM reported having undergone HIV testing at some point in their lives. Among these MSM, nearly 90.6% had tested within the past 12 months. About 70.6% of the respondents had tested within the last six months, while 22.1% of MSM respondents had undergone testing within the last three months. Half of the MSM respondents in Manipur and Meghalaya had not tested for HIV in the past 12 months. Moreover, in the States of Bihar, Manipur, Meghalaya and Maharashtra, only a small proportion of MSM respondents (0.7 to 9.1%) had been tested for HIV in the last three months (*see Table 4.6*).

Table 4.6: HIV Testing History among MSM by State/UT, HSS Plus 2021[#]

State/UT	N	Ever Tested for HIV (%)	Tested for HIV in Last 3 Months (%)	Tested for HIV in Last 6 Months (%)	Tested for HIV in Last 12 Months (%)
Andhra Pradesh	1,213	98.4	26.5	73.1	96.9
Assam	747	99.6	20.5	61.3	90.4
Bihar	246	94.3	2.4	32.1	76.8
Chandigarh	249	99.6	19.7	88.4	97.6
Chhattisgarh	499	99.2	23.6	92.2	95.6
Delhi	502	93.2	14.3	61.4	85.3
Goa	500	98.6	23.8	59.6	88.0
Gujarat	1,975	99.3	35.1	85.5	95.4
Haryana	1,001	99.2	25.0	82.9	95.2
Himachal Pradesh	257	98.1	21.8	77.0	91.1
Jharkhand	419	94.3	22.4	65.2	91.6
Karnataka	1,955	98.8	15.7	77.2	96.8
Kerala	2,000	99.6	17.6	85.7	97.6
Madhya Pradesh	1,253	99.0	16.4	80.3	97.1
Maharashtra	1,195	98.6	9.1	30.0	75.4
Manipur	435	99.3	0.7	32.4	52.6
Meghalaya*	88	100.0	2.3	8.0	58.0
Mizoram	250	99.6	23.6	48.0	84.4
Nagaland	490	95.3	13.7	51.0	82.9
Odisha	250	99.6	25.2	98.4	98.4
Puducherry	750	98.9	24.4	82.3	98.5
Punjab	749	99.7	34.8	87.0	91.7
Rajasthan	250	100.0	25.6	82.0	93.6
Tamil Nadu	3,482	99.5	17.3	58.7	87.3
Telangana	974	99.4	30.6	90.3	96.5
Uttar Pradesh	1,453	85.1	33.6	66.0	83.4
Uttarakhand	224	100.0	45.1	96.9	98.2
West Bengal	987	86.9	30.0	60.9	83.7
India	**24,393**	**97.5**	**22.1**	**70.6**	**90.6**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution.

In the HSS Plus 2021 surveillance round, 3.26% (constituting a total of 794) MSM were found to be HIV-positive. Out of these, 66.9% reported being aware of their HIV-positive status. Among HIV-infected MSM, a total of 59.2% were receiving ART.



4.3 HIV Pre-exposure Prophylaxis (PrEP)

MSM who took the HIV test but did not report being positive were asked questions related to HIV pre-exposure prophylaxis (PrEP) to assess their awareness of the issue. Nationally, 13.9% of MSM reported being aware of HIV PrEP. Among them, only 0.6% had ever taken PrEP. In contrast, a significantly higher proportion of MSM in Odisha (93.2%), Uttarakhand (86.6%) and Chandigarh (63.1%) reported being aware of HIV PrEP (*see Table 4.7*). However, there were very few reports of MSM using PrEP across all States/UTs.

Table 4.7: Awareness and Use of HIV PrEP among MSM by State/UT, HSS Plus 2021

State/UT	N	Aware of HIV PrEP (%)	Ever Taken PrEP (%)
Andhra Pradesh	1,213	11.4	0.0
Assam	747	15.3	0.3
Bihar	246	0.4	0.0
Chandigarh	249	63.1	1.2
Chhattisgarh	499	22.4	0.0
Delhi	502	33.9	3.2
Goa	500	2.6	0.0
Gujarat	1,975	6.4	0.5
Haryana	1,001	7.3	0.0
Himachal Pradesh	257	12.8	0.0
Jharkhand	419	0.0	0.0
Karnataka	1,955	6.8	0.2
Kerala	2,000	15.8	2.0
Madhya Pradesh	1,253	26.3	0.1
Maharashtra	1,195	28.3	0.6
Manipur	435	1.8	0.0
Meghalaya*	88	13.6	0.0
Mizoram	250	36.8	0.0
Nagaland	490	27.3	6.3
Odisha	250	93.2	0.4
Puducherry	750	4.5	0.0
Punjab	749	12.7	0.0
Rajasthan	250	0.0	0.0
Tamil Nadu	3,482	1.8	0.1
Telangana	974	7.2	0.7
Uttar Pradesh	1,453	20.2	0.7
Uttarakhand	224	86.6	0.0
West Bengal	987	10.8	0.1
India	**24,393**	**13.9**	**0.6**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution

4.4 Injecting Drug Use Practices

All MSM were asked if they ever injected drugs for non-medical reasons preceding the survey. Nationally, 1.8% of MSM reported injecting drugs for non-medical reasons at some point in their lives. Among those who injected, about 1.4% of them reported injecting drugs within the last 12 months.

More than three-fourths of the MSM who injected drugs used new needles/syringes for injecting. A significant proportion of MSM (14.1%) in Delhi reported having injected drugs for non-medical reasons at some point in their lives, with 13.7% having done so in the last 12 months. In Karnataka, about 11.3% of MSM respondents reported injecting drugs for non-medical reasons within the last 12 months (*see Table 4.8*).

Table 4.8: Injecting Drug Use Practices among MSM by State/UT, HSS Plus 2021#

State/UT	N	Ever Injected (%)	Injected within a Year (%)	Use of Fresh Needles and Syringes in Last Episode (%)
Andhra Pradesh	1,213	0.3	0.3	–
Assam	747	0.5	0.0	–
Bihar	246	0.0	0.0	–
Chandigarh	249	0.0	0.0	–
Chhattisgarh	499	2.6	0.6	–
Delhi	502	14.1	13.7	80.3
Goa	500	4.6	0.8	–
Gujarat	1,975	0.2	0.2	–
Haryana	1,001	0.4	0.1	–
Himachal Pradesh	257	0.0	0.0	–
Jharkhand	419	0.0	0.0	–
Karnataka	1,955	11.4	11.3	99.6
Kerala	2,000	1.4	0.3	–
Madhya Pradesh	1,253	0.1	0.1	–
Maharashtra	1,195	0.3	0.1	–
Manipur	435	0.0	0.0	–
Meghalaya*	88	1.1	1.1	–
Mizoram	250	6.4	1.6	–
Nagaland	490	0.4	0.2	–
Odisha	250	0.4	0.0	–
Puducherry	750	0.3	0.0	–
Punjab	749	1.1	0.8	–
Rajasthan	250	3.6	3.2	–
Tamil Nadu	3,482	0.1	0.0	–
Telangana	974	0.6	0.0	–
Uttar Pradesh	1,453	0.3	0.3	–
Uttarakhand	224	0.9	0.9	–
West Bengal	987	1.4	0.3	–
India	**24,393**	**1.8**	**1.4**	**78.8**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution.

4.5 Sexual Behaviour and Condom Use Practices with Male Partners

Understanding the MSM community begins with examining their sexual initiation and self-perception, as these factors serve as precursors to risk behaviours and shape the context in which risky behaviours occur. MSM represent a diverse group, characterized by complex sexual identities based on behaviour, role in sexual acts and engagement with both male and female partners. Many MSM are also involved in commercial sexual activities, which exacerbates their risk and vulnerability. This section presents findings on sexual self-identification, onset of sexual experience, engagement in sexual activities and their duration, and locations where MSM meet and entertain their partners.

In HSS Plus 2021, MSM respondents were asked how they primarily identify themselves based on their sexual orientation. The majority of MSM self-identified as predominantly 'Kothi' (63%), followed by 'double-decker' (32.8%) and 'Panthi' (2.1%). The distribution of self-reported identity varied considerably across different States/UTs, with certain States exhibiting notable differences from the national level estimates. For instance, self-identification as 'Kothis' was significantly more prevalent in States such as Haryana (81.6%), Manipur (90.3%), Punjab (80.2%), Rajasthan (81.2%) and Uttar Pradesh (80.2%). In contrast, a considerable proportion of MSM self-identified as 'double-decker' in some States, including Goa (50.4%), Meghalaya (56.8%), Mizoram (50.8%), Nagaland (52.2%) and Odisha (53.6%).

Table 4.9: Self-reported Sexual Orientation of MSM by State/UT, HSS Plus 2021

State/UT	N	Self-reported Identity (%)#			
		Kothi	Panthi	Double Decker	Others
Andhra Pradesh	1,213	68.9	0.0	30.1	0.0
Assam	747	49.1	0.1	49.8	0.3
Bihar	246	74.0	14.6	11.4	0.0
Chandigarh	249	63.5	2.0	30.9	2.8
Chhattisgarh	499	56.9	0.4	40.5	0.0
Delhi	502	74.3	0.4	21.7	2.0
Goa	500	37.2	0.2	50.4	11.8
Gujarat	1,975	65.0	0.2	34.3	0.1
Haryana	1,001	81.6	1.3	16.6	0.2
Himachal Pradesh	257	69.6	3.5	18.3	1.9
Jharkhand	419	36.5	55.4	6.9	0.0
Karnataka	1,955	52.5	0.5	39.8	5.0
Kerala	2,000	56.2	0.0	43.4	0.0
Madhya Pradesh	1,253	69.0	0.6	24.7	3.1
Maharashtra	1,195	64.7	7.0	26.9	0.4
Manipur	435	90.3	3.2	5.5	0.5
Meghalaya*	88	21.6	1.1	56.8	6.8
Mizoram	250	47.6	0.0	50.8	0.8
Nagaland	490	45.3	0.4	52.2	0.0

State/UT	N	Self-reported Identity (%)#			
		Kothi	Panthi	Double Decker	Others
Odisha	250	46.4	0.0	53.6	0.0
Puducherry	750	65.5	0.0	34.0	0.0
Punjab	749	80.2	0.8	15.6	0.9
Rajasthan	250	81.2	0.0	18.4	0.0
Tamil Nadu	3,482	65.3	0.1	34.3	0.0
Telangana	974	53.0	0.3	45.9	0.0
Uttar Pradesh	1,453	80.2	2.2	16.6	0.5
Uttarakhand	224	49.6	0.0	47.8	2.7
West Bengal	987	53.8	5.1	40.3	0.1
India	**24,393**	**63.0**	**2.1**	**32.8**	**1.1**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution; #Total may not add to 100% due to missing/no response.

At the national level, the mean age for sexual debut with a male partner was 17.5 years. A considerable proportion of MSM reported their first sexual encounter with a male during the age of 18–21 years, comprising 38.9% of respondents. Additionally, 32.4% of MSM reported their initial experience with a male during the age of 15–17 years (*see Table 4.10*). Notably, the mean age at initiation of sexual activity with male partners was lower in Uttarakhand (14.6 years) and almost similar (15 years) in Chhattisgarh, Gujarat and Punjab, while it was higher (22 years) in Chandigarh, Himachal Pradesh and Telangana.

Table 4.10: Age at Initiation of Sexual Intercourse by MSM with a Male Partner by State/UT, HSS Plus 2021

State/UT	N	Mean Age at First Sexual Intercourse	Age at First Sexual Intercourse with a Male Partner (%)			
			≤14 Years	15–17 Years	18–21 Years	22+ Years
Andhra Pradesh	1,172	18.8	4.4	25.0	59.3	11.3
Assam	718	15.2	33.0	58.1	7.7	1.3
Bihar	244	17.0	6.1	61.9	28.7	3.3
Chandigarh	238	22.0	7.6	16.8	29.8	45.8
Chhattisgarh	489	17.6	0.4	38.7	60.7	0.2
Delhi	478	15.1	49.6	26.8	20.9	2.7
Goa	460	17.4	17.2	29.3	47.6	5.9
Gujarat	1,844	15.9	33.4	37.5	26.0	3.1
Haryana	829	15.2	32.0	56.3	10.7	1.0
Himachal Pradesh	241	21.0	0.0	5.0	62.2	32.8
Jharkhand	398	20.4	0.3	5.3	72.1	22.4
Karnataka	1,654	20.6	0.2	15.5	49.9	34.4
Kerala	1,633	16.7	29.4	28.0	35.7	6.9
Madhya Pradesh	1,163	18.8	12.0	15.5	51.7	20.9
Maharashtra	1,050	17.9	14.2	29.2	45.8	10.8

State/UT	N	Mean Age at First Sexual Intercourse	Age at First Sexual Intercourse with a Male Partner (%)			
			≤14 Years	15–17 Years	18–21 Years	22+ Years
Manipur	416	17.7	2.2	51.0	45.9	1.0
Meghalaya*	83	17.0	9.6	54.2	34.9	1.2
Mizoram	246	19.0	0.8	26.8	63.0	9.3
Nagaland	351	17.6	7.7	39.6	50.1	2.6
Puducherry	693	16.6	25.1	34.1	37.8	3.0
Punjab	713	15.3	38.8	38.7	21.5	1.0
Rajasthan	243	17.0	5.3	53.1	41.6	0.0
Tamil Nadu	3,149	17.1	19.9	33.7	40.2	6.2
Telangana	912	20.2	6.0	25.9	37.9	30.2
Uttar Pradesh	1,350	16.6	22.3	44.0	25.8	7.9
Uttarakhand	221	14.6	46.6	45.2	8.1	0.0
West Bengal	912	18.3	11.3	27.9	50.7	10.2
India	**21,901**	**17.5**	**18.2**	**32.4**	**38.9**	**10.5**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution; #Total may not add up to 100% due to missing/no response.

To understand the number of male sexual partners and volume of sex acts in a week, two different questions were asked: one, the number of sexual male partners in the past week, and the other, the number of sex acts with male partners in the past week. At the national level, three-fourths of MSM respondents reported having between none and four sexual male partners in the last week, while nearly 3.6% reported having 10 or more male sexual partners in the same time frame. A considerable proportion of MSM respondents in Delhi (44.8%) reported having 10 or more male sexual partners. Additionally, around 58.8% of MSM respondents in Himachal Pradesh, 53.6% in Uttarakhand and 45.7% of respondents in Puducherry reported having had between five and nine male sexual partners in the last week. At the national level, 61.5% of MSM respondents reported having between none and four sex acts with male partners in the last week, while 26.6% reported five to nine such encounters and 10.2% reported 10 or more sex acts with male partners during the same period. A significant proportion of MSM respondents in Delhi (46.2%) and Haryana (36.9%) reported having engaged in 10 or more sex acts with male partners in the last week (*see Table 4.11*).

Table 4.11: Frequency of Sex Acts and Volume of Male Partners during the Last One Week by State/UT, HSS Plus 2021

State/UT	N	Number of Partners	Number of Male Sexual Partners (%)#			Sex Acts in a Week	Number of Sex Acts with Male Partners (%)#		
		Mean	0–4	5–9	10 or More	Mean	0–4	5–9	10 or More
Andhra Pradesh	1,213	4.2	62.1	37.5	0.4	6.1	29.2	59.4	11.4
Assam	747	3.4	72.2	27.8	0.0	3.5	68.3	31.7	0.0
Bihar	246	2.0	93.1	0.8	0.0	3.1	74.8	18.7	0.0
Chandigarh	249	4.4	65.5	31.3	1.6	5.3	48.6	40.2	7.2
Chhattisgarh	499	1.9	99.4	0.6	0.0	1.9	98.0	1.8	0.2
Delhi	502	7.3	29.7	24.5	44.8	-	35.9	16.7	46.2
Goa	500	3.6	70.6	29.0	0.4	-	76.0	23.8	0.2
Gujarat	1,975	3.5	71.5	24.3	4.2	4.6	61.6	29.1	9.4
Haryana	1,001	6.2	46.3	33.4	16.0	9.1	25.8	30.1	36.9
Himachal Pradesh	257	5.2	36.2	58.8	2.7	7.0	30.7	42.4	20.6
Jharkhand	419	1.9	96.9	0.2	0.2	4.0	68.3	29.6	0.0
Karnataka	1,955	2.5	90.1	8.7	1.2	4.3	81.8	6.3	11.8
Kerala	2,000	2.8	85.9	14.1	0.1	3.8	69.2	27.3	3.6
Madhya Pradesh	1,253	3.0	82.6	12.8	4.5	4.6	71.2	15.2	13.6
Maharashtra	1,195	2.1	96.4	3.6	0.0	2.2	95.1	4.9	0.1
Manipur	435	2.2	99.3	0.7	0.0	2.7	88.3	11.7	0.0
Meghalaya*	88	3.5	71.6	27.3	1.1	-	69.3	30.7	0.0
Mizoram	250	0.6	100.0	0.0	0.0	0.7	100.0	0.0	0.0
Nagaland	490	1.7	98.4	1.0	0.6	3.7	62.2	37.6	0.2
Odisha	250	2.8	97.6	2.0	0.4	7.2	6.0	73.6	20.4
Puducherry	750	4.8	50.7	45.7	3.6	6.7	37.2	37.7	25.1
Punjab	749	5.3	60.6	22.6	16.8	6.4	48.5	30.7	20.6
Rajasthan	250	3.0	97.2	2.0	0.8	-	96.8	2.4	0.8
Tamil Nadu	3,482	3.5	72.1	26.8	1.1	4.0	64.6	31.7	3.7
Telangana	974	2.6	95.0	4.5	0.2	4.3	71.8	21.1	6.9
Uttar Pradesh	1,453	3.3	59.6	18.8	2.5	5.6	35.0	29.7	16.4
Uttarakhand	224	5.1	42.9	53.6	3.1	5.7	30.8	62.5	6.3
West Bengal	987	4.6	58.8	33.2	7.9	5.5	50.9	30.6	18.4
India	**24,393**	**3.5**	**74.8**	**20.0**	**3.6**	**4.6**	**61.5**	**26.6**	**10.2**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution; #Total may not add up to 100% due to missing/no response.

All respondents were asked where they met with their male sexual partners. More than half of the MSM respondents (55.2%) reported that they met their male sexual partners through mobile phones or the Internet. About 43.4% of the respondents reported encountering their partners at railway stations or bus stands, while 39.6% did so in parks. Additionally, 36.5% reported meeting their partners in public toilets, and 35.2% mentioned connecting with them on streets or roadsides (*see Figure 4.5*). Across the majority of States/UTs, except Jharkhand, Bihar and Odisha, a notable proportion of respondents reported that they met their male sexual partners through mobile phones or the Internet (*see Table 4.12*).

Figure 4.5: Distribution of MSM by Locations where They Meet with Other Male Sexual Partners, HSS Plus 2021 (in %)

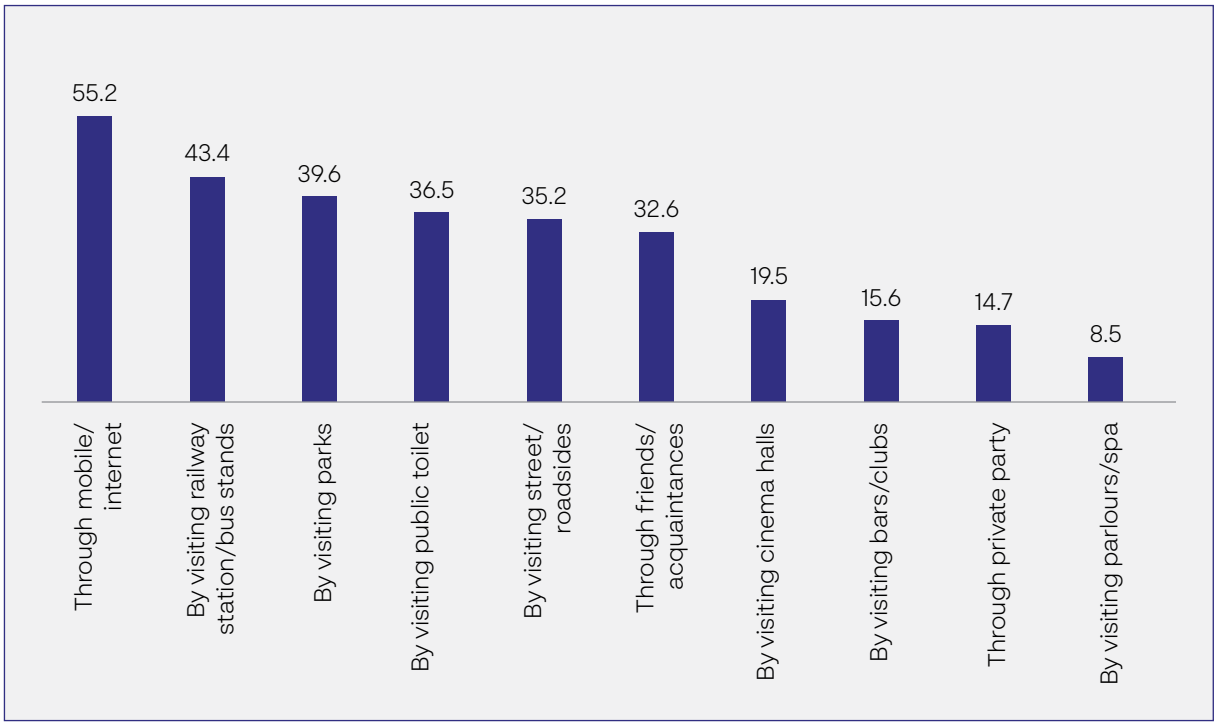


Table 4.12: Meeting Locations where MSM Meet with Other Male Sexual Partners by State/UT, HSS Plus 2021

State/UT	N	Meeting Male Sexual Partners through or by Visiting (%)#									
		Bars/ Clubs	Parlours/ Spa	Private Party	Friends/ Acquaintances	Mobile/ Internet	Street/ Roadsides	Railway Station/Bus Stands	Cinema Halls	Public Toilets	Parks
Andhra Pradesh	1,213	24.2	9.2	5.2	58.0	64.6	41.0	68.3	50.1	27.3	54.6
Assam	747	–	–	–	–	–	–	–	–	–	–
Bihar	246	0.0	0.0	0.4	24.0	0.0	11.4	35.8	8.1	15.0	4.9
Chandigarh	249	28.9	1.2	9.2	1.6	49.8	5.2	18.1	4.4	16.5	79.9
Chhattisgarh	499	1.8	1.0	23.2	1.8	88.2	8.0	12.6	2.0	32.7	50.1
Delhi	502	11.4	10.4	27.3	11.0	81.1	19.3	10.4	2.6	23.1	35.7
Goa	500	30.0	4.4	8.8	9.8	44.2	44.6	41.8	4.8	34.2	70.0
Gujarat	1,975	0.5	2.0	7.7	29.2	55.7	32.0	43.6	18.5	70.1	48.1
Haryana	1,001	13.2	3.9	36.0	40.9	28.2	40.4	22.2	4.8	12.9	64.7
Himachal Pradesh	257	3.5	2.3	15.2	28.8	66.1	10.5	40.5	12.1	9.7	14.4
Jharkhand	419	10.7	13.1	11.0	27.4	0.2	16.9	19.8	19.1	12.9	32.9
Karnataka	1,955	12.8	5.8	6.5	18.2	39.0	32.3	43.7	13.7	47.8	24.0
Kerala	2,000	29.7	2.2	9.6	30.0	52.9	41.7	49.5	26.3	16.0	35.9
Madhya Pradesh	1,253	4.6	3.2	8.5	23.5	63.9	16.8	37.3	3.0	39.9	62.1
Maharashtra	1,195	3.5	5.6	10.4	17.7	66.1	15.4	46.7	3.7	75.1	49.4
Manipur	435	43.7	51.3	50.1	43.7	60.2	43.9	43.7	45.3	49.2	43.9
Meghalaya*	88	26.1	1.1	54.5	75.0	73.9	3.4	0.0	1.1	0.0	3.4
Mizoram	250	–	–	–	–	–	–	–	–	–	–
Nagaland	490	2.2	0.2	6.9	32.2	49.6	17.6	19.2	1.8	3.9	5.1
Odisha	250	0.0	0.0	0.0	8.0	0.4	84.8	0.0	0.0	0.0	5.6
Puducherry	750	28.1	1.1	15.7	64.7	83.2	43.5	18.0	3.2	3.6	5.6
Punjab	749	4.7	3.5	26.3	47.5	74.0	26.2	27.5	12.3	5.2	32.8
Rajasthan	250	0.0	1.2	4.0	1.6	50.8	3.6	1.6	3.6	75.6	85.6
Tamil Nadu	3,482	12.4	2.2	5.8	40.7	54.5	49.9	55.5	24.0	41.7	22.2
Telangana	974	4.2	0.0	0.4	9.9	24.3	6.4	76.8	5.1	27.4	31.8
Uttar Pradesh	1,453	3.6	6.8	12.6	40.8	40.4	38.5	48.4	21.4	30.0	48.2
Uttarakhand	224	0.0	0.0	0.4	0.4	99.6	58.9	21.4	0.4	0.0	33.0
West Bengal	987	8.5	4.9	5.4	5.9	71.3	19.3	10.2	15.3	17.1	10.3
India	**24,393**	**15.6**	**8.5**	**14.7**	**32.6**	**55.2**	**35.2**	**43.4**	**19.5**	**36.5**	**39.6**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution; #Total may not add up to 100% due to multiple responses that may be expected from the respondents.

All MSMs were asked about their use of cell phones and/or the Internet to connect with male sexual partners. Around 55.2% of MSM reported that they had met male sexual partners through mobile phones or the Internet. However, there were significant variations among States/UTs (*see Table 4.13*). Nationally, one-third (31.1%) of MSM respondents reported using Facebook, while two-fifths (39.2%) used WhatsApp to meet their partner. About 30.2% of MSM respondents reported using Grinder, 18.9% reported using Blued, and 11.7% mentioned using Instagram as their choice for connecting with their male sexual partners.

A small proportion (4%–8%) of MSM reported using various other platforms like Tinder, Bumble, Hinge or Planet Romeo. It is noteworthy that the majority of the MSM respondents in Bihar, Jharkhand, and Odisha did not use the Internet for meeting male sexual partners. Both at national and State levels, the most widely used Internet applications for meeting male sexual partners were Grinder, WhatsApp and Facebook. More than one-fifth of MSM respondents in Puducherry, Chhattisgarh, Gujarat and Manipur reported using Instagram as one of the Internet applications for meeting male sexual partners.

Figure 4.6: Distribution of MSM by Use of the Internet Applications to Meet Male Sexual Partners, HSS Plus 2021 (in %)

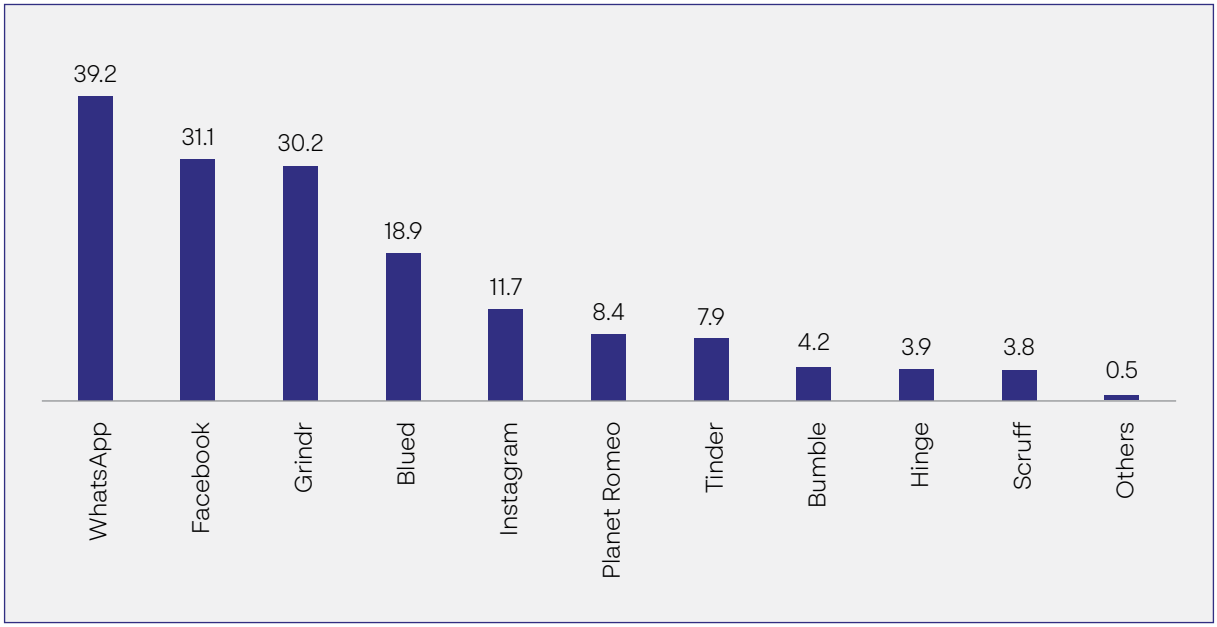


Table 4.13: Use of Mobile Phones/Internet to Meet Male Sexual Partners of MSM by State/UT, HSS Plus 2021

State/UT	N	Used Mobile/ Internet to Solicit Clients (%)	Use of Mobile Phone/Internet to Solicit Clients (%)										
			Bumble	Facebook	WhatsApp	Tinder	Hinge	Planet Romeo	Grindr	Blued	Scruff	Instagram	Others
Andhra Pradesh	1,213	64.6	2.2	10.7	39.5	3.8	0.0	2.1	24.6	0.6	0.0	1.1	0.0
Assam	747	–	–	–	–	–	–	–	–	–	–	–	–
Bihar	246	–	–	–	–	–	–	–	–	–	–	–	–
Chandigarh	249	49.8	0.4	18.9	32.1	3.2	0.0	2.4	31.3	23.7	0.0	3.6	0.0
Chhattisgarh	499	88.2	1.8	86.2	76.8	50.1	0.0	0.0	39.7	32.3	0.4	23.2	0.2
Delhi	502	81.1	5.8	11.8	47.0	4.0	0.6	22.1	73.1	71.9	1.8	10.2	0.6
Goa	500	44.2	0.8	34.2	39.2	3.2	0.2	7.2	34.2	10.8	0.0	6.8	0.6
Gujarat	1,975	55.7	1.2	40.2	41.9	2.4	0.2	11.0	33.1	32.6	0.2	22.7	0.1
Haryana	1,001	28.2	0.0	16.3	16.9	2.1	0.0	0.2	14.2	8.0	0.3	1.9	0.0
Himachal Pradesh	257	66.1	1.6	26.5	63.8	1.2	0.0	0.0	0.8	0.0	0.0	11.7	0.4
Jharkhand	419	–	–	–	–	–	–	–	–	–	–	–	–
Karnataka	1,955	39.0	0.1	18.4	29.2	1.8	0.0	2.5	16.1	2.5	0.1	6.6	0.2
Kerala	2,000	52.9	0.2	22.8	29.5	1.6	2.6	1.0	34.8	11.5	0.1	5.1	0.1
Madhya Pradesh	1,253	63.9	2.2	25.5	36.5	2.6	0.1	0.8	27.4	46.8	0.0	4.7	0.2
Maharashtra	1,195	66.1	0.0	52.4	57.8	0.9	0.3	10.7	49.3	27.2	0.7	14.6	0.0
Manipur	435	60.2	25.5	37.7	37.7	25.5	25.5	27.1	30.1	29.9	25.5	35.4	0.0
Meghalaya*	88	73.9	1.1	69.3	67.0	15.9	.0	25.0	2.3	18.2	0.0	19.3	0.0
Mizoram	250	–	–	–	–	–	–	–	–	–	–	–	–
Nagaland	490	49.6	0.0	32.2	35.7	3.3	0.0	0.0	10.0	6.3	0.0	12.2	0.0
Odisha	250	–	–	–	–	–	–	–	–	–	–	–	–
Puducherry	750	83.2	0.0	49.7	74.9	2.0	0.3	0.1	26.7	0.4	0.0	23.5	7.6
Punjab	749	74.0	0.7	26.0	61.4	12.1	0.1	3.3	25.4	9.5	0.9	13.2	0.3
Rajasthan	250	50.8	1.6	2.8	16.4	10.4	0.4	.0	49.2	8.4	0.0	0.0	0.0
Tamil Nadu	3,482	54.5	0.5	31.1	36.9	7.9	0.4	9.9	28.7	12.1	1.0	8.3	0.5
Telangana	974	24.3	0.0	10.0	7.6	0.3	0.1	4.8	20.5	11.0	0.0	0.2	0.1
Uttar Pradesh	1,453	40.4	0.7	19.8	26.7	0.3	0.1	2.5	20.3	17.1	0.1	2.8	0.1
Uttarakhand	224	99.6	0.0	81.3	85.7	0.0	0.0	0.0	34.4	27.2	0.4	5.4	0.0
West Bengal	987	71.3	3.2	65.0	62.8	14.5	3.4	13.9	52.9	23.5	2.2	10.4	1.6
India	**24,393**	**55.2**	**4.2**	**31.1**	**39.2**	**7.9**	**3.9**	**8.4**	**30.2**	**18.9**	**3.8**	**11.7**	**0.5**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution. #Total may not add up to 100% due to multiple responses that may be expected from the respondents.

MSM were asked about their involvement in selling and/or buying sex from other men. MSM who sold sex or received cash or kind in exchange for sex from other men were referred to as having paying male partners. Those MSM who bought sex or who paid cash or kind for sex with another man were termed as having paid male partners. For each of these paying or paid partners, MSM were asked if they had sex with these partners in the past month. At the national level, two-fifths (39.8%) of the MSM reported having a paying male partner in the last month, while one-fifth of MSM reported having both paid and paying male partner in the same period. Around 6.8% of MSM reported that they paid money or payment in kind in the last month. Around 30.9% of MSM did not exchange any money or goods for sex with a male partner. In a majority of the States, the proportion of MSM who had a paying partner ranged between 30% and 60%. States where 60% or more of MSM reported having paying male partners were Telangana (60.0%), Bihar (65.4%), Punjab (69.7%), and Haryana (72.4%). More than 80% of MSM in Goa, Manipur, Mizoram and Odisha did not exchange money or goods for sex with a male partner in the last month.

Table 4.14: Transaction of Money for Having Sex with a Male Partner in the Last One Month by State/UT, HSS Plus 2021

State/UT	N	Transaction of Money for Having Sex with a Male Partner (%)#			
		Yes, Received Money or Payment in Kind	Yes, Paid Money or Payment in Kind	Both (Received/ Paid)	No Transaction
Andhra Pradesh	1,213	16.2	6.4	61.2	14.3
Assam	747	22.1	11.2	13.3	53.0
Bihar	246	65.4	14.6	19.1	0.8
Chandigarh	249	29.7	7.2	56.2	6.0
Chhattisgarh	499	1.8	1.4	45.9	47.7
Delhi	502	41.4	9.6	14.5	29.3
Goa	500	8.6	2.6	4.2	83.6
Gujarat	1,975	27.3	3.6	17.3	50.6
Haryana	1,001	72.4	3.0	20.2	4.0
Himachal Pradesh	257	47.1	8.9	9.3	30.0
Jharkhand	419	15.8	19.3	10.0	54.4
Karnataka	1,955	35.0	8.9	27.7	25.0
Kerala	2,000	53.8	6.3	21.9	16.7
Madhya Pradesh	1,253	43.9	0.6	13.2	40.0
Maharashtra	1,195	46.3	4.6	4.8	43.6
Manipur	435	2.1	0.2	1.6	89.0
Meghalaya*	88	45.5	35.2	12.5	5.7
Mizoram	250	2.4	5.2	0.0	92.0
Nagaland	490	8.6	11.2	6.5	73.1
Odisha	250	2.4	0.0	0.0	97.6
Puducherry	750	13.6	7.1	50.1	23.1

State/UT	N	Transaction of Money for Having Sex with a Male Partner (%)#			
		Yes, Received Money or Payment in Kind	Yes, Paid Money or Payment in Kind	Both (Received/ Paid)	No Transaction
Punjab	749	69.7	5.7	15.0	9.1
Rajasthan	250	55.6	19.2	23.6	0.8
Tamil Nadu	3,482	51.5	4.1	14.9	28.9
Telangana	974	60.0	11.4	26.2	1.5
Uttar Pradesh	1,453	45.8	17.6	25.0	9.6
Uttarakhand	224	51.3	0.4	47.8	0.4
West Bengal	987	52.4	4.8	8.8	33.5
India	**24,393**	**39.8**	**6.8**	**20.9**	**30.9**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution; #Total may not add up to 100% due to missing/no response.

All MSM were asked how many other towns they had visited to meet a male sexual partner in the last three months. At the national level, more than one-third (37.2%) of MSM mentioned that they did not visit any other town for this reason, while 32.3% of MSM reported visiting one town, 19.0% visited two or three towns, and 7.4% visited more than three towns during those three months. In Mizoram, almost 86.4% did not visit any other town. In Chhattisgarh and Puducherry, more than one-third of MSM visited more than three towns for solicitation in the past three months.

Table 4.15: Visit to Different Towns for Meeting Male Sexual Partners during Last Three Months by State/UT, HSS Plus 2021

State/UT	N	Number of Other Towns Visited for Meeting a Male Sexual Partner (%)			
		One Town	Two or Three Towns	More Than Three Towns	Not Visited Any Other Town
Andhra Pradesh	1,213				
Assam	747	45.5	10.0	1.7	36.0
Bihar	246	87.0	9.8	0.4	0.4
Chandigarh	249	18.1	28.9	2.8	48.6
Chhattisgarh	499	26.5	8.2	48.5	8.0
Delhi	502	49.8	3.0	7.8	19.1
Goa	500	21.4	2.6	3.6	67.8
Gujarat	1,975	28.4	9.9	4.4	51.4
Haryana	1,001	37.5	15.0	4.1	42.1
Himachal Pradesh	257	34.2	42.8	12.5	6.2
Jharkhand	419	17.7	14.1	15.0	51.6
Karnataka	1,955	30.3	32.0	17.0	19.1
Kerala	2,000	34.8	26.5	2.6	28.0
Madhya Pradesh	1,253	38.1	8.5	2.1	43.0
Maharashtra	1,195	28.9	3.3	1.6	65.1

State/UT	N	Number of Other Towns Visited for Meeting a Male Sexual Partner (%)			
		One Town	Two or Three Towns	More Than Three Towns	Not Visited Any Other Town
Manipur	435	8.0	9.7	6.4	67.6
Meghalaya*	88	45.5	10.2	12.5	31.8
Mizoram	250	11.6	0.8	0.0	86.4
Nagaland	490	13.3	14.3	6.1	64.1
Odisha	250	0.0	0.0	0.0	100.0
Puducherry	750	14.9	27.1	36.1	20.3
Punjab	749	52.6	20.4	2.4	22.4
Rajasthan	250	35.6	22.4	8.4	30.0
Tamil Nadu	3,482	19.1	29.8	8.5	40.1
Telangana	974	41.6	21.9	2.1	33.2
Uttar Pradesh	1,453	60.0	6.4	5.6	22.4
Uttarakhand	224	30.4	28.6	0.0	37.5
West Bengal	987	35.7	15.5	2.9	44.7
India	**24,393**	**32.3**	**19.0**	**7.4**	**37.2**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution; #Total may not add up to 100% due to missing/no response.

All MSM were asked about their recent sexual activities, specifically when they last engaged in anal sex, the type of partners (regular/commercial/casual) they engaged with, and condom use. At the national level, 62.0% of MSM reported that they had sexual intercourse with a male partner within the past week. A majority (80.0%–98.0%) of MSM respondents in Odisha, Uttarakhand, Punjab, Andhra Pradesh, Rajasthan, Gujarat and Telangana had sexual intercourse within the last week with their male partners. Around 35.7% of MSM reported that their last sexual partner was a regular male partner, while for 32.7% it was a commercial male partner and for 29.0% it was a casual partner. A significant proportion of MSM who reported having their last sexual intercourse with commercial male partners were from Punjab (72.9%), Himachal Pradesh (66.5%), Uttarakhand (61.2%), Bihar (58.9%) and Uttar Pradesh (55.5%). In contrast, most of the MSM respondents in Rajasthan (94.8%), followed by Goa (76.6%), Mizoram (68.4%), Odisha (64.8%) and West Bengal (63.3%) reported having their last sexual intercourse with a casual male partner (*see Table 4.16*).

MSM were also asked whether they used condoms during their last sexual intercourse with a male partner. Nationally, more than 90% of MSM respondents across all States/UTs reported using condoms with their male partners (*see Table 4.16*). Reported condom use was significantly low in Manipur (44.1%) with regular partners.

4.6 Sexual Behaviour and Condom Use Practices with Female Partners

All MSM were asked if they ever had sexual intercourse with a female partner. Those who reported ever having sex with female partners were asked about the type of partners (regular/commercial/casual) and condom use practices.

About 43.3% of the MSM across the country reported having engaged in sex acts with female partners at some point in their lives. Information regarding their most recent sex acts with female partners was also collected, with 83.3% of MSM indicating their last sex act was with their regular female partners, while 12.3% engaged with commercial female partners and 4.4% had casual partners. Compared to the national average, States with a higher proportion of MSM reporting ever having a female partner were Chhattisgarh (84.2%), Andhra Pradesh (75.8%), Odisha (74.8%) and Bihar (74.4%) (*see Table 4.17*). A significant proportion of MSM who reported their most recent sex act with commercial female partners were from the States of Uttar Pradesh (45.5%), West Bengal (44.9%), Delhi (42.4%) and Jharkhand (34.0%).

At the national level, nearly half of MSM respondents reported having sex with a female partner during the past month, while 10.6% reported a similar experience more than a year ago. A majority (74.8%) of MSM respondents in Odisha reported ever having female sexual partners, and almost all of them had engaged in sex acts with their female partners within the past month.

MSM were asked if they used condoms during their most recent sex act with a female partner. Among the 83.3% of MSM who reported having sex with regular female partners, 49.4% of respondents reported using condoms during the sex act (*see Table 4.17*). Notably, condom use was high at 88.5% with a commercial female partner and 80.6% with a casual female partner. The reported condom use was significantly lower in West Bengal, where condom use during the last sex act with regular and commercial female partners was 29.8% and 53.0% respectively.

Table 4.16: Sexual Behaviour with Male Partners by State/UT, HSS Plus 2021

State/UT	N	Last Anal Sex Act (%)#			MSM Partner Types and Condom Use Practices During Last Sex Act (%)					
		Less Than a Week	One Week to Less Than Two Weeks	Two Weeks to Less Than One Month	Had a Regular Male Partner	Condom Use with a Regular Partner	Had a Commercial Male Partner	Condom Use with a Commercial Partner	Had a Casual Male Partner	Condom Use with a Casual Partner
Andhra Pradesh	1,213	89.4	9.3	0.1	45.8	96.6	43.8	98.3	8.3	94.1
Assam	747	48.1	36.5	15.0	35.3	75.0	2.4	77.8	62.0	70.4
Bihar	246	39.4	56.9	3.7	41.1	99.0	58.9	99.3	0.0	-
Chandigarh	249	55.8	18.5	24.1	36.9	91.3	41.4	90.3	20.9	94.2
Chhattisgarh	499	33.9	58.5	5.8	77.2	90.1	17.6	87.5	4.6	69.6
Delhi	502	43.6	40.4	9.0	5.2	61.5	47.2	79.3	35.7	89.9
Goa	500	73.0	18.4	4.0	14.4	90.3	7.8	89.7	76.6	97.4
Gujarat	1,975	82.4	14.5	2.3	28.1	92.6	21.9	99.3	48.7	97.3
Haryana	1,001	78.5	18.8	2.0	23.2	88.8	48.2	99.2	18.7	98.9
Himachal Pradesh	257	80.2	16.7	0.8	21.4	100.0	66.5	98.8	1.9	100.0
Jharkhand	419	71.4	23.9	4.3	69.9	99.7	13.1	98.2	16.0	98.5
Karnataka	1,955	51.1	35.4	10.5	34.8	92.2	46.1	96.7	17.2	98.8
Kerala	2,000	43.9	34.8	11.6	35.5	95.4	10.4	98.1	50.6	87.7
Madhya Pradesh	1,253	67.0	26.3	4.9	38.9	89.3	43.4	98.9	16.5	77.3
Maharashtra	1,195	67.2	21.6	8.1	19.0	78.4	14.8	99.4	62.1	99.1
Manipur	435	12.6	41.4	36.6	41.1	44.1	47.8	98.1	3.7	100.0
Meghalaya*	88	45.5	42.0	9.1	47.7	95.2	42.0	89.2	5.7	100.0
Mizoram	250	3.2	47.6	48.4	30.8	98.7	0.4	100.0	68.4	99.4
Nagaland	490	66.9	18.6	7.3	65.7	98.8	15.9	97.4	17.6	100.0
Odisha	250	98.0	0.0	0.0	33.6	96.4	1.6	100.0	64.8	99.4
Puducherry	750	76.8	10.1	9.2	55.2	97.8	31.5	99.2	10.0	100.0
Punjab	749	89.9	3.9	5.1	14.3	79.4	72.9	95.4	11.9	97.8
Rajasthan	250	82.8	15.6	1.2	2.8	100.0	2.0	80.0	94.8	95.4
Tamil Nadu	3,482	44.1	31.6	21.4	49.6	87.2	39.5	94.7	7.8	90.8
Telangana	974	81.1	14.8	3.2	56.7	98.0	18.9	89.7	23.2	99.6
Uttar Pradesh	1,453	60.5	17.9	20.4	16.2	93.2	55.5	84.2	27.0	99.0
Uttarakhand	224	96.0	3.6	0.4	38.8	98.9	61.2	100.0	0.0	–
West Bengal	987	71.8	13.7	14.2	14.5	94.4	21.8	85.1	63.3	69.6
India	**24,393**	**62.0**	**24.5**	**10.7**	**35.7**	**90.8**	**32.7**	**94.6**	**29.0**	**91.1**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution. #Total may not add up to 100% due to missing/no response.

Table 4.17: Sexual Behaviour with Female Partners by State/UT, HSS Plus 2021

State/UT	N	Had a Female Sexual Partner	Last Sexual Intercourse (%)#				Partners During Last Sexual Intercourse and Condom Use Practices (%)					
			Less Than a Week	Between One Week and Less Than Two Weeks	Between Two Weeks and Less Than One Month Ago	More Than a Month Ago	Regular Female Partner	Condom Use with Regular Female Partner	Commercial Female Partner	Condom Use with Commercial Female Partner	Casual Female Partner	Condom Use with Casual Female Partner
Andhra Pradesh	1,213	75.8	69.2	12.5	7.6	10.7	73.0	42.6	18.7	97.7	8.3	92.1
Assam	747	9.6	47.2	5.6	16.7	30.6	72.2	19.2	18.1	61.5	9.7	85.7
Bihar	246	74.4	4.9	30.1	53.0	12.0	92.2	98.8	7.8	100.0	0.0	–
Chandigarh	249	60.6	24.7	32.7	32.0	10.7	90.6	68.1	6.7	80.0	2.7	75.0
Chhattisgarh	499	84.2	29.8	52.4	13.1	4.8	89.3	75.1	1.9	100.0	8.8	97.3
Delhi	502	14.7	28.6	35.7	31.4	4.3	48.5	75.0	42.4	96.4	9.1	83.3
Goa	500	40.2	64.6	13.6	10.6	11.1	79.3	33.1	12.1	70.8	8.6	100.0
Gujarat	1,975	55.5	49.2	27.1	14.6	9.1	91.0	58.5	4.1	88.6	4.9	83.0
Haryana	1,001	37.6	56.8	13.6	19.7	9.9	91.9	63.4	7.2	88.5	0.8	66.7
Himachal Pradesh	257	50.2	90.6	7.0	0.0	2.3	94.3	37.9	1.6	100.0	4.1	100.0
Jharkhand	419	47.0	66.5	29.8	3.7	0.0	65.4	98.4	34.0	100.0	0.5	100.0
Karnataka	1,955	41.4	49.9	32.0	13.8	4.2	77.3	46.9	18.9	95.3	3.8	100.0
Kerala	2,000	43.7	53.5	26.2	7.5	12.9	86.3	36.0	6.1	73.6	7.7	65.7
Madhya Pradesh	1,253	54.3	44.1	29.8	16.7	9.4	90.1	71.5	8.2	96.4	1.8	75.0
Maharashtra	1,195	36.2	52.1	23.5	14.2	10.2	87.1	27.5	7.0	90.0	5.9	92.0
Manipur	435	23.7	22.0	33.0	9.0	36.0	93.9	8.7	6.1	66.7	0.0	–
Meghalaya*	88	23.9	85.0	10.0	0.0	5.0	33.3	100.0	61.9	100.0	4.8	100.0
Mizoram	250	12.4	0.0	0.0	12.9	87.1	25.8	37.5	0.0	–	74.2	43.5
Nagaland	490	5.1	37.5	45.8	12.5	4.2	100.0	40.9	0.0	–	0.0	–
Odisha	250	74.8	98.4	1.6	0.0	0.0	99.5	94.1	0.0	–	0.5	100.0
Puducherry	750	61.6	53.2	32.3	12.3	2.2	88.4	42.5	7.9	86.1	3.7	70.6
Punjab	749	33.0	67.3	16.3	5.7	10.6	88.0	58.7	9.5	95.7	2.5	83.3
Rajasthan	250	61.6	32.0	33.3	30.7	3.9	84.4	80.8	9.7	86.7	5.8	100.0
Tamil Nadu	3,482	40.1	28.4	23.3	25.9	22.4	91.1	30.8	7.6	77.1	1.3	72.2
Telangana	974	51.3	66.1	21.5	5.7	6.7	88.9	21.2	10.5	72.0	0.6	100.0
Uttar Pradesh	1,453	36.1	30.2	50.8	11.3	7.7	51.6	64.2	45.5	97.9	2.9	86.7
Uttarakhand	224	49.6	73.0	9.9	15.3	1.8	82.0	56.0	18.0	90.0	0.0	–
West Bengal	987	19.0	68.5	15.5	5.5	10.5	45.4	29.8	44.9	53.0	9.7	22.2
India	**24,393**	**43.3**	**49.0**	**25.9**	**14.5**	**10.6**	**83.3**	**49.4**	**12.3**	**88.5**	**4.4**	**80.6**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution. #Total may not add up to 100% due to missing/no response.

4.7 Stigma and Discrimination

MSM as a group are often marginalized due to their same-sex behaviours. They face considerable stigma and discrimination in society from family, employers, service providers and others. Such discrimination prevents them from accessing necessary services and adopting safer practices. To better understand of the perceived and enacted stigma and discrimination that MSM face, HSS Plus included questions on this issue. All MSM were asked if they avoided seeking health-care services from the health facility and/or seeking HIV testing services because of fear or concern of harassment, bad words, negative attitudes and comments in the health setting or fear or concern that someone in the health-care setting might learn that they were MSM or fear of physical violence in the health-care setting or fear of harassment or arrest by law enforcement officials in the health-care setting. The same questions were also asked to those MSM who knew their HIV-positive status to understand the extent of stigma and discrimination experienced by this sub-group while seeking ART/HIV services. Overall, 29.0% of MSM respondents reported avoiding seeking health-care services, while around 27.7% reported avoiding seeking HIV testing services from hospitals/clinics/government private health facilities at least once in the past 12 months preceding the surveillance due to stigma and discrimination-related issues. About 90.0% of respondents in Jharkhand and Bihar reported stigma in seeking both health-care services and HIV-testing services. A significant proportion (68.8%–79.1%) of MSM respondents in Mizoram, Delhi and Chhattisgarh also reported the same (*see Table 4.18 and 4.19*). Among MSM who reported their last test result as positive, around one-third (31.5%) reported avoiding seeking ART/HIV treatment services at least once in the 12 months preceding the survey.

Table 4.18: Stigma and Discrimination in Seeking Health-care Services by State/UT, HSS Plus 2021

State/UT	N	Services Avoided Due to Stigma and Discrimination (%)				
		Health-care Services	Seeking Health Care for Fear of Harassment	Seeking Health-care Services for Fear of Violence	Seeking Health-care Services for Loss of Confidentiality	Seeking Health-care Services for Fear of Law Enforcement Personnel
Andhra Pradesh	1,213	7.9	7.3	0.6	7.5	0.8
Assam	747	3.7	0.1	0.0	3.6	0.0
Bihar	246	88.2	46.3	49.6	85.8	87.8
Chandigarh	249	40.2	9.2	17.3	24.5	5.2
Chhattisgarh	499	76.8	26.5	1.2	76.8	1.4
Delhi	502	79.1	63.5	20.5	61.2	19.7
Goa	500	18.4	12.0	3.0	10.6	7.2
Gujarat	1,975	15.7	7.2	3.5	14.5	1.8
Haryana	1,001	48.8	30.9	11.7	46.4	10.9
Himachal Pradesh	257	41.6	3.9	3.5	40.9	1.6
Jharkhand	419	92.8	69.5	30.8	62.1	25.3

State/UT	N	Services Avoided Due to Stigma and Discrimination (%)				
		Health-care Services	Seeking Health Care for Fear of Harassment	Seeking Health-care Services for Fear of Violence	Seeking Health-care Services for Loss of Confidentiality	Seeking Health-care Services for Fear of Law Enforcement Personnel
Karnataka	1,955	16.0	3.4	2.0	14.2	4.9
Kerala	2,000	37.7	27.1	18.8	37.5	19.6
Madhya Pradesh	1,253	28.4	19.5	1.4	24.7	0.7
Maharashtra	1,195	35.1	25.1	13.1	34.6	11.5
Manipur	435	38.4	2.5	3.7	32.4	0.0
Meghalaya*	88	1.1	1.1	1.1	1.1	1.1
Mizoram	250	68.8	36.8	0.8	62.8	0.4
Nagaland	490	20.4	11.6	1.2	19.2	1.4
Odisha	250	0.0	0.0	0.0	0.0	0.0
Puducherry	750	8.0	4.0	0.9	4.7	3.3
Punjab	749	20.0	7.6	7.3	16.3	5.5
Rajasthan	250	23.6	13.6	7.2	15.2	5.6
Tamil Nadu	3,482	18.7	10.3	4.6	15.3	4.1
Telangana	974	55.4	25.6	0.3	49.5	0.3
Uttar Pradesh	1,453	22.0	6.2	3.2	21.5	1.2
Uttarakhand	224	45.5	45.1	21.4	21.9	45.1
West Bengal	987	31.0	18.0	8.9	23.6	8.6
India	**24,393**	**29.0**	**16.0**	**6.8**	**25.4**	**7.0**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution.

Table 4.19: Stigma and Discrimination in Seeking HIV Testing Services by State/UT, HSS Plus 2021

State/UT	N	Services Avoided Due to Stigma and Discrimination (%)				
		HIV Testing	HIV Testing for Fear of Harassment	HIV Testing for Fear of Loss of Confidentiality	HIV Testing for Fear of Physical Violence	HIV Testing for Fear of Law Enforcement Personnel
Andhra Pradesh	1,213	8.1	7.3	7.7	0.7	0.7
Assam	747	9.2	0.0	9.2	0.0	0.1
Bihar	246	88.2	46.3	86.2	49.6	87.8
Chandigarh	249	40.2	5.6	23.3	15.7	7.6
Chhattisgarh	499	77.0	26.7	76.8	1.6	1.4
Delhi	502	70.5	60.0	58.2	20.5	18.1
Goa	500	17.4	11.6	8.0	4.4	6.4
Gujarat	1,975	15.2	7.1	13.9	3.3	1.7
Haryana	1,001	47.7	30.8	45.3	11.8	11.0

State/UT	N	Services Avoided Due to Stigma and Discrimination (%)				
		HIV Testing	HIV Testing for Fear of Harassment	HIV Testing for Fear of Loss of Confidentiality	HIV Testing for Fear of Physical Violence	HIV Testing for Fear of Law Enforcement Personnel
Himachal Pradesh	257	40.9	4.3	40.1	3.5	1.6
Jharkhand	419	92.8	72.6	60.6	31.7	26.0
Karnataka	1,955	10.4	3.2	8.4	1.1	1.8
Kerala	2,000	42.9	27.1	42.6	18.8	19.3
Madhya Pradesh	1,253	27.2	16.7	22.8	1.8	0.7
Maharashtra	1,195	35.1	24.9	34.5	13.1	11.3
Manipur	435	33.1	0.5	29.0	4.1	0.0
Meghalaya*	88	1.1	1.1	1.1	1.1	1.1
Mizoram	250	68.0	36.0	62.8	0.8	0.0
Nagaland	490	17.3	9.4	17.1	1.0	0.6
Odisha	250	0.0	0.0	0.0	0.0	0.0
Puducherry	750	7.2	3.7	4.7	1.1	2.9
Punjab	749	19.1	7.6	15.5	7.9	5.2
Rajasthan	250	24.0	16.8	16.8	4.0	5.6
Tamil Nadu	3,482	20.6	10.6	17.2	5.1	3.5
Telangana	974	41.3	13.8	33.8	0.0	0.0
Uttar Pradesh	1,453	20.6	5.4	20.2	2.9	1.1
Uttarakhand	224	10.7	8.0	7.6	1.3	4.0
West Bengal	987	25.1	12.6	21.4	8.5	8.5
India	**24,393**	**27.7**	**14.6**	**24.4**	**6.6**	**6.2**

*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution.

4.8 Levels of HIV

In the HSS Plus 2021 round, at the national level, the observed HIV prevalence was 3.26% (95% CI: 3.03–3.48) vis-à-vis 2.69% (95% CI: 2.47–2.91) noted in the 2017 round. Figures 4.7, 4.8 and Table 4.20 depict the sero-prevalence of HIV at the State/UT level. In terms of co-infections, the sero-prevalence of HIV-HBV among MSM was 0.16% (95% CI: 0.11–0.21), while the sero-prevalence of HIV-HCV was 0.19%. (95% CI: 0.13–0.24). The sero-prevalence for HBV and HCV among the HIV-positive respondents was 4.79% (95% CI: 3.31–6.28) and 5.80% (95% CI: 4.17–7.43), respectively.

The highest HIV prevalence was noted in the State of Mizoram (12.80%, 95% CI: 8.66–16.94), followed by Punjab (11.62%, 95% CI: 9.32–13.91), Manipur (9.43%, 95% CI: 6.68–12.17), Meghalaya (9.09%, 95% CI: 3.08–15.10), Haryana (6.89%, 95% CI: 5.32–8.46), Jharkhand (6.68%, 95% CI: 4.29–9.07), Rajasthan (6.40%, 95% CI: 3.37–9.43), Gujarat (4.61%, CI: 3.68–5.53), West Bengal (4.36%, CI: 3.08–5.63), Maharashtra (4.18%, CI: 3.05–5.32), Chhattisgarh (4.01%, CI: 2.29–5.73) and Assam (3.61%, CI: 2.78–4.95).

Figure 4.7: State/UT-wise HIV Prevalence among MSM, HSS Plus 2021 (in %)

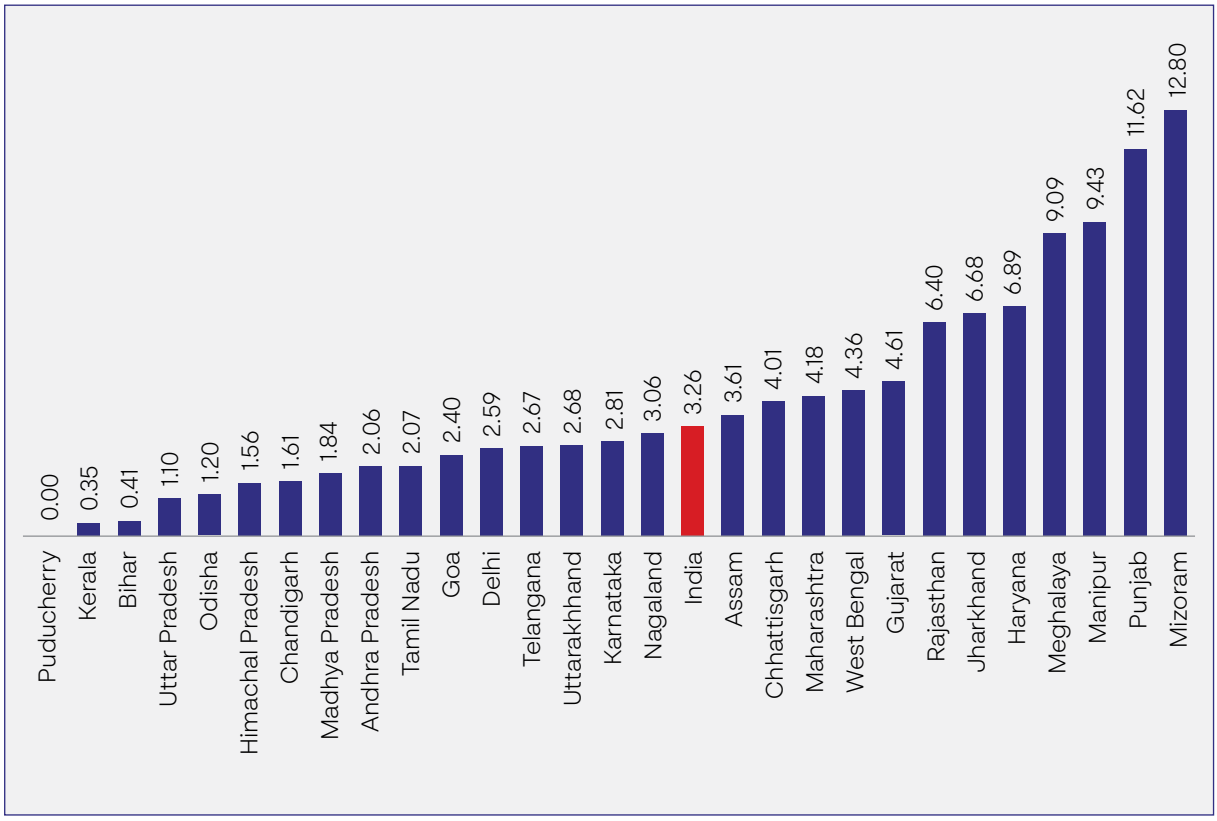


Table 4.20: State/UT-wise Sero-prevalence of HIV among MSM, HSS Plus 2021 (in %)

State/UT	HIV	
	N	Sero-prevalence
Andhra Pradesh	1,213	2.06 (1.26–2.86)
Assam	747	3.61 (2.78–4.95)
Bihar	246	0.41 (0.00–1.20)
Chandigarh	249	1.61 (0.04–3.17)
Chhattisgarh	499	4.01 (2.29–5.73)
Delhi	502	2.59 (1.20–3.98)
Goa	500	2.40 (1.06–3.74)
Gujarat	1,975	4.61 (3.68–5.53)
Haryana	1,001	6.89 (5.32–8.46)
Himachal Pradesh	257	1.56 (0.04–3.07)
Jharkhand	419	6.68 (4.29–9.07)
Karnataka	1,955	2.81 (2.08–3.55)
Kerala	2,000	0.35 (0.09–0.61)
Madhya Pradesh	1,253	1.84 (1.09–2.58)

State/UT	HIV	
	N	Sero-prevalence
Maharashtra	1,195	4.18 (3.05–5.32)
Manipur	435	9.43 (6.68–12.17)
Meghalaya*	88	9.09 (3.08–15.10)
Mizoram	250	12.80 (8.66–16.94)
Nagaland	490	3.06 (1.54–4.59)
Odisha	250	1.20 (0.00–2.55)
Puducherry	750	0.00 (0.00–0.00)
Punjab	749	11.62 (9.32–13.91)
Rajasthan	250	6.40 (3.37–9.43)
Tamil Nadu	3,482	2.07 (1.60–2.54)
Telangana	974	2.67 (1.66–3.68)
Uttar Pradesh	1,453	1.10 (0.56–1.64)
Uttarakhand	224	2.68 (0.56–4.79)
West Bengal	987	4.36 (3.08–5.63)
India	**24,393**	**3.26 (3.03–3.48)**

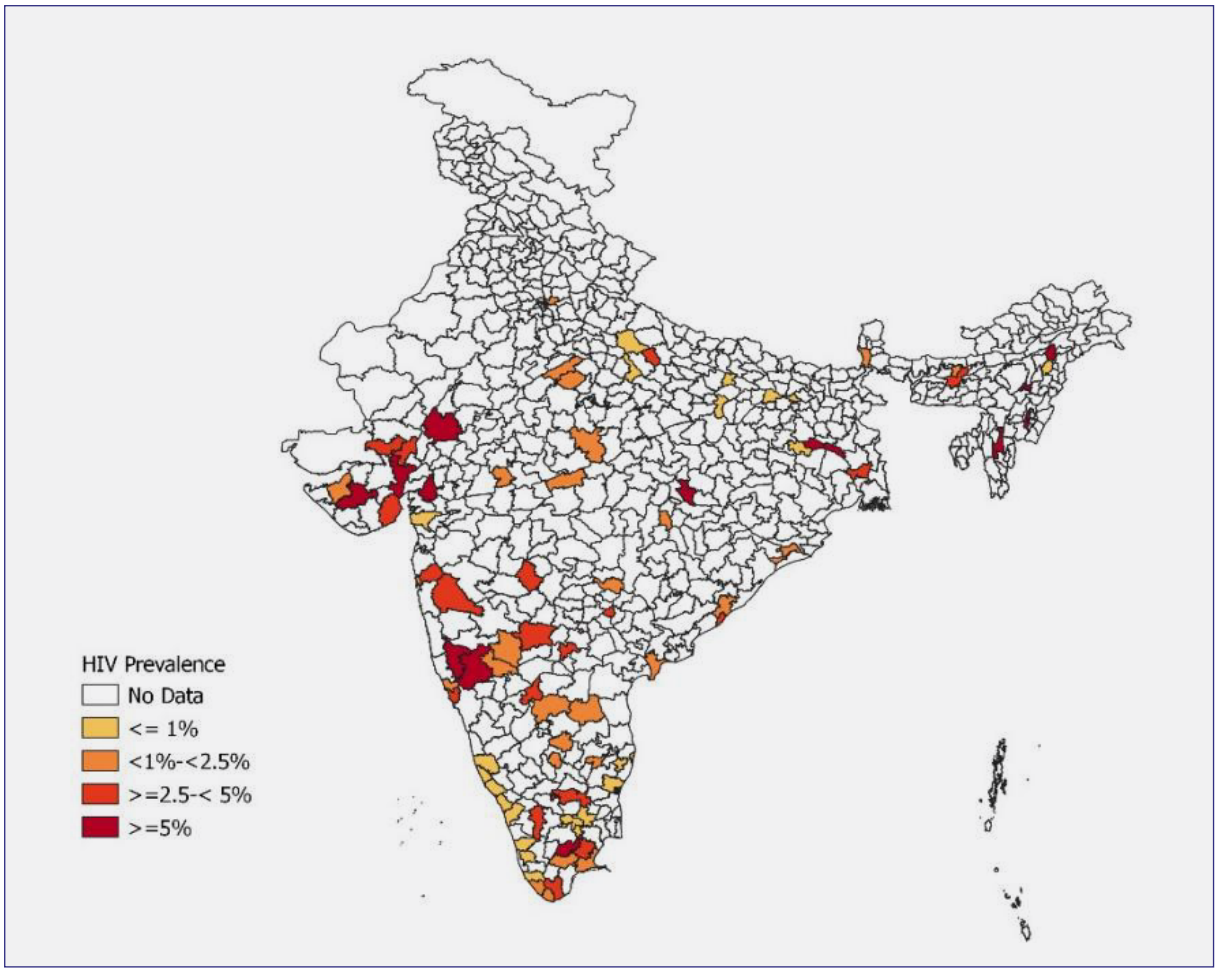
*In Meghalaya, less than 75% of the target sample size was achieved. Findings from Meghalaya should be interpreted with caution.

During the 17th round of HSS Plus 2021, there were 20 MSM sites across 14 States that recorded a prevalence of 5% or higher. These States included Assam (1), Chhattisgarh (1), Gujarat (3), Haryana (2), Jharkhand (1), Karnataka (1), Maharashtra (1), Manipur (2), Mizoram (1), Nagaland (1), Punjab (3), Rajasthan (1), Tamil Nadu (1) and West Bengal (1). In comparison, during the HSS 2017 round, there were 13 MSM sites recording a prevalence of 5% or higher. In the States of Punjab and Gujarat, the number of sites with 5% or higher HIV prevalence increased between the two HSS rounds. In Punjab, the observed HIV prevalence in the HSS Plus 2021 round was 11.62% vis-à-vis 4.67% in HSS 2017. Similarly in Gujarat, HIV prevalence was at 4.61% in HSS Plus 2021 vis-à-vis 3.99 in HSS 2017.

4.9 HIV Prevalence by Respondents' Characteristics

Table 4.21 presents the HIV prevalence among MSM categorized by background characteristics at the national level in HSS Plus 2021. In general, the HIV prevalence among MSM has been observed to increase with age. The highest prevalence of 8.06% was noted among MSM who were 45+ years of age, which is almost twice the prevalence (4.14%) among those between 35 and 44 years of age (*see Figure 4.9*). Similar to FSWs, HIV prevalence was higher among MSM who were divorced/separated/widowed (6.62%) than those who were currently married (3.09%) or never

Figure 4.8: District-wise HIV Prevalence among MSM, HSS Plus 2021 (in %)



married (3.24%) (*see Figure 4.10*). In general, HIV prevalence decreased with increasing levels of education. The highest prevalence was observed among those who were illiterates (5.53%), followed by those who received education up to 5th (3.81%) or between 6th and 10th standards (3.12%) (*see Figure 4.11*). HIV prevalence was almost similar among MSM belonging to rural and urban areas (3.27% and 3.26% respectively) (*see Figure 4.12*).

HIV prevalence was highest among MSM who reported begging as their primary occupation, followed by those engaged as dancers in bars and clubs, or working as labourers. Among MSM who reported sex work as their profession, the HIV prevalence was 3.87%. A prevalence of 3% or more was noted among MSM who worked as domestic servants, skilled or semi-skilled workers, were unemployed, engaged in government or private sector jobs, operated large or small business enterprises or worked as masseurs. (*see Figure 4.13*).

Figure 4.9: HIV Prevalence among MSM by Age Group, HSS Plus 2021 (in %)

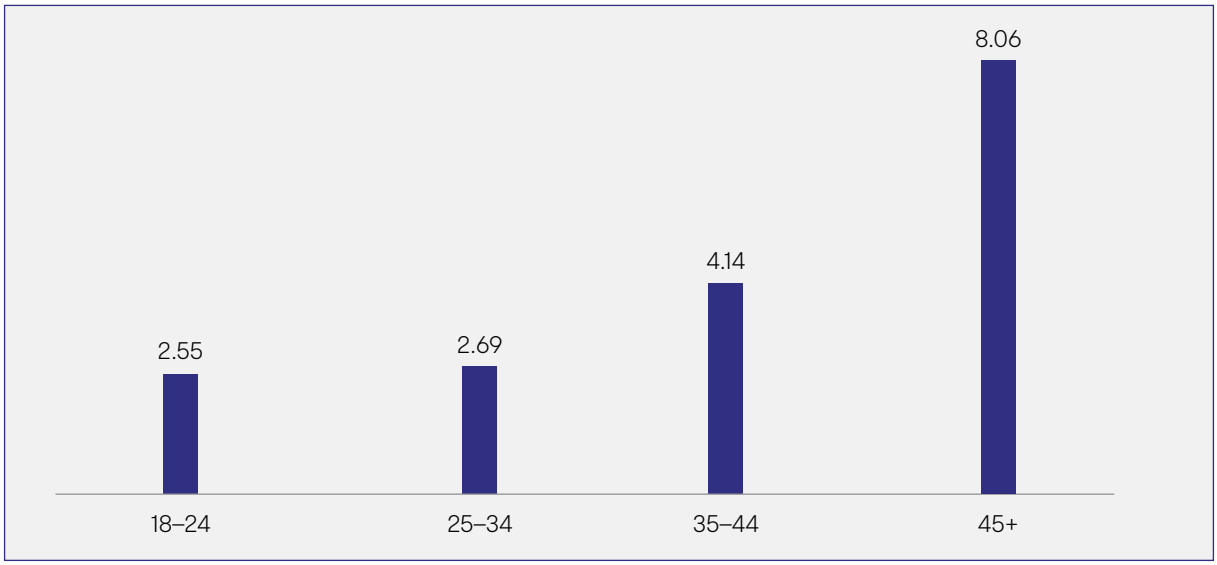


Figure 4.10: HIV Prevalence among MSM by Marital Status, HSS Plus 2021 (in %)

Figure 4.11: HIV Prevalence among MSM by Education, HSS Plus 2021 (in %)

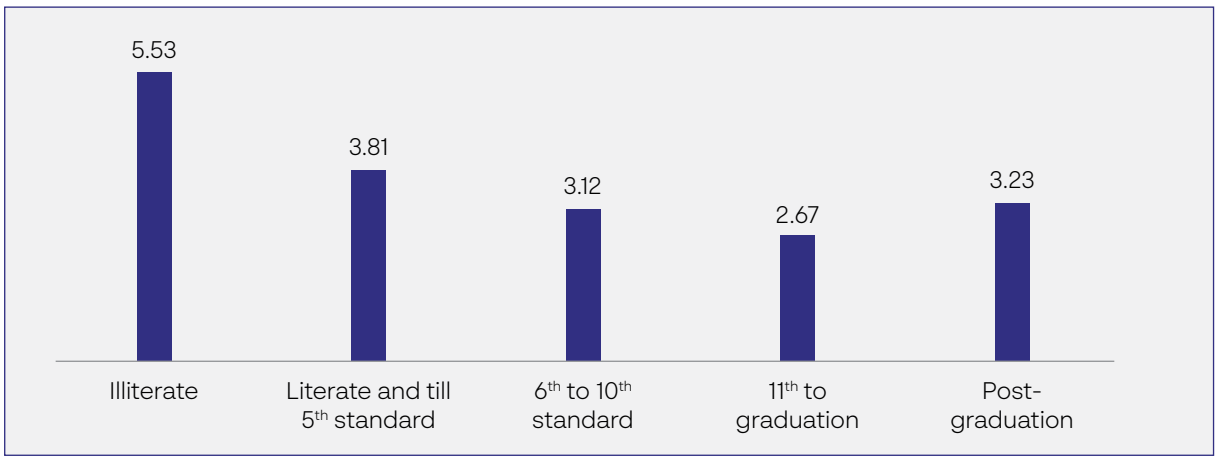


Figure 4.12: HIV Prevalence among MSM by Place of Residence, HSS Plus 2021 (in %)

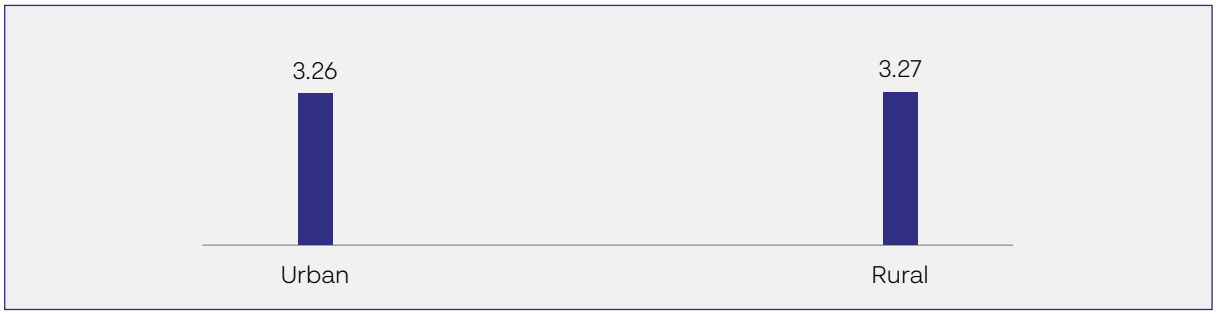


Figure 4.13: HIV Prevalence among MSM by Occupation, HSS Plus 2021 (in %)

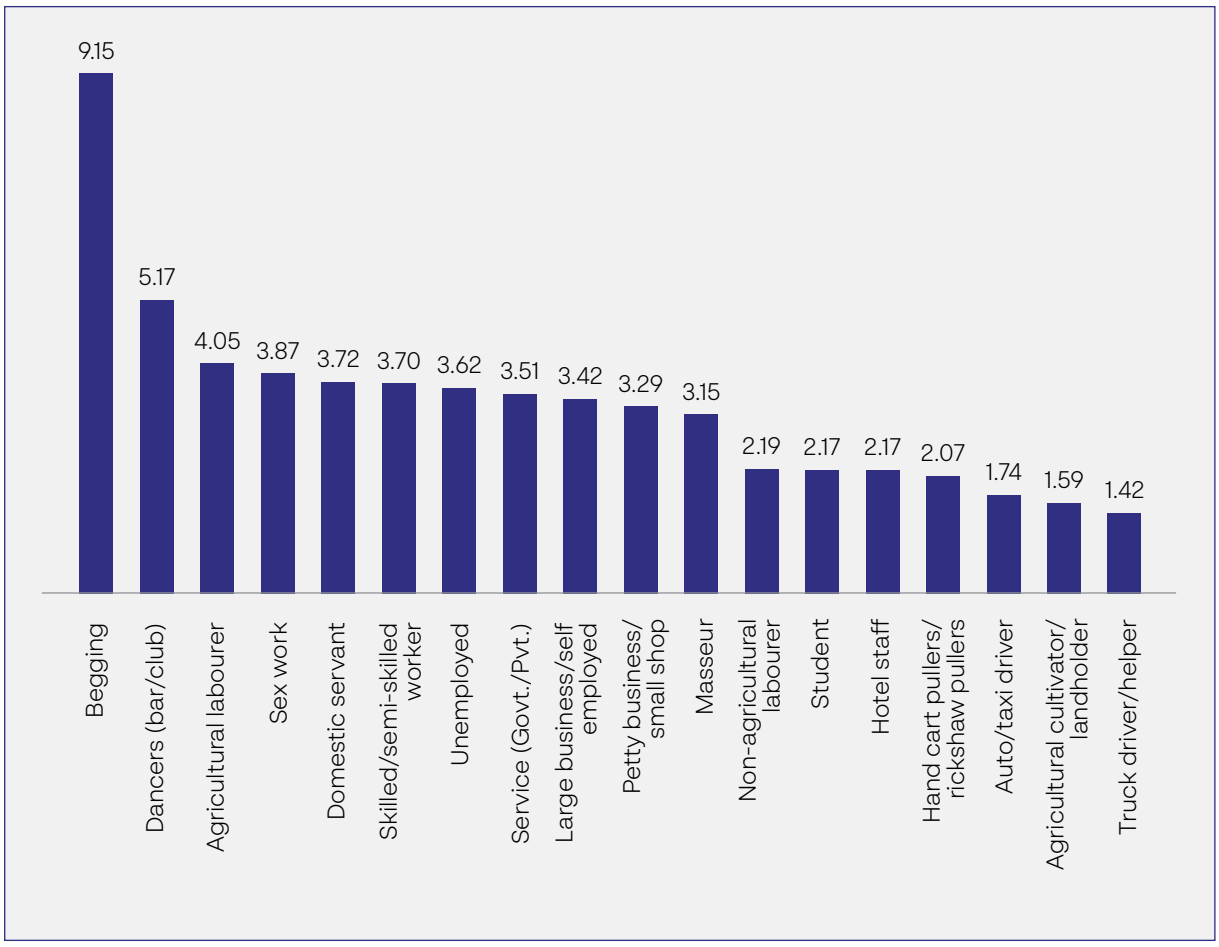


Table 4.21: HIV Prevalence among MSM by Background Characteristics, HSS Plus 2021

Background Characteristics	Disaggregation	Distribution		HIV-positive
		Frequency*	Percent	Percent
Age	18–24 years	5,489	22.5	2.55
	25–34 years	12,389	50.8	2.69
	35–44 years	5,212	21.4	4.14
	45+ years	1,303	5.3	8.06
Residence	Urban	18,344	75.2	3.26
	Rural	5,691	23.3	3.27
Marital status	Never married	14,956	61.3	3.24
	Currently married	8,584	35.2	3.09
	Divorced/separated/widowed	604	2.5	6.62
Education	Illiterate	1,519	6.2	5.53
	Literate and till 5th standard	4,068	16.7	3.81
	6th to 10th standard	11,194	45.9	3.12
	11th to graduation	6,693	27.4	2.67
	Post-graduation	804	3.3	3.23
Respondent's primary occupation	Agricultural labourer	1,087	4.5	4.05
	Non-agricultural labourer	2,925	12.0	2.19
	Domestic servant	752	3.1	3.72
	Skilled/semi-skilled worker	2,675	11.0	3.70
	Petty business/small shop	2,495	10.2	3.29
	Large business/self employed	1,052	4.3	3.42
	Service (Govt./Pvt.)	4,049	16.6	3.51
	Student	1,106	4.5	2.17
	Truck Driver/Helper	424	1.7	1.42
	Auto/Taxi Driver	1,204	4.9	1.74
	Hand cart pullers/rickshaw pullers	290	1.2	2.07
	Hotel staff	1,152	4.7	2.17
	Agricultural cultivator/landholder	126	0.5	1.59
	Sex work	1,397	5.7	3.87
	Masseur	349	1.4	3.15
	Dancers (bar/club)	445	1.8	5.17
	Begging	284	1.2	9.15
	Unemployed	1,823	7.5	3.62

*Total may not add up to 24,393 because of missing/not applicable response

05

Injecting Drug Users

Injecting drug users (IDUs) are recognized as a key HRG population contributing significantly to the concentrated HIV epidemic in the country. According to the HIV Sentinel Surveillance (HSS) data from 2017, the HIV prevalence among IDUs was notably high at 6.26%. In comparison, the prevalence was 1.56% among FSWs, 2.69% among MSM, and 3.14% among H/TG persons. Given the concentrated nature of India's HIV epidemic, it is imperative to focus on targeted interventions among IDUs as a core component of HIV prevention and control efforts in India. These targeted interventions are designed to provide HRGs with the necessary information, means and skills needed to prevent HIV transmission and improve their access to essential care, support and treatment services. This programme also places a strong emphasis on improving the overall sexual and general health of HRGs. With an estimated population of 2.89 lakhs, IDUs represent the third largest HRG in India, following FSWs (9.95 lakhs) and MSM (3.51 lakhs).

Table 5.1: Sample Size and Response Rate by State/UT, IDU Sites, HSS Plus 2021

State/UT	No. of HSS sites	Final Sample Size Achieved	Response Rate (%)
Andhra Pradesh	3	606	78.4
Arunachal Pradesh	1	250	100.0
Assam	3	587	98.5
Bihar	2	490	99.4
Chandigarh	1	250	98.5
Chhattisgarh	3	750	99.1
Delhi	3	750	100.0
Goa	1	250	100.0
Gujarat	1	250	99.2
Haryana	4	1,007	96.7
Himachal Pradesh	1	250	100.0

State/UT	No. of HSS sites	Final Sample Size Achieved	Response Rate (%)
J&K and Ladakh	4	1,009	98.2
Karnataka*	1	156	100.0
Kerala	3	750	94.9
Madhya Pradesh	4	1,013	93.9
Maharashtra	1	201	74.4
Manipur	13	3,246	99.8
Meghalaya	2	418	92.9
Mizoram	7	1,730	93.6
Nagaland	11	2,650	98.7
Odisha	4	1,000	99.3
Punjab	13	3,280	99.0
Sikkim	2	500	100.0
Tripura	1	250	100.0
Telangana	1	250	100.0
Uttar Pradesh	16	3,891	99.7
Uttarakhand	2	471	98.2
West Bengal	2	500	98.8
India	**110**	**26,755**	**97.6**

*In Karnataka, less than 75% of the target sample size was achieved. Findings from Karnataka should be interpreted with caution.

In the HSS Plus study, IDUs were operationally defined as individuals, both men and women, aged 18 years or older, who used addictive substances or drugs for recreational or non-medical reasons, through injections, at least once within the last three months. This surveillance was conducted among the IDU group across 110 sentinel sites spread across 28 States/UTs (*see Table 5.1*). A total of 26,755 IDUs were recruited in the surveillance, with a national response rate of 97.6%. In almost all the States, the response rate exceeded 90%, except in Maharashtra (74.4%), and Andhra Pradesh (78.4%). The findings presented in this report are based on an analysis of valid bio-behavioural data collected from 26,755 participants.

The initial section of this chapter provides an overview of the respondents' background characteristics, including age, current marital status, education status, current place of residence, primary occupation, and cell phone ownership. Subsequently, the HIV/AIDS-related service uptake, awareness and use of pre-exposure prophylaxis (PrEP), injecting drug use practices, sexual behaviour and condom use practices, and stigma and discrimination have been presented, followed by the prevalence of HIV nationally and by State/UT among IDUs, which provide a comprehensive perspective of the situation.

5.1 Respondents' Characteristics

Demographic information such as age, literacy status, occupation, etc. was collected from all respondents. This section describes these profile characteristics of IDUs across different States/UTs in the country. As described earlier, participants had to be at least 18 years of age to be eligible for recruitment in HSS Plus 2021. The mean age of respondents was 31.3 years nationally and ranged between 23.5 and 39.7 years across different States/UTs (*see Table 5.2*). States with higher mean age among IDUs were Maharashtra (39.7 Years), Bihar (36.7 years) and Gujarat (36.2 years). In comparison, the mean age of IDUs was comparatively lower in the states of Arunachal Pradesh (23.5 years), Tripura (26.3 years), Sikkim (27.1 years), Delhi (28.6%) and Meghalaya (28.1%).

Overall, around half (50.4%) of the IDUs surveyed were ages 25–34 years, followed by those who were 35–44 years (23.5%). Around one-fifth (19.4%) of the respondents belonged to the 18–24 years age group, while respondents over 45 years of age represented a smaller proportion (6.8%) of the overall sample. In a majority of the States, more than 40% of IDU respondents were between 25 and 34 years old, similar to the national level. In Arunachal Pradesh (63.6%) and Tripura (45.2%), a significant proportion of the respondents were between 18 and 24 years old. However, in the States of Maharashtra (26.4%) and Bihar (24.5%), a notable proportion of the recruited IDUs were aged 45 years or older.

All respondents were asked about their marital status, with particular attention to married IDUs due to the potential risk of HIV transmission to their spouses. Nationally, 41.7% of IDUs reported being currently married, while a larger proportion, 51.1%, reported being unmarried (*see Figure 5.2*). Marital status varied considerably across States. Notably, a large proportion of IDUs in Arunachal Pradesh (80%) were unmarried, whereas in Bihar, about 79.8% of IDUs were married. Nationally, about 6.6% of IDU respondents reported being divorced/separated/widowed. However, a higher proportion of IDU respondents in Gujarat (28%) and Mizoram (20.8%) reported being divorced/separated/widowed.

Figure 5.1: Distribution of IDUs by Age Group, HSS Plus 2021 (in %)

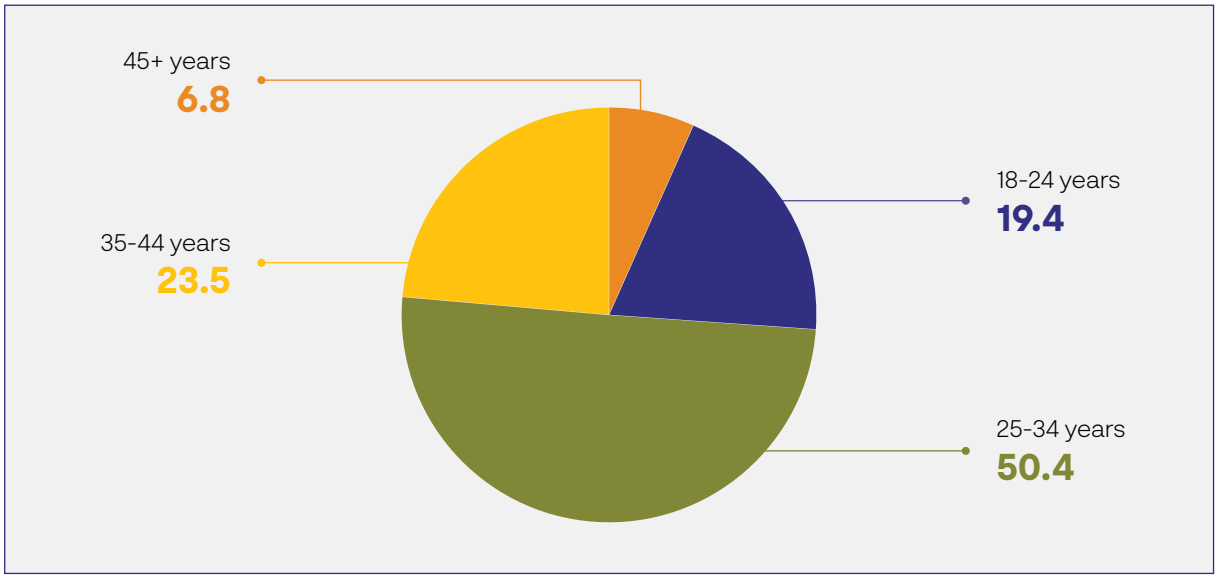


Figure 5.2: Distribution of IDUs by Current Marital Status, HSS Plus 2021 (in %)

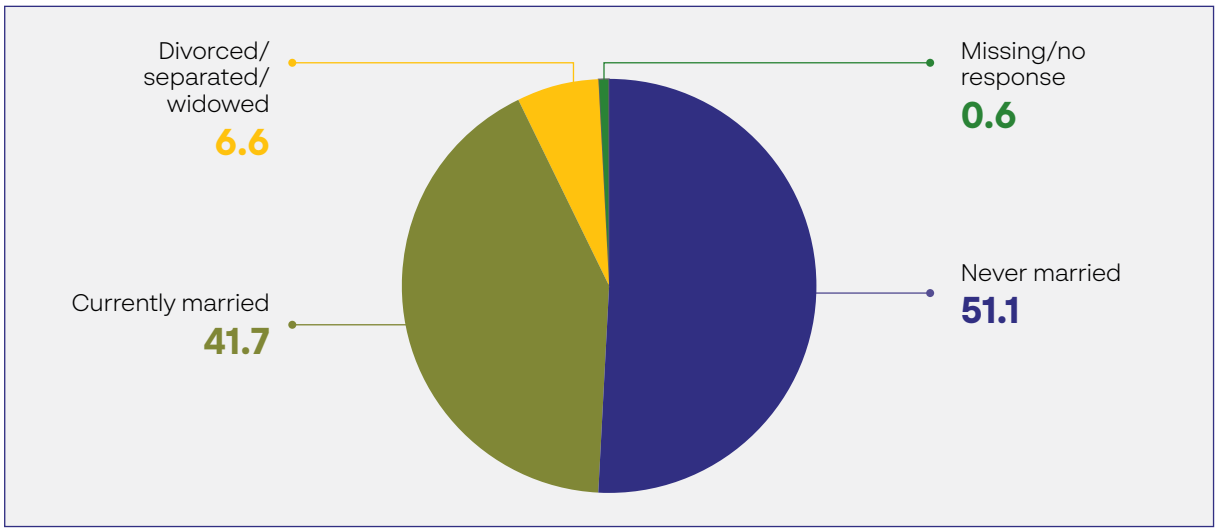


Table 5.2: Age and Sex Distribution of IDUs by State/UT, HSS Plus 2021

State/UT	N	Mean Age	Age (%)#				Sex (%)	
			18–24 Years	25–34 Years	35–44 Years	45+ Years	Men	Women
Andhra Pradesh	606	29.5	19.1	61.4	19.5	0.0	98.3	0.8
Arunachal Pradesh	250	23.5	63.6	36.0	0.4	0.0	90.4	9.6
Assam	587	30.2	20.3	53.3	24.7	1.7	95.9	3.6
Bihar	490	36.7	10.6	34.1	30.8	24.5	99.2	0.0
Chandigarh	250	30.9	21.6	49.2	23.6	5.6	98.8	0.4
Chhattisgarh	750	30.8	15.3	58.1	24.8	1.7	99.5	0.0
Delhi	750	28.6	39.1	39.9	14.8	6.3	99.3	0.4
Goa	250	30.5	19.6	52.0	27.2	1.2	98.8	1.2
Gujarat	250	36.2	8.0	38.8	36.4	16.8	97.2	2.0
Haryana	1,007	30.5	26.9	47.2	17.5	8.4	99.0	0.1
Himachal Pradesh	250	32.3	15.2	49.6	27.6	7.6	98.8	0.4
J&K and Ladakh	1,009	30.3	21.4	54.2	19.5	4.9	98.7	0.2
Karnataka*	156	29.2	10.3	80.1	9.6	0.0	99.4	0.0
Kerala	750	35.0	8.3	43.6	34.7	13.5	98.3	0.0
Madhya Pradesh	1,013	33.7	7.6	50.5	32.8	9.1	99.0	0.0
Maharashtra	201	39.7	2.0	30.8	40.8	26.4	91.0	8.5
Manipur	3,246	30.9	22.1	46.1	26.6	5.2	98.9	0.2
Meghalaya	418	28.1	32.1	52.4	13.9	1.7	98.8	0.0
Mizoram	1,730	30.4	21.7	49.8	26.4	2.0	94.0	4.6
Nagaland	2,650	29.8	24.0	53.2	19.2	3.6	98.9	0.2
Odisha	1,000	34.8	9.0	46.0	30.3	14.7	99.0	0.2
Punjab	3,280	29.8	19.4	59.8	18.3	2.5	97.9	0.1

State/UT	N	Mean Age	Age (%)#				Sex (%)	
			18–24 Years	25–34 Years	35–44 Years	45+ Years	Men	Women
Sikkim	500	27.1	31.2	63.4	5.4	0.0	95.2	4.2
Telangana	250	30.5	1.2	91.2	7.2	0.4	98.0	0.0
Tripura	250	26.3	45.2	44.0	10.4	0.4	100.0	0.0
Uttar Pradesh	3,891	33.8	11.8	46.7	28.9	12.5	99.0	0.2
Uttarakhand	471	29.4	35.0	39.5	17.4	8.1	99.4	0.2
West Bengal	500	35.5	9.6	40.8	30.4	19.2	98.4	1.2
India	**26,755**	**31.3**	**19.4**	**50.4**	**23.5**	**6.8**	**98.2**	**0.8**

*In Karnataka, less than 75% of the target sample size was achieved. Findings from Karnataka should be interpreted with caution. #Total may not add up to 100% due to missing/no response

HSS Plus included questions about the education status of all respondents. Nationally, the proportion of literate IDUs was notably high, accounting for nine-tenths of the sample (88.6%) (*see Figure 5.3*). Similarly, across a majority of the States, literate IDUs represented a larger proportion of the sample, except in the States of Bihar, Delhi, Karnataka, Telangana, Maharashtra and Uttar Pradesh where between 24.9% and 39% of the respondents were illiterate (*see Table 5.3*).

Figure 5.3: Distribution of IDUs by Education Status, HSS Plus 2021 (in %)

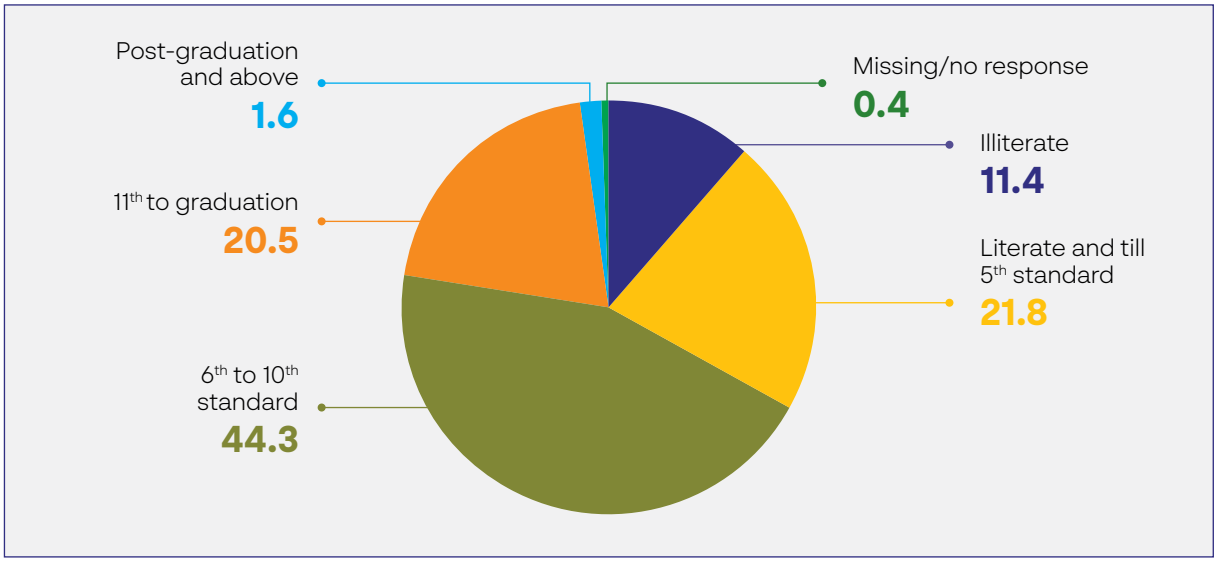


Table 5.3: Current Marital Status and Education Status of IDUs by State/UT, HSS Plus 2021

State/UT	N	Marital Status (%)#			Education Status (%)#				
		Never Married	Currently Married	Divorced/ Separated/ Widowed	Illiterate	Literate and till 5th Standard	6th to 10th Standard	11th to Graduation	Post-Graduation & Above
Andhra Pradesh	606	55.8	43.2	0.8	6.9	7.6	39.8	37.8	7.6
Arunachal Pradesh	250	80.0	17.6	2.0	1.6	2.0	22.4	66.4	7.6
Assam	587	58.6	36.5	4.8	10.9	24.0	39.5	25.2	0.3
Bihar	490	19.2	79.8	0.6	28.4	25.3	29.8	16.1	0.4
Chandigarh	250	51.6	42.8	3.6	0.8	17.6	51.2	28.0	1.6
Chhattisgarh	750	37.6	57.6	4.5	1.7	23.3	49.9	22.8	2.0
Delhi	750	60.7	27.5	11.6	24.9	35.9	31.5	7.3	0.1
Goa	250	60.4	36.4	3.2	0.4	14.0	71.6	14.0	0.0
Gujarat	250	21.6	50.4	28.0	1.2	57.2	40.4	0.0	0.0
Haryana	1,007	51.7	47.5	0.6	11.2	18.3	46.6	21.3	2.6
Himachal Pradesh	250	58.0	39.6	1.6	3.2	14.0	42.8	37.2	0.0
J&K and Ladakh	1,009	69.3	30.1	0.4	10.1	6.0	43.4	37.6	2.8
Karnataka*	156	68.6	31.4	0.0	25.0	37.2	25.6	7.7	4.5
Kerala	750	40.4	56.5	1.9	1.6	11.3	55.1	30.5	0.8
Madhya Pradesh	1,013	36.6	58.2	4.7	5.1	43.7	42.1	7.6	1.0
Maharashtra	201	42.8	38.3	18.4	36.3	31.8	26.4	4.5	0.5
Manipur	3,246	47.1	45.7	6.7	1.5	16.4	51.4	29.9	0.7
Meghalaya	418	59.1	32.3	6.9	1.7	11.0	49.8	34.7	1.7
Mizoram	1,730	48.0	30.6	20.8	0.5	7.5	65.8	23.5	2.0
Nagaland	2,650	48.9	45.4	5.0	4.0	14.2	60.1	19.4	1.8
Odisha	1,000	44.7	54.7	0.1	9.4	21.6	34.8	27.1	6.7
Punjab	3,280	59.4	37.5	2.7	6.5	19.4	51.0	22.3	0.5
Sikkim	500	58.6	29.4	11.2	0.4	13.4	57.6	25.8	2.2
Telangana	250	67.2	30.8	0.4	27.2	31.6	40.4	0.0	0.0
Tripura	250	58.8	35.2	5.2	0.0	22.4	64.0	13.6	0.0
Uttar Pradesh	3,891	50.4	36.8	11.9	39.0	35.1	17.8	6.4	1.1
Uttarakhand	471	65.2	32.7	1.7	11.7	47.6	27.2	10.2	3.4
West Bengal	500	46.4	47.8	5.4	12.8	38.6	42.0	6.0	0.2
India	**26,755**	**51.1**	**41.7**	**6.6**	**11.4**	**21.8**	**44.3**	**20.5**	**1.6**

*In Karnataka, less than 75% of the target sample size was achieved. Findings from Karnataka should be interpreted with caution. #Total may not add up to 100% due to missing/no response.

Table 5.4: Current Primary Occupation of IDU Respondents, by State/UT, HSS Plus 2021#

State/UT	N	Agri-cultural Labourer (%)	Non-Ag-ricultural Labourer (%)	Skilled/ Semi-skilled Worker (%)	Petty Busi-ness/ Small Shop (%)	Large Business/ Self-employed (%)	Service (Govt./ Pvt.) (%)	Student (%)	Truck Driver/ Helper (%)	Auto/Taxi Driver (%)	Hand Cart Pullers/ Rickshaw Pullers (%)	Scrap/ Garbage Collector/Rag Picking (%)	Unemployed (%)	Others (%)
Andhra Pradesh	606	0.8	3.0	7.3	7.3	3.5	21.9	2.1	7.4	30.9	0.2	0.5	10.6	4.5
Arunachal Pradesh	250	0.4	2.0	4.4	7.2	0.8	5.6	24.0	0.4	1.6	0.0	0.8	48.0	4.0
Assam	587	9.7	2.0	1.9	4.4	33.6	.5	4.9	2.7	21.0	10.7	0.3	4.3	2.7
Bihar	490	25.9	2.9	12.7	5.7	2.0	3.3	3.3	1.0	12.4	8.6	0.4	5.5	15.7
Chandigarh	250	3.6	1.6	8.8	9.2	6.0	12.8	1.2	5.6	27.2	2.8	0.8	16.0	4.4
Chhattisgarh	750	5.3	3.9	18.3	14.1	8.5	6.5	1.1	5.2	9.2	5.2	3.1	11.3	7.5
Delhi	750	0.1	9.6	5.2	6.3	4.8	12.8	0.4	1.5	6.8	4.8	13.5	23.9	10.0
Goa	250	0.0	1.6	25.2	2.0	0.8	26.4	0.0	1.6	12.8	0.0	0.4	11.2	18.0
Gujarat	250	0.0	32.0	25.6	2.8	0.0	.0	0.0	0.0	6.4	4.4	2.4	10.4	16.0
Haryana	1,007	6.0	34.1	11.4	16.2	3.5	2.4	1.0	2.7	3.9	0.9	0.9	11.6	4.8
Himachal Pradesh	250	14.0	7.6	4.0	10.4	3.6	12.4	0.0	29.2	7.2	0.4	0.0	6.0	2.8
J&K and Ladakh	1,009	2.1	4.4	11.6	9.7	20.7	7.5	10.3	1.4	8.9	0.1	0.8	21.5	0.3
Karnataka*	156	0.0	41.0	1.9	1.9	1.3	0.0	5.8	5.1	14.1	1.9	17.9	2.6	4.5
Kerala	750	1.9	18.3	17.9	16.0	4.0	2.1	2.1	1.9	21.2	0.3	0.7	10.0	3.6
Madhya Pradesh	1,013	1.3	8.6	20.4	10.9	2.5	8.3	0.4	2.2	15.4	5.2	5.5	8.0	10.8
Maharashtra	201	0.0	40.3	3.5	3.5	1.5	0.5	0.0	0.0	5.0	0.5	5.0	28.9	8.5
Manipur	3,246	22.8	15.5	7.1	3.1	3.0	3.1	5.7	0.9	2.3	0.2	0.1	26.4	9.0
Meghalaya	418	0.2	17.7	20.1	10.8	6.7	6.2	2.4	2.4	6.5	0.0	0.2	24.9	1.4
Mizoram	1,730	12.7	23.8	9.5	2.1	2.3	2.9	0.6	2.0	2.5	0.2	0.0	37.1	2.4
Nagaland	2,650	13.3	8.0	1.8	5.1	6.1	11.5	2.8	1.1	3.7	0.2	0.0	42.9	2.1
Odisha	1,000	1.6	17.4	12.8	11.0	25.3	8.4	0.9	2.0	2.4	0.4	4.5	7.5	5.6
Punjab	3,280	9.4	24.5	6.3	7.3	9.7	10.6	0.3	2.7	6.3	1.0	0.3	16.4	4.6
Sikkim	500	0.8	1.8	2.8	9.6	3.0	8.2	3.0	2.2	14.8	0.0	0.2	45.2	6.6
Telangana	250	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.4	97.6	0.0	1.2
Tripura	250	2.4	13.6	10.0	11.2	0.4	7.6	18.4	0.4	4.0	0.0	1.2	27.2	2.8
Uttar Pradesh	3,891	7.2	16.2	10.5	3.6	4.9	1.6	0.3	2.1	7.6	10.5	7.3	20.6	3.2
Uttarakhand	471	2.8	3.0	25.3	17.8	3.4	0.4	1.9	1.7	8.9	11.3	3.0	9.8	10.4
West Bengal	500	0.2	33.4	2.6	8.0	1.0	2.8	.2	4.6	18.2	11.8	7.0	6.4	3.4
India	**26,755**	**8.7**	**15.1**	**9.3**	**6.9**	**6.7**	**6.3**	**2.5**	**2.4**	**7.8**	**3.1**	**3.4**	**21.3**	**5.3**

*In Karnataka, less than 75% of the target sample size was achieved. Findings from Karnataka should be interpreted with caution. #Total may not add up to 100% due to missing/no response.

In HSS Plus, information regarding the primary occupation of the IDUs was gathered, as it serves as a proxy for the economic situation of the IDUs. Of the surveyed IDUs, 21.3% reported being unemployed, while one-fourth (24%) worked as labourers (in either agricultural/ non-agricultural sectors). About 9.3% of IDUs were skilled or semi-skilled workers and another 7.8% were employed as auto/ taxi drivers (*see Figure 5.4*).

The pattern of occupation in most States was similar to that observed at the national level. In most of the north-eastern States, including Arunachal Pradesh, Sikkim and Nagaland, more than 40% of the IDUs reported being unemployed. Notably, in Telangana, almost all IDUs were engaged in scrap or garbage collection. Among the survey respondents, 13.5% in Delhi and 17.9% in Karnataka reported being involved in scrap or garbage collection activities. However, in Arunachal Pradesh, one-fourth of IDUs were students. In Chandigarh and Himachal Pradesh, nearly one-third of the IDUs worked as transport workers (*see Table 5.4*).

Figure 5.4: Distribution of IDUs by Current Primary Occupation, HSS Plus 2021 (in %)

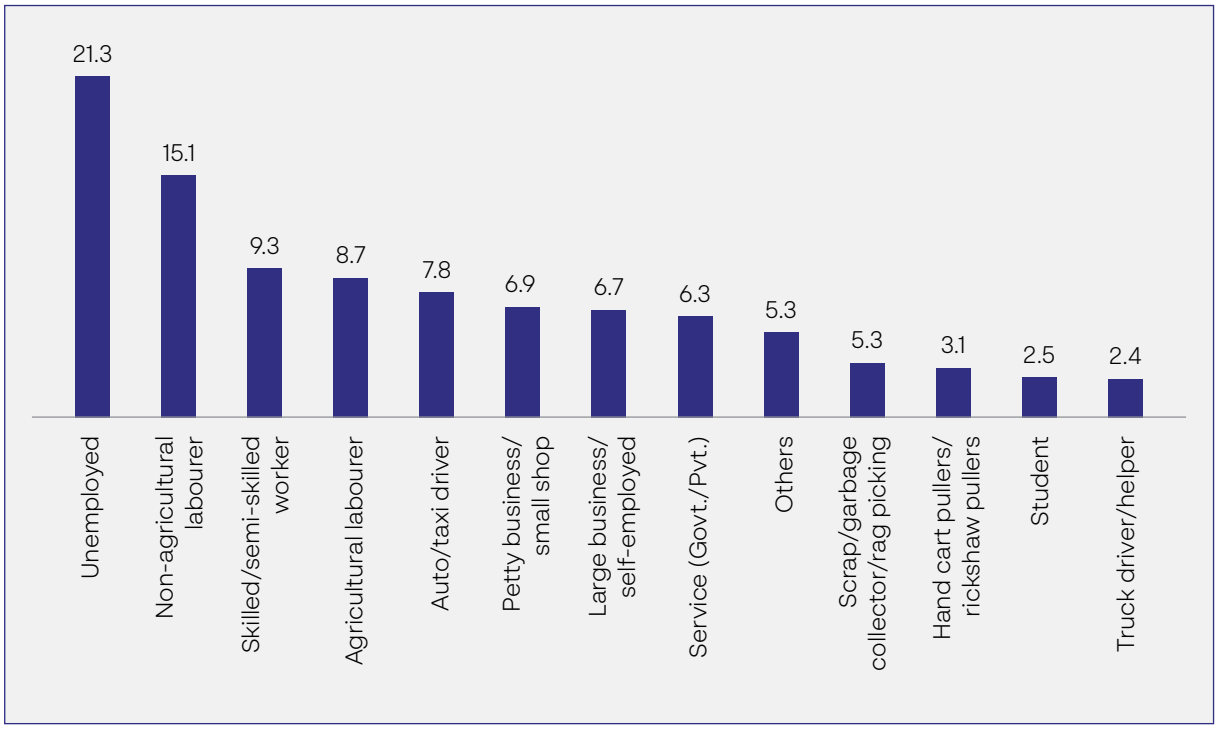


Table 5.5: IDUs Current Place of Residence and Having Cell Phones by State/UT, HSS Plus 2021

State/UT	N	Current Place of Residence (%)#		Phones (%)			
		Urban	Rural	Basic Keypad Phone	Smartphone	Both	Do Not Own a Cell Phone
Andhra Pradesh	606	92.7	1.3	10.2	87.6	0.3	1.3
Arunachal Pradesh	250	96.8	3.2	16.4	63.2	0.0	20.0
Assam	587	60.8	38.5	20.4	33.9	0.2	42.1
Bihar	490	53.7	42.7	56.1	20.0	1.2	22.2
Chandigarh	250	52.0	48.0	16.8	56.8	22.0	2.0
Chhattisgarh	750	84.0	14.0	38.5	44.4	3.7	12.5
Delhi	750	99.3	0.0	24.3	15.7	3.3	55.9
Goa	250	1.2	97.6	24.8	68.0	0.0	7.2
Gujarat	250	98.4	0.0	33.6	43.6	2.8	20.0
Haryana	1,007	79.5	19.1	32.3	36.7	1.2	29.2
Himachal Pradesh	250	2.8	93.6	27.2	62.8	1.2	6.4
J&K and Ladakh	1,009	80.1	18.0	32.8	49.8	1.2	13.3
Karnataka*	156	100.0	0.0	18.6	76.9	0.0	0.6
Kerala	750	74.4	15.7	30.0	61.2	0.8	5.5
Madhya Pradesh	1,013	88.0	6.9	41.3	15.2	1.7	35.5
Maharashtra	201	95.0	0.5	12.4	25.4	0.0	59.7
Manipur	3,246	25.1	73.3	20.5	46.5	0.1	30.9
Meghalaya	418	73.4	25.4	23.2	45.2	0.0	26.1
Mizoram	1,730	36.8	59.7	3.9	67.6	0.2	26.0
Nagaland	2,650	47.1	49.8	28.7	60.2	2.7	3.7
Odisha	1,000	93.3	4.0	31.0	48.3	2.1	17.4
Punjab	3,280	51.0	48.0	32.9	55.0	1.9	7.8
Sikkim	500	93.0	4.2	17.0	70.4	1.6	8.6
Telangana	250	94.4	0.0	0.8	0.0	0.0	97.6
Tripura	250	32.4	67.2	7.2	49.6	0.4	42.0
Uttar Pradesh	3,891	80.5	16.1	26.7	8.3	0.7	61.2
Uttarakhand	471	97.5	1.5	42.0	26.3	0.0	30.4
West Bengal	500	76.0	21.6	45.2	18.4	0.0	35.0
India	**26,755**	**63.4**	**34.0**	**26.6**	**42.7**	**1.4**	**26.7**

*In Karnataka, less than 75% of the target sample size was achieved. Findings from Karnataka should be interpreted with caution; #Total may not add up to 100% due to missing/no answer.

All IDUs in HSS Plus 2021 were asked about their current place of residence, distinguishing between urban and rural areas, as well as the types of cell phones they possessed. Around 63.4% of IDUs at the national level reported residing in urban areas. In States like Goa (97.6%), Himachal Pradesh (93.6%) and Manipur (73.3%), a vast majority of IDUs resided in rural areas. In contrast, a majority of IDUs (more than 90%) in Karnataka, Delhi, Gujarat, Uttarakhand, Arunachal Pradesh, Maharashtra, Telangana, Odisha, Sikkim and Andhra Pradesh reported urban areas as their current place of residence.

Almost three-fourths of IDUs reported having cell phones. Among those having cell phones, 26.6% had basic keypad phones and 42.7% had smartphones, while 1.4% of IDUs reported having both types of phones. Nearly 90% of the respondents in Andhra Pradesh and more than half of the IDU respondents in Arunachal Pradesh, Chandigarh, Goa, Himachal Pradesh, Karnataka, Kerala, Mizoram, Nagaland, Punjab and Sikkim reported having smartphones (*see Table 5.5*). In contrast, 60% of respondents in Maharastra and Uttar Pradesh and 42% in Assam and Tripura were without cell phones.

5.2 HIV/AIDS-related Testing and Treatment Services Uptake

At the national level, 96.8% of IDUs reported having ever tested for HIV. Among these IDUs, most of them (85.3%) had tested in the last 12 months. Nearly 60% of the respondents tested for HIV in the last six months, whereas less than one-fourth of IDUs tested for HIV in the last three months. About half of the IDU respondents in Meghalaya and 31% in Mizoram had not tested for HIV in the last 12 months. Similarly, more than one-fifth of respondents in Nagaland and Sikkim also did not test for HIV in the last 12 months (*see Table 5.6*).

Table 5.6: HIV Testing History among IDUs by State/UT, HSS Plus 2021

State/UT	N	Ever Tested for HIV (%)	HIV Testing History** (%)		
			Tested in Last 3 Months	Tested in Last 6 Months	Tested in Last 12 Months
Andhra Pradesh	606	98.8	43.1	75.9	96.7
Arunachal Pradesh	250	99.6	51.6	73.6	89.2
Assam	587	99.7	25.6	56.4	95.7
Bihar	490	100.0	22.0	84.3	98.4
Chandigarh	250	99.2	32.4	79.6	95.2
Chhattisgarh	750	100.0	36.3	71.6	87.2
Delhi	750	99.7	11.9	52.5	88.4
Goa	250	100.0	0.8	38.0	100.0
Gujarat	250	99.6	6.8	62.4	96.8
Haryana	1,007	85.7	41.4	59.7	78.6
Himachal Pradesh	250	100.0	28.4	62.8	93.2
J&K and Ladakh	1,009	98.9	22.6	67.7	97.7
Karnataka*	156	100.0	35.3	87.8	100.0

State/UT	N	Ever Tested for HIV (%)	HIV Testing History** (%)		
			Tested in Last 3 Months	Tested in Last 6 Months	Tested in Last 12 Months
Kerala	750	98.9	21.3	70.4	94.3
Madhya Pradesh	1,013	99.5	26.8	85.3	95.4
Maharashtra	201	99.0	4.0	32.8	80.6
Manipur	3,246	94.9	13.8	32.8	80.3
Meghalaya	418	97.1	19.4	35.2	52.6
Mizoram	1,730	99.0	27.6	48.3	68.7
Nagaland	2,650	89.3	9.8	40.0	74.0
Odisha	1,000	99.8	19.8	68.4	95.3
Punjab	3,280	99.7	21.1	71.6	85.6
Sikkim	500	97.4	7.8	26.6	78.8
Telangana	250	100.0	99.6	100.0	100.0
Tripura	250	99.2	2.4	58.8	92.4
Uttar Pradesh	3,891	96.2	27.0	70.0	87.7
Uttarakhand	471	99.8	67.1	85.1	91.9
West Bengal	500	99.2	4.2	53.6	91.4
India	**26,755**	**96.8**	**23.0**	**59.3**	**85.3**

*In Karnataka, less than 75% of the target sample size was achieved. Findings from Karnataka should be interpreted with caution, **Among those who ever tested for HIV.

Overall, there were 2,416 (9.03%) IDUs who tested positive for HIV in HSS Plus 2021. Out of these, 71.6% reported being aware that they were HIV-positive. Among those who tested positive for HIV, 54.2% were on ART.

5.3 HIV Pre-exposure Prophylaxis (PrEP)

IDUs who were aware of HIV/AIDS and who did not report being positive were asked questions related to HIV pre-exposure prophylaxis (PrEP) to assess their awareness of the issue. At the national level, only 13.4% of IDU respondents reported being aware of HIV PrEP. Among those who were aware of PrEP, only 1.1% of IDU respondents had ever taken PrEP. A significantly higher proportion of IDUs in Karnataka (100.0%), Odisha (46.7) and Sikkim (29.9%) reported being aware of HIV PrEP (*see Table 5.7*). However, except in Jammu & Kashmir and Ladakh (8.2%), Nagaland (2.8 %) and Manipur (1.2%), less than 0.5% percent of respondents across all States/UTs reported having ever taken PrEP.

Table 5.7: Awareness and Use of HIV PrEP among IDUs by State/UT, HSS Plus 2021

State/UT	N#	Aware of HIV PrEP (%)	Ever Taken PrEP (%)**
Andhra Pradesh	581	8.3	0.3
Arunachal Pradesh	246	1.2	0.0
Assam	536	2.2	0.0
Bihar	475	0.4	–
Chandigarh	244	13.1	0.0
Chhattisgarh	649	2.8	0.2
Delhi	714	0.3	–
Goa	250	18.8	0.0
Gujarat	243	26.3	0.0
Haryana	816	2.1	0.0
Himachal Pradesh	238	15.1	0.0
J&K and Ladakh	985	9.2	8.2
Karnataka	156	100.0	0.0
Kerala	730	21.5	0.0
Madhya Pradesh	973	1.0	0.0
Maharashtra	165	1.8	0.0
Manipur	2,831	12.6	1.2
Meghalaya	357	3.6	0.3
Mizoram	1,219	6.3	0.8
Nagaland	2,307	16.3	2.8
Odisha	976	46.7	0.1
Punjab	2,721	21.0	2.0
Sikkim	469	29.9	0.2
Telangana	250	0.0	–
Tripura	210	0.0	–
Uttar Pradesh	3,565	9.8	0.2
Uttarakhand	432	11.1	0.0
West Bengal	462	19.9	0.0
India	**23,800**	**13.4**	**1.1**

*In Karnataka, less than 75% of the target sample size was achieved. Findings from Karnataka should be interpreted with caution; #N represents those who were aware of HIV or AIDS and did not report to be HIV-positive, **Among those who were aware of PrEP.

5.4 Injecting Drug Use Practices

HSS Plus explored the injecting and sharing practices among respondents to gain a deeper understanding of the transmission risks among IDUs. Areas of enquiry covered various aspects of injecting and sharing practices including the age of initiation of drug use, types of drugs used, injection volume, needle/syringe sharing, as well as the current use of oral substitution therapy. Understanding such practices is important for strengthening the prevention interventions among the IDU community. In this section, the findings related to injecting drugs and sharing practices among IDUs are presented.

Table 5.8: Age at Initiation of Injecting Drug Use among IDUs by State/UT, HSS Plus 2021

State/UT	N	Mean Age at First Injecting Drug Use	Age at Initiation of Injecting Drug Use (%)#				
			≤14 Years	15–17 Years	18–21 Years	22–25 Years	25+ Years
Andhra Pradesh	605	20.7	0.2	15.5	52.2	18.3	13.7
Arunachal Pradesh**	–	–	–	–	–	–	–
Assam**	–	–	–	–	–	–	–
Bihar	477	26.0	0.0	14.3	22.4	17.4	45.9
Chandigarh	205	23.1	0.0	4.4	47.3	22.4	25.9
Chhattisgarh**	–	–	–	–	–	–	–
Delhi	666	20.6	0.8	19.8	48.0	20.3	11.1
Goa	250	17.5	0.0	54.4	45.2	0.4	0.0
Gujarat	247	28.3	0.0	0.0	17.4	29.1	53.4
Haryana	1,000	23.8	1.9	8.1	38.0	22.3	29.7
Himachal Pradesh	164	23.6	0.6	0.6	40.9	34.8	23.2
J&K and Ladakh	859	25.3	0.8	6.4	31.1	19.4	42.3
Karnataka**	155	25.7	0.0	0.0	12.9	39.4	47.7
Kerala	741	19.4	1.6	29.6	47.6	15.2	5.9
Madhya Pradesh	929	24.4	0.2	5.7	32.3	25.0	36.8
Maharashtra	192	18.0	20.8	38.5	24.0	8.3	8.3
Manipur**	–	–	–	–	–	–	–
Meghalaya**	–	–	–	–	–	–	–
Mizoram**	–	–	–	–	–	–	–
Nagaland**	–	–	–	–	–	–	–
Odisha	895	23.0	1.0	7.4	51.8	14.9	24.9
Punjab	3,246	22.1	0.0	6.5	48.6	28.3	16.7
Sikkim**	–	–	–	–	–	–	–
Telangana	235	23.4	0.0	0.0	15.7	69.8	14.5

State/UT	N	Mean Age at First Injecting Drug Use	Age at Initiation of Injecting Drug Use (%)#				
			≤14 Years	15–17 Years	18–21 Years	22–25 Years	25+ Years
Tripura**	–	–	–	–	–	–	–
Uttar Pradesh	3,519	24.0	0.7	6.6	34.0	24.0	34.8
Uttarakhand	464	22.9	0.0	4.3	49.4	19.6	26.7
West Bengal**	–	–	–	–	–	–	–
India	**14,849**	**23.0**	**0.8**	**9.8**	**39.9**	**23.3**	**26.1**

*In Karnataka, less than 75% of the target sample size was achieved. Findings from Karnataka should be interpreted with caution. **Response for this indicator was missing in database #Total may not add up to 100% due to missing/no response.

At the national level, the mean age for initiation of injection drug use (non-prescribed) among IDUs was 23 years. Nealy 40% of IDUs reported their first injection drug use experience at the age of 18–21 years, followed by those at the age of 22–25 years (*see Table 5.8*). Nationally, around 9.8% of IDUs reported that they initiated injection drug use before the age of 17 years. Notably, there were considerable variations across States in terms of the age of initiation of injecting drug use. In Maharashtra, more than one-fifth (20.8%) of IDUs reported initiating drug use before the age of 15 years. In Goa, more than half (54.4%) of IDUs began using drugs before turning 18.

Respondents in HSS Plus 2021 were asked about the frequency of injection on the last day when they injected and the number of days injected during a week. More than one-third (38.8%) of IDUs had injected every day, followed by those injecting three (11.0%) and four (9.7%) days during the week before the survey. Around 12.1% of IDUs did not inject in the last week. More than three-fourths of the IDU respondents in Uttar Pradesh, Telangana and Arunachal Pradesh injected daily during the last week. In contrast, more than one-third of the respondents in Maharashtra and Mizoram reported that they did not inject in the last week (*see Table 5.9*).

Nationally, about half of the IDU respondents had injected once on the last day of their injection, while almost 30.6% of IDUs reported injecting twice. However, nearly 5% of respondents reported injecting more than three times a day. States where respondents reported injecting more frequently, i.e., more than three times a day, included Arunachal Pradesh (26.8%), Himachal Pradesh (21.2%), Mizoram (16.2%), Sikkim (13.8%) and West Bengal (18.2) (*see Table 5.9*).

At the national level, 14.9% of IDU respondents reported that they were currently on Opoid Substitution Therapy (OST) . In Uttarakhand, three-fourths of IDU respondents were on OST during the survey, whereas, almost half (47%) in Haryana and Punjab also were on OST. Additionally, HSS Plus 2021 also inquired whether the female regular partners of IDUs were also engaged in injection drug use. At the national level, 3.6% of IDUs reported that their female regular partner also injected drugs (*see Table 5.10*). Between 1% and 5% of female partners of IDUs in every State reported injecting drugs. However, a relatively higher proportion of respondents in Arunachal Pradesh (21.2%) and Mizoram (19%) reported that their female regular partners also injected drugs (*see Table 5.10*).

Table 5.9: Injecting Practices, Frequency and Volume among IDUs by State/UT, HSS Plus 2021

State/UT	N	Number of Days Injected in Last Seven Days# (%)								Number of Times Injected on the Last Day of Injection# (%)			
		Every Day	Six Days	Five Days	Four Days	Three Days	Two Days	One Day	Didn't Inject Last Week	Once	Twice	Thrice	More Than Thrice
Andhra Pradesh	606	27.6	15.8	7.3	14.4	20.0	12.5	1.7	0.3	67.5	20.5	9.2	1.5
Arunachal Pradesh	250	80.8	0.4	1.6	8.4	5.6	1.6	0.8	0.4	7.6	32.0	33.6	26.8
Assam	587	64.7	0.0	0.2	0.2	3.9	10.1	15.0	5.6	58.4	22.1	15.7	0.3
Bihar	490	55.1	0.2	1.2	0.0	11.0	13.5	1.8	15.9	78.6	4.3	0.2	0.0
Chandigarh	250	8.0	2.8	5.2	17.2	18.8	17.2	18.8	11.6	76.4	19.6	2.4	0.0
Chhattisgarh	750	31.2	1.3	2.8	12.4	17.1	17.6	12.5	4.9	60.5	33.6	4.4	1.3
Delhi	750	42.3	10.3	1.6	11.5	13.3	11.9	2.4	6.7	47.2	40.7	10.3	1.6
Goa	250	0.0	2.4	2.4	38.0	49.2	7.6	0.4	0.0	56.0	43.6	0.0	0.4
Gujarat	250	0.4	0.0	0.8	1.2	32.4	32.4	2.8	30.0	42.8	35.2	20.0	0.4
Haryana	1,007	16.0	6.6	13.2	10.3	6.4	7.9	8.8	30.8	68.0	22.2	6.6	2.7
Himachal Pradesh	250	12.8	10.0	8.4	24.0	18.0	8.0	6.0	12.8	28.8	22.8	23.6	21.2
J&K and Ladakh	1,009	47.3	17.4	5.6	10.2	6.3	1.0	0.8	10.8	34.2	42.3	18.0	1.6
Karnataka	156	26.9	23.7	6.4	14.1	14.1	11.5	1.3	1.9	67.9	28.8	1.9	1.3
Kerala	750	27.6	8.7	14.1	12.9	6.4	7.6	17.9	4.7	71.2	16.8	8.8	1.3
Madhya Pradesh	1,013	26.9	2.2	1.9	14.6	16.8	10.6	8.7	17.8	79.4	17.8	1.6	0.2
Maharashtra	201	28.4	4.0	3.5	11.4	8.0	0.5	8.0	34.3	22.4	31.8	24.9	10.9
Manipur	3,246	60.8	3.9	5.1	5.9	7.1	6.0	2.1	8.4	35.2	37.0	22.0	4.8
Meghalaya	418	52.9	1.0	1.4	4.8	3.1	3.8	1.9	30.4	7.9	45.7	35.4	6.9
Mizoram	1,730	32.4	1.9	1.8	3.2	5.4	4.3	6.0	42.6	22.1	29.1	19.1	16.2
Nagaland	2,650	8.5	3.5	7.2	9.2	14.8	15.7	24.7	12.0	61.4	22.5	7.1	3.7
Odisha	1,000	55.8	3.3	4.7	4.1	10.4	9.6	2.1	9.6	45.0	27.9	14.1	4.8
Punjab	3,280	12.6	5.2	8.0	21.3	15.4	14.1	13.6	8.9	69.9	21.1	1.4	4.1
Sikkim	500	17.6	2.4	6.4	12.4	16.6	15.2	12.2	9.0	37.2	28.2	10.2	13.8
Telangana	250	95.2	0.0	0.0	0.4	0.0	4.0	0.0	0.0	53.6	39.2	7.2	0.0
Tripura	250	1.2	4.0	22.4	24.4	21.6	11.2	7.2	8.0	67.2	32.4	0.4	0.0
Uttar Pradesh	3,891	72.8	4.1	2.3	2.8	7.7	4.4	3.0	2.0	36.0	45.7	15.8	1.7
Uttarakhand	471	43.3	7.6	2.1	11.5	5.1	1.7	1.5	25.9	27.4	51.8	16.3	2.1
West Bengal	500	48.4	3.0	3.4	11.6	7.2	2.0	7.0	16.4	60.2	18.6	2.8	18.2
India	**26,755**	**38.8**	**4.8**	**5.1**	**9.7**	**11.0**	**9.1**	**8.1**	**12.1**	**49.5**	**30.6**	**11.9**	**4.6**

*In Karnataka, less than 75% of the target sample size was achieved. Findings from Karnataka should be interpreted with caution. #Total may not add up to 100% due to missing/no answer.

Table 5.10: Injecting Practices, Used and Shared Needle/Syringes (N/S) among IDUs by State/UT, HSS Plus 2021

State/UT	N	Used New N/S in Last Episode (%)	Shared N/S in Last Episode (%)	Currently on OST (%)	Had Female Regular Partner who Also Injects Drugs (%)
Andhra Pradesh	606	98.5	4.1	12.4	4.8
Arunachal Pradesh	250	36.0	36.8	0.0	21.2
Assam	587	92.8	7.2	0.0	2.6
Bihar	490	84.7	0.8	22.2	0.8
Chandigarh	250	95.2	1.2	20.8	1.6
Chhattisgarh	750	98.8	0.9	0.0	1.2
Delhi	750	90.1	3.7	22.3	2.0
Goa	250	100.0	0.0	0.0	0.4
Gujarat	250	98.4	0.8	0.0	2.0
Haryana	1,007	97.6	1.3	47.0	0.5
Himachal Pradesh	250	99.6	2.8	33.2	0.8
J&K and Ladakh	1,009	94.9	7.5	33.8	3.3
Karnataka*	156	96.8	1.9	3.8	0.0
Kerala	750	99.1	0.8	11.5	1.2
Madhya Pradesh	1,013	89.0	1.5	0.0	0.4
Maharashtra	201	81.6	0.0	0.0	5.5
Manipur	3,246	96.5	6.8	0.0	4.7
Meghalaya	418	85.9	5.0	0.0	2.4
Mizoram	1,730	80.1	12.8	0.0	19.0
Nagaland	2,650	86.4	3.3	0.0	4.2
Odisha	1,000	97.7	0.1	16.5	0.6
Punjab	3,280	93.0	3.0	46.6	1.5
Sikkim	500	89.4	0.0	0.0	5.6
Telangana	250	100.0	0.0	0.0	0.4
Tripura	250	92.8	0.0	0.0	0.0
Uttar Pradesh	3,891	89.1	2.7	14.0	1.2
Uttarakhand	471	90.0	3.0	75.6	1.3
West Bengal	500	95.4	5.8	0.0	3.8
India	**26,755**	**91.3**	**4.2**	**14.9**	**3.6**

*In Karnataka, less than 75% of the target sample size was achieved. Findings from Karnataka should be interpreted with caution.

All IDUs were asked about their recent needle/syringe use and sharing practices during their last injecting episode. Nationally, 91.3% of IDUs reported using a new needle/syringe during their last injecting episode, while 4.2% acknowledged sharing used needles/syringes. As compared to the national estimates, the use of new needles/syringes during the last injecting episode was marginally lower in the States of Bihar (84.7%), Maharashtra (81.6%), Meghalaya (85.9%), Mizoram (80%) and Nagaland (86.4%). In Arunachal Pradesh, only one-third (36%) of the IDUs reported using a new needle/syringe. The proportion of IDUs who had shared a used needle/syringe during the last episode was significantly higher in the States of Arunachal Pradesh (36.8%), Mizoram (12.8%), Jammu & Kashmir and Ladakh (7.5%), Assam (7.2%), Manipur (6.8%) and West Bengal (5.8%) (*see Table 5.10*).

All IDUs were also asked about the number of towns they had visited for substance collection and/or drug injection purposes during the last three months. At the national level, almost half (46.9%) of IDUs mentioned that they had not visited any other town for these reasons. However, 27.2% reported visiting one town, 16.1% visited two or three towns and 3.3% had visited more than three towns in the past three months (*see Figure 5.5*).

Respondents were asked about the type of drug (non-prescribed) they injected most often during the past three months. Nationally, Heroin (37%) was reported by over one-third of the respondents, followed by Buprenorphine (23.6%), Brown Sugar (12.7%), Pentazocine (7.5%) and Diazepam (4.8%). Additionally, one-tenth of respondents reported injecting Diazepam or Spasmo Proxyvyon (*see Table 5.11*).

Region-specific pattern indicates that in the north-eastern States of Arunachal Pradesh, Assam, Manipur, Meghalaya and Tripura, Heroin was the predominant injected drug, used by more than 90% of IDUs. In Punjab, 58.8% of IDU respondents primarily injected Heroin. In Sikkim and West Bengal, one-third of IDU respondents reported injecting Diazepam. Almost all IDU respondents (97.2%) in Gujarat and 88.6% of respondents in Maharashtra injected brown sugar. In Kerala, an almost similar proportion of respondents used brown sugar (46.4%) and Buprenorphine (48.4%). In Chhattisgarh, Buprenorphine (66.4%) was the predominant injected drug, followed by Pentazocine (29.7%).

Figure 5.5: Distribution of IDUs by Mobility to Other Town(s) for Collecting Substances/Injecting, HSS Plus 2021 (in %)

Table 5.11: Types of Drugs Injected by IDUs in Last Three Months by State/UT, HSS Plus 2021

State/UT	N	Types of Drugs Used in Last Three Months# (%)									
		Heroin	Brown Sugar	Buprenorphine	Pentazocine	Spasmo Proxyvon	Amphetamine	Cocaine	Diazepam	Pethidine	Others
Andhra Pradesh	606	0.0	0.0	0.0	93.7	1.2	0.7	1.2	1.8	0.0	1.0
Arunachal Pradesh	250	99.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Assam	587	96.8	1.4	0.0	0.0	0.0	0.0	0.0	0.2	0.0	1.5
Bihar	490	1.6	0.0	39.2	2.4	0.0	0.0	0.0	1.2	0.0	38.4
Chandigarh	250	49.6	3.2	31.2	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Chhattisgarh	750	0.4	0.1	66.4	29.7	0.1	0.0	0.0	2.9	0.0	0.0
Delhi	750	0.1	37.9	13.5	0.0	0.0	0.0	0.3	12.9	0.0	35.1
Goa	250	68.0	27.6	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gujarat	250	0.4	97.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Haryana	1,007	21.4	12.3	42.7	2.0	0.3	1.1	0.1	17.1	0.0	0.4
Himachal Pradesh	250	68.4	2.0	17.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
J&K and Ladakh	1,009	73.6	0.1	4.2	0.0	0.0	0.0	0.2	0.5	0.0	1.1
Karnataka*	156	0.0	0.0	63.5	0.0	0.0	0.0	35.9	0.6	0.0	0.0
Kerala	750	0.5	46.4	48.4	0.5	0.3	0.1	0.1	2.4	0.0	0.1
Madhya Pradesh	1,013	0.0	24.5	36.8	37.7	0.0	0.0	0.0	0.0	0.0	0.2
Maharashtra	201	1.0	88.6	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Manipur	3,246	91.1	3.2	0.3	0.0	2.3	0.0	0.0	0.1	0.0	2.4
Meghalaya	418	93.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Mizoram	1,730	92.1	0.2	0.1	0.0	0.2	0.0	0.1	0.2	0.0	1.9
Nagaland	2,650	18.0	25.5	2.8	2.6	36.6	0.0	0.1	3.1	0.0	4.1
Odisha	1,000	0.0	0.1	54.8	19.1	0.0	0.0	0.0	16.7	0.0	0.1
Punjab	3,280	58.8	0.6	31.0	0.2	0.0	0.0	0.0	0.0	0.0	4.5
Sikkim	500	0.8	67.2	1.6	0.4	15.6	0.0	0.0	1.2	0.0	0.0
Telangana	250	0.0	0.0	0.0	60.8	0.0	0.0	0.0	38.8	0.0	0.0
Tripura	250	98.4	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Uttar Pradesh	3,891	0.4	17.7	51.5	9.7	0.2	0.0	0.0	10.1	0.0	9.0
Uttarakhand	471	0.0	0.0	39.7	0.2	0.0	0.0	0.0	5.9	0.0	51.2
West Bengal	500	3.8	10.6	46.4	2.6	0.2	0.0	0.0	36.0	0.0	0.0
India	**26,755**	**37.0**	**12.7**	**23.6**	**7.5**	**4.3**	**0.1**	**0.3**	**4.8**	**0.0**	**5.4**

*In Karnataka, less than 75% of the target sample size was achieved. Findings from Karnataka should be interpreted with caution. #Total may not add up to 100% due to missing/no response.

5.5 Sexual Behaviour and Condom Use Practices

Programme interventions for IDU groups, like those for other HRGs, focus on and emphasize safe sexual practices. While the primary risk of HIV transmission is associated with injecting practices, their sexual behaviours are equally important due to the potential for HIV transmission through unprotected sexual activity. IDUs may engage in sexual relations with multiple partners, including both female and male partners, making it crucial to understand these patterns and practices for effective programme implementation. To capture this information, several questions related to sexual behaviours, types of partners and condom use with different partners were included in the questionnaire for IDUs in HSS Plus 2021.

Around 73.2% of the IDUs nationwide reported having engaged in sexual intercourse at some point with a partner. Among IDUs, 48.3% reported that their most recent sex act with a partner occurred last month, while 10.9% reported the same occurring more than a year ago. At the national level, nearly all (99.6%) IDU respondents in Telangana acknowledged being sexually active, and all of them had engaged in sex acts with their partners in the last month.

Within this group, 76.6% had their last sexual act with a regular female partner, 12.5% with a commercial female partner, and 10.4% with a casual female partner. Notably, a significant proportion of IDUs who reported having their last sexual act with a commercial female partner were from Telangana (66.3%), Gujarat (38.3%), Delhi (36.2%) and Maharashtra (35.4%) (*see Table 5.12*).

IDUs were also asked if they used a condom during their last sex act with a partner. Among those who reported engaging in sex acts with a regular female partner, 59.2% reported using condoms. The condom usage was higher with commercial partners at 80.1%, while it was 71.3% with casual partners and 63.0% with male/hijra/TG partners (*see Figure 5.6*).

Figure 5.6: Distribution of IDUs by Condom Use (Last Time) with Different Partners, HSS Plus 2021 (in %)

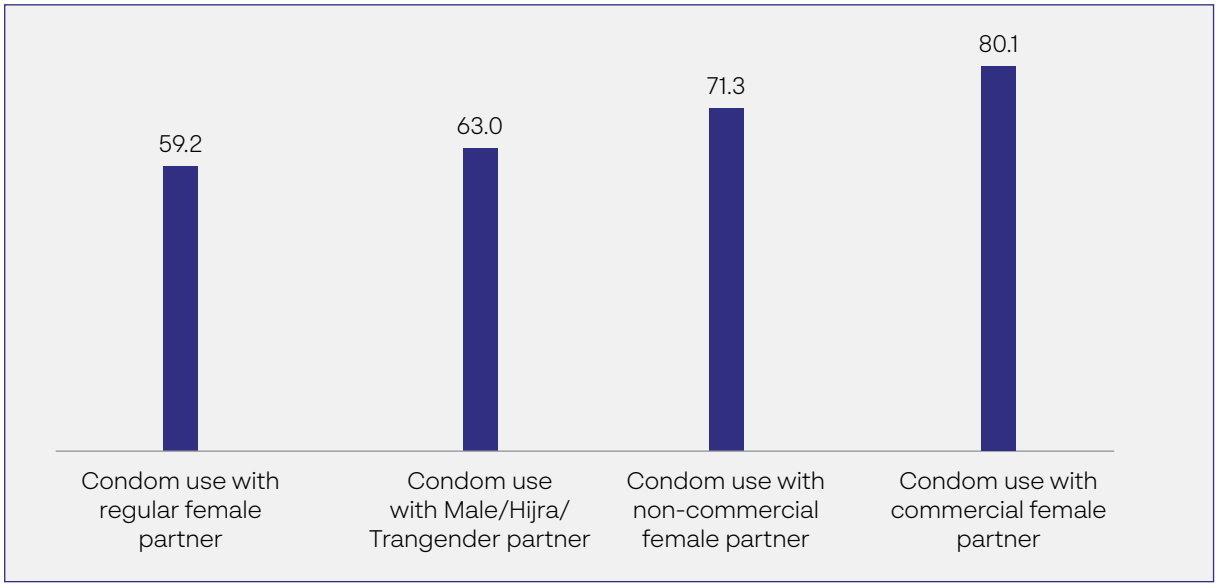


Table 5.12: Sexual Behaviour among IDUs with Partners by State/UT, HSS Plus 2021

State/UT	N	Ever Had Sexual Intercourse	Time of Last Sex Act (%)#				Partners During Last Sex Act (%)#			
			Less Than a Month Ago	Between One Month and Less Than Three Months Ago	Between Three Months and Less Than 12 Months	More Than One Year Ago	Regular Female Partner (Spouse/Lover/ Girlfriend/Live-in Partner)	Commercial Female Partner	Non-commercial Non-regular Female Partner (Casual Partner)	Male/ Hijra/ Transgender Partner
Andhra Pradesh	606	95.2	74.3	12.9	11.3	1.6	58.8	30.4	10.8	0.0
Arunachal Pradesh**	250	96.4	0.0	0.0	0.0	0.0	66.4	17.8	15.8	0.0
Assam**	587	82.8	0.0	0.0	0.0	0.0	55.8	7.4	36.6	0.2
Bihar	490	82.7	38.3	32.6	18.8	10.4	97.0	1.2	1.7	0.0
Chandigarh	250	76.0	54.3	27.7	14.4	3.7	78.1	10.2	11.8	0.0
Chhattisgarh**	750	83.5	0.0	0.0	0.0	0.0	75.8	16.3	7.7	0.2
Delhi	750	82.5	21.2	29.9	21.8	27.1	49.3	36.2	12.3	2.3
Goa	250	68.8	14.5	42.4	29.7	13.4	45.9	7.0	47.1	0.0
Gujarat	250	97.6	26.7	44.9	25.5	2.9	34.6	38.3	27.2	0.0
Haryana	1,007	83.1	53.5	26.2	17.7	2.6	77.9	18.9	3.1	0.0
Himachal Pradesh	250	69.6	50.9	28.3	10.4	10.4	95.3	2.9	1.8	0.0
J&K and Ladakh	1,009	69.6	48.6	31.8	12.0	7.7	91.8	2.4	5.7	0.0
Karnataka**	156	35.3	87.3	12.7	0.0	0.0	100.0	0.0	0.0	0.0
Kerala	750	78.3	54.9	23.4	12.3	9.3	79.3	13.9	6.5	0.4
Madhya Pradesh	1,013	74.7	61.4	20.7	7.5	10.3	83.4	13.8	2.8	0.0
Maharashtra	201	92.0	28.6	13.5	17.8	40.0	45.3	35.4	14.9	4.4
Manipur**	3,246	63.4	0.0	0.0	0.0	0.0	88.4	6.1	5.5	0.0
Meghalaya**	418	92.1	0.0	0.0	0.0	0.0	81.3	1.3	17.4	0.0
Mizoram**	1,730	75.1	0.0	0.0	0.0	0.0	82.2	6.0	10.6	1.2
Nagaland**	2,650	78.9	0.0	0.0	0.0	0.0	83.4	4.5	12.0	0.0
Odisha	1,000	63.9	69.0	14.8	13.0	3.2	80.4	1.1	18.3	0.2
Punjab	3,280	69.2	53.0	30.2	12.3	4.5	79.9	14.3	5.5	0.3
Sikkim**	500	94.8	0.0	0.0	0.0	0.0	61.3	10.4	26.5	1.8
Telangana	250	99.6	99.6	0.4	0.0	0.0	31.3	66.3	2.4	0.0
Tripura**	250	40.4	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
Uttar Pradesh	3,891	65.2	31.3	30.2	16.8	21.8	72.4	12.6	13.9	1.2
Uttarakhand	471	55.2	70.8	13.8	8.1	7.3	76.5	18.1	5.4	0.0
West Bengal**	500	70.4	0.0	0.0	0.0	0.0	74.1	25.4	0.3	0.3
India	**26,755**	**73.2**	**48.3**	**26.4**	**14.3**	**10.9**	**76.6**	**12.5**	**10.4**	**0.5**

*In Karnataka, less than 75% of the target sample size was achieved. Findings from Karnataka should be interpreted with caution. #Total may not add up to 100% due to missing/no response.

5.6 Stigma and Discrimination

IDUs often experience marginalization and endure stigma and discrimination from various segments of society, including family, friends, employers and service providers, due to their injecting behaviours. This social ostracization can lead them to conceal their identities, making it challenging to access necessary services and adopt safer practices. To gain a better understanding of the perceived and enacted stigma and discrimination encountered by IDUs, HSS Plus included questions on this issue. All IDUs were asked whether they had avoided seeking health-care or HIV testing services due to fear or concern of harassment/negative attitudes/derogatory comments or fear or concern about someone discovering their IDU status or fear of physical violence in health-care settings or concerns about harassment/arrest by law enforcement officials in the health-care setting. The same questions were asked to IDUs who knew their HIV-positive status to understand the extent of stigma and discrimination within ART/HIV testing services. Findings indicate that at the national level, almost one-fourth of the IDU respondents reported avoiding health-care and HIV-testing services. However, in Arunachal Pradesh, Himachal Pradesh and Karnataka, more than 90% of respondents reported avoiding these services. Additionally, at the national level, 13.8% of IDU respondents who were already aware of their HIV-positive status avoided ART services due to stigma and discrimination at the ART facilities (*see Table 5.13*).

Table 5.13: Stigma and Discrimination among IDUs by State/UT, HSS Plus 2021

State/UT	N	Avoided Health-care Services Because of Stigma (%)	Avoided HIV Testing Services Because of Stigma (%)
Andhra Pradesh	606	12.0	11.6
Arunachal Pradesh	250	90.0	88.8
Assam	587	15.5	15.3
Bihar	490	79.0	62.0
Chandigarh	250	35.2	46.0
Chhattisgarh	750	2.0	2.7
Delhi	750	25.6	17.9
Goa	250	0.0	0.0
Gujarat	250	6.4	2.0
Haryana	1,007	1.8	1.8
Himachal Pradesh	250	96.0	97.2
J&K and Ladakh	1,009	49.6	48.3
Karnataka	156	98.1	98.1
Kerala	750	5.5	8.1
Madhya Pradesh	1,013	41.2	38.1
Maharashtra	201	10.9	10.4
Manipur	3,246	18.1	9.2

State/UT	N	Avoided Health-care Services Because of Stigma (%)	Avoided HIV Testing Services Because of Stigma (%)
Meghalaya	418	14.6	7.9
Mizoram	1,730	5.5	4.9
Nagaland	2,650	18.6	11.9
Odisha	1,000	51.8	51.4
Punjab	3,280	17.6	20.7
Sikkim	500	40.0	29.2
Telangana	250	0.0	0.0
Tripura	250	0.0	0.0
Uttar Pradesh	3,891	29.7	20.5
Uttarakhand	471	47.8	38.6
West Bengal	500	26.2	8.6
India	**26,755**	**24.4**	**20.3**

*In Karnataka, less than 75% of the target sample size was achieved. Findings from Karnataka should be interpreted with caution;

5.7 Levels of HIV

In the HSS Plus 2021 round, at the national level, the observed HIV prevalence was 9.03% (95% CI: 8.69–9.37) vis-à-vis 6.26% (95% CI: 5.92–6.59) noted in the 2017 round. Figures 5.7, 5.8 and Table 5.14 depict the sero-prevalence of HIV at the State/UT level. In terms of co-infections, the sero-prevalence of HIV-HBV among IDUs was 0.62% (95% CI: 0.53-0.71), while the sero-prevalence of HIV-HCV was 7.45%. (95% CI: 7.14–7.77). The sero-prevalence for HBV and HCV among the HIV-positive respondents was 6.84% (95% CI: 5.82–7.83) and 82.23% (95% CI: 80.63–83.69), respectively.

The highest HIV prevalence was noted in the State of Mizoram (32.08%, 95% CI: 29.88–34.28), followed by Punjab (19.57%, 95% CI: 18.22–20.93), Maharashtra (18.41%, 95% CI: 13.05–23.77), Tripura (18.00%, 95% CI: 13.24–22.76), Delhi (15.87%, 95% CI: 13.25–18.48), Meghalaya (11.48%, 95% CI: 8.43–14.54), Assam (11.24%, 95% CI: 8.69–13.80), Uttarakhand (9.77%, 95% CI: 7.09–12.45) and Haryana (9.24%, 95% CI: 7.45–11.02).

During the 17th round of HSS Plus 2021, there were 53 IDU sites across 15 States, with a prevalence of 5% or higher. These States included Assam (2), Chhattisgarh (1), Delhi (3), Haryana (4), Madhya Pradesh (2), Maharashtra (1), Manipur (6), Meghalaya (2), Mizoram (6), Nagaland (2), Punjab (13), Tripura (1), Uttar Pradesh (8), Uttarakhand (1) and West Bengal (1). In comparison, during the HSS 2017 round, there were 30 IDU sites that recorded a prevalence of 5% or higher. In the States of Punjab and Uttar Pradesh, the number of sites with 5% or higher HIV prevalence increased considerably between the two HSS rounds. In Punjab, the observed HIV prevalence in the HSS Plus 2021 round was 19.57% vis-à-vis 12.09% in HSS 2017. Similarly in Uttar Pradesh, HIV prevalence was at 5.45% in HSS Plus 2021, vis-à-vis 4.53 % in HSS 2017. The scenario in north-eastern States has also evolved. In HSS 2017, neither Assam nor Meghalaya had any sites with a prevalence of 5% or higher. However, in HSS Plus 2021, both States have two sites each with higher HIV prevalence.

Figure 5.7: State/UT-wise HIV prevalence among IDUs, HSS Plus 2021 (in %)

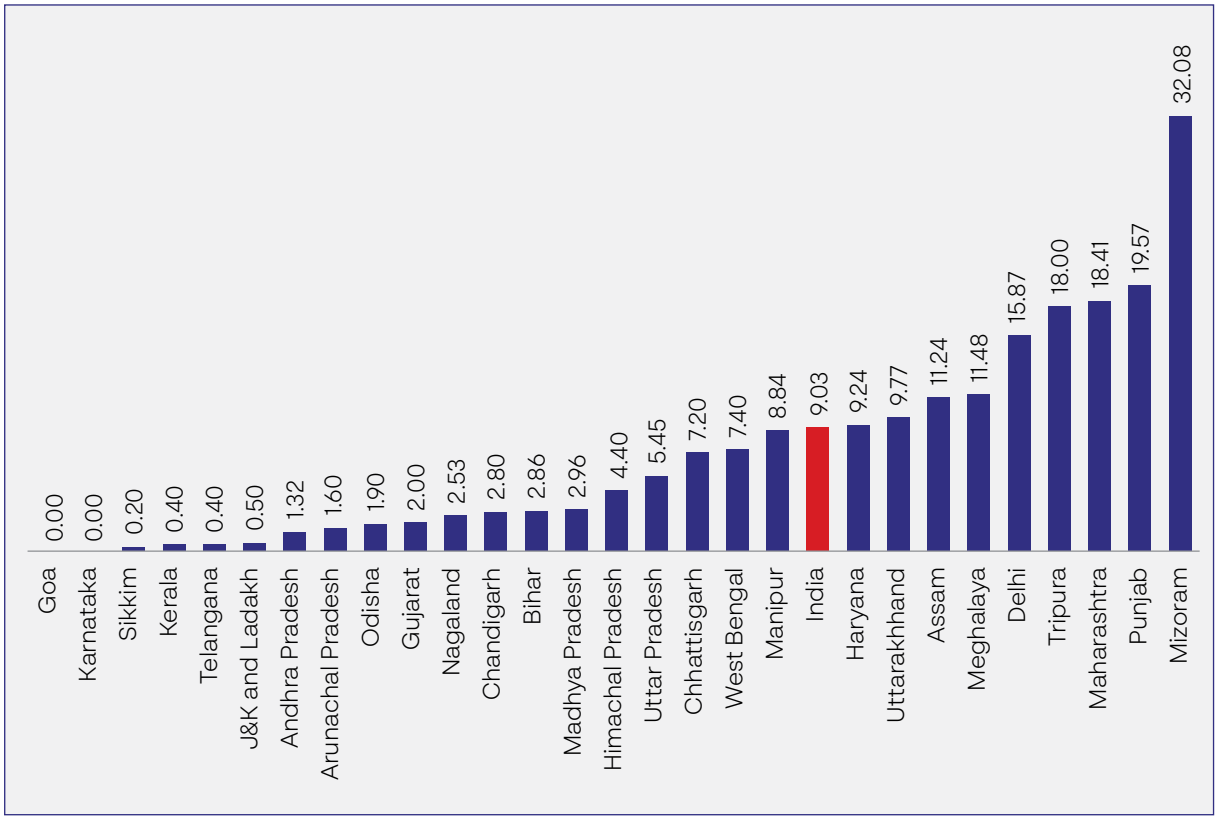


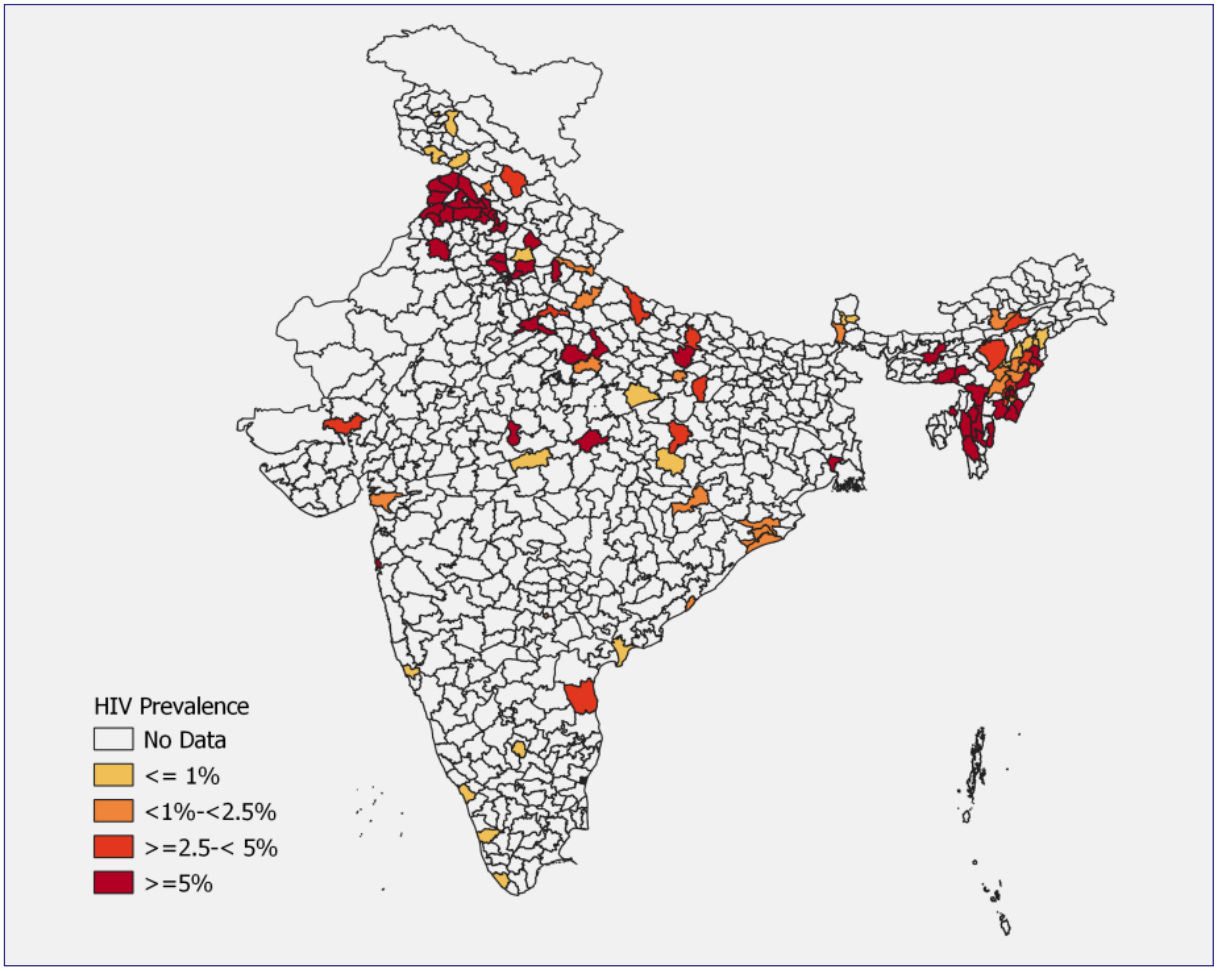
Table 5.14: State/UT-wise Sero-prevalence of HIV among IDUs, HSS Plus 2021 (in %)

State/UT	HIV	
	N	Sero-prevalence
Andhra Pradesh	606	1.32 (0.41–2.23)
Arunachal Pradesh	250	1.60 (0.04–3.16)
Assam	587	11.24 (8.69–13.80)
Bihar	490	2.86 (1.38–4.33)
Chandigarh	250	2.80 (0.76–4.84)
Chhattisgarh	750	7.20 (5.35–9.05)
Delhi	750	15.87 (13.25–18.48)
Goa	250	0.00 (0.00–0.00)
Gujarat	250	2.00 (0.26–3.74)
Haryana	1,007	9.24 (7.45–11.02)
Himachal Pradesh	250	4.40 (1.86–6.94)
J&K and Ladakh	1,009	0.50 (0.06–0.93)
Karnataka*	156	0.00 (0.00–0.00)
Kerala	750	0.40 (0.00–0.85)
Madhya Pradesh	1,013	2.96 (1.92–4.01)

State/UT	HIV	
	N	Sero-prevalence
Maharashtra	201	18.41 (13.05–23.77)
Manipur	3,246	8.84 (7.87–9.82)
Meghalaya	418	11.48 (8.43–14.54)
Mizoram	1,730	32.08 (29.88–34.28)
Nagaland	2,650	2.53 (1.93–3.13)
Odisha	1,000	1.90 (1.05–2.75)
Punjab	3,280	19.57 (18.22–20.93)
Sikkim	500	0.20 (0.00–0.59)
Telangana	250	0.40 (0.00–1.18)
Tripura	250	18.00 (13.24–22.76)
Uttar Pradesh	3,891	5.45 (4.74–6.16)
Uttarakhand	471	9.77 (7.09–12.45)
West Bengal	500	7.40 (5.11–9.69)
India	**26,755**	**9.03 (8.69–9.37)**

*In Karnataka, less than 75% of the target sample size was achieved. Findings from Karnataka should be interpreted with caution.

Figure 5.8: District-wise HIV Prevalence among IDUs, HSS Plus 2021 (in %)



5.8 HIV Prevalence by Respondents' Characteristics

Table 5.15 presents the HIV prevalence among IDUs categorized by background characteristics at the national level in HSS Plus 2021. In general, HIV prevalence among IDUs was higher among those in the age group of 35 to 44 years (9.56%) and 18 to 24 years (9.28%) as compared to those who were 45 years or older (8.02%). (*see Figure 5.9*). HIV prevalence was highest among those IDUs who reported being divorced/ separated/widowed (15.34%) as compared to those currently married (8.24%) or never married (8.87%) (*see Figure* 5.10). Higher HIV prevalence was noted among those who had education between 6th and 10th standard (10.32%), while the lowest was noted among those who were post-graduates (6.71%) (*see Figure 5.11*). The HIV prevalence was 9.85% among IDUs residing in rural areas than those belonging to urban areas (8.70%) (*see Figure 5.12*).

HIV prevalence was highest at 16.67% among those who reported being drug dealers/peddlers, followed by 14.29% among agricultural cultivator/landholders, 12.43% among non-agricultural labourers, 9.92% among unemployed, 9.32% among those involved in petty crimes, and 9.00% among those who worked as truck drivers/ helpers (*see Figure 5.13*).

Figure 5.9: HIV Prevalence among IDUs by Age Group, HSS Plus 2021 (in %)

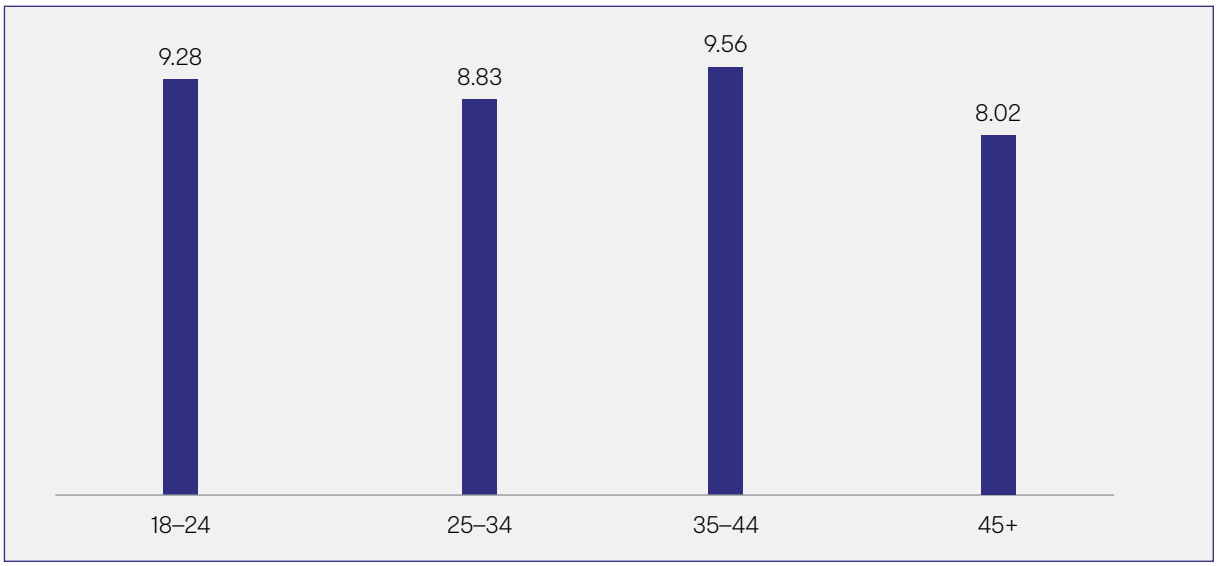


Figure 5.10: HIV Prevalence among IDUs by Marital Status, HSS Plus 2021 (in %)

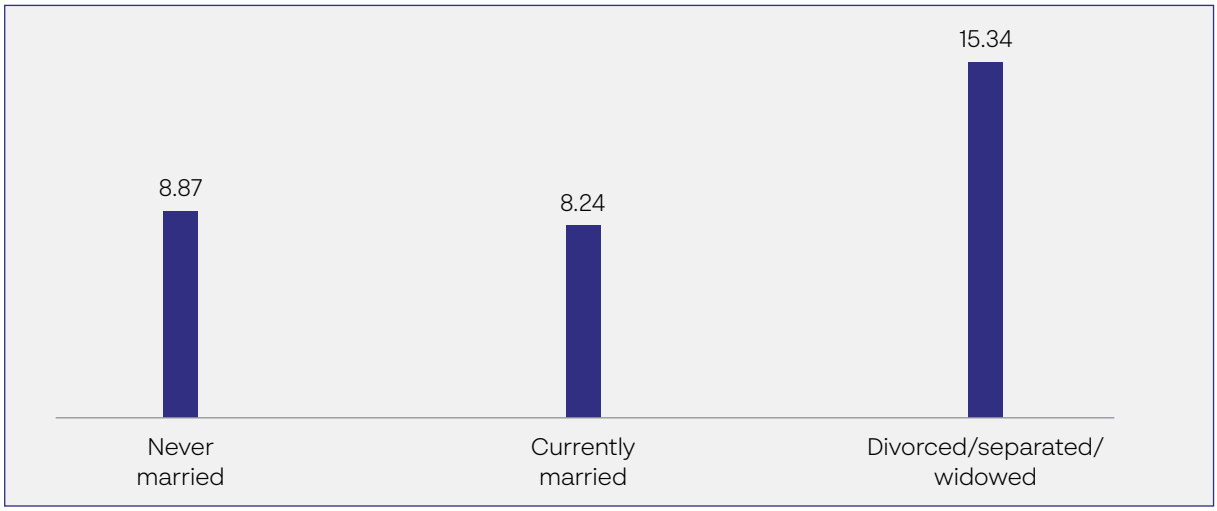


Figure 5.11: HIV Prevalence among IDUs by Education, HSS Plus 2021 (in %)

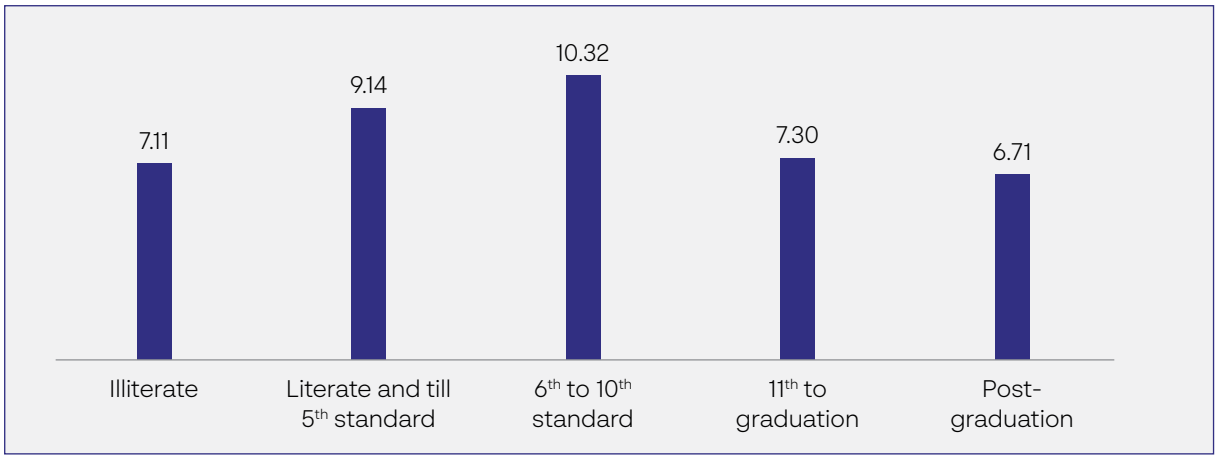


Figure 5.12: HIV Prevalence among IDUs by Place of Residence, HSS Plus 2021 (in %)

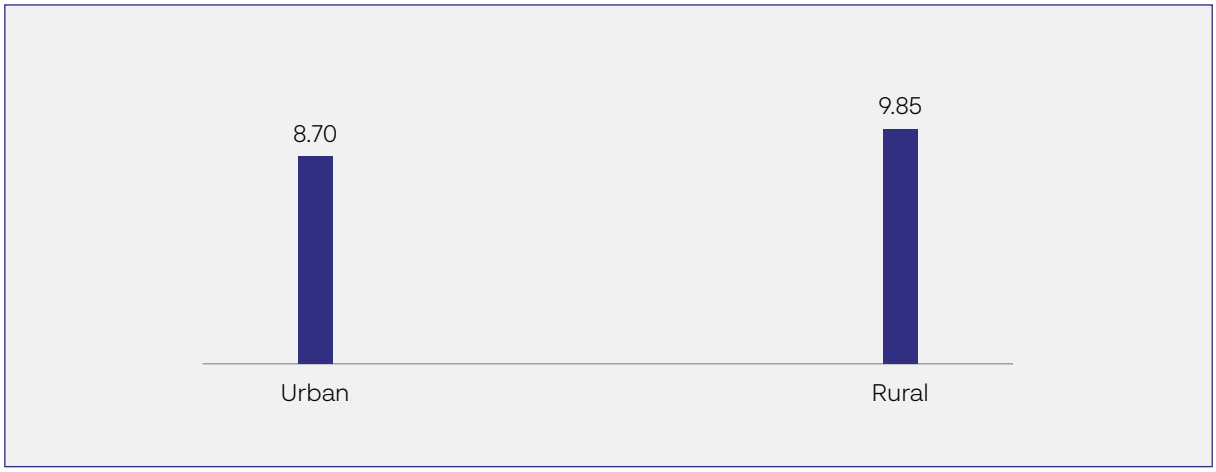


Figure 5.13: HIV Prevalence among IDUs by Occupation, HSS Plus 2021 (in %)

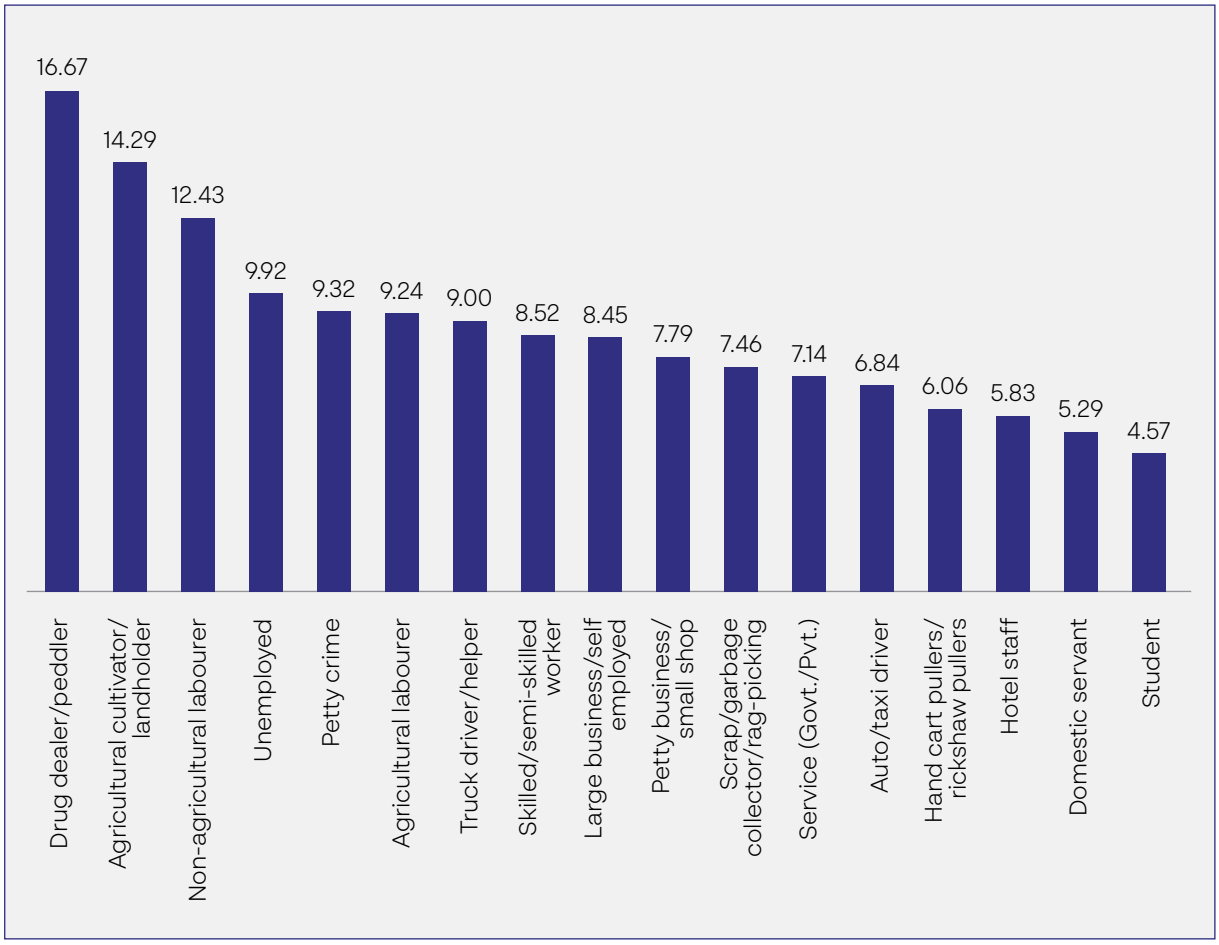


Table 5.15: HIV Prevalence among IDUs by Background Characteristics, HSS Plus 2021

Background Characteristics	Disaggregation	Distribution		HIV-positive
		Frequency*	Percent	Percent
Age	18–24 years	5,195	19.4	9.28
	25–34 years	13,472	50.4	8.83
	35–44 years	6,279	23.5	9.56
	45+ years	1,809	6.8	8.02
Residence	Urban	16,957	63.4	8.70
	Rural	9,102	34.0	9.85
Marital status	Never married	13,685	51.1	8.87
	Currently married	11,157	41.7	8.24
	Divorced/separated/widowed	1,760	6.6	15.34

Background Characteristics	Disaggregation	Distribution		HIV-positive
		Frequency*	Percent	Percent
Education	Illiterate	3,040	11.4	7.11
	Literate and till 5th standard	5,832	21.8	9.14
	6th to 10th standard	11,846	44.3	10.32
	11th to graduation	5,492	20.5	7.30
	Post-graduation	432	1.6	6.71
Respondent's primary occupation	Agricultural labourer	2,328	8.7	9.24
	Non-agricultural labourer	4,046	15.1	12.43
	Domestic servant	529	2.0	5.29
	Skilled/semi-skilled worker	2,489	9.3	8.52
	Petty business/small shop	1,836	6.9	7.79
	Large business/self employed	1,786	6.7	8.45
	Service (Govt./Pvt.)	1,695	6.3	7.14
	Student	656	2.5	4.57
	Truck driver/Helper	633	2.4	9.00
	Auto/Taxi driver	2,090	7.8	6.84
	Hand cart pullers/rickshaw pullers	841	3.1	6.06
	Hotel staff	326	1.2	5.83
	Agricultural cultivator/landholder	378	1.4	14.29
	Drug dealer/peddler	60	0.2	16.67
	Scrap/garbage collector/ rag-picking	898	3.4	7.46
	Petty crime	118	0.4	9.32
	Unemployed	5,686	21.3	9.92

*Total may not add up to 26,755 because of missing/not applicable response.

06

Hijra/Transgender Persons

India has one of the world's largest and most robust HIV surveillance systems, providing timely and critical epidemiological evidence on the level and trends in HIV prevalence among various HRGs. While almost every district in India is covered under the HSS, representation of the H/TG population has been limited, affecting the availability of relevant epidemiological data for this group. In HSS 2017, H/TG population ranked second in prevalence at 3.14%, following IDUs at 6.26%. Currently, the HIV prevention programme under the National AIDS and STD Control Programme (NACP) includes 39 exclusive targeted interventions (TIs) and 153 core composite interventions targeting the H/TG population. For HSS Plus 2021, H/TG individuals were operationally defined as 'A person aged 18 years or more, whose self-identity does not conform unambiguously to conventional notions of male or female gender roles, but combines or moves between these'. This definition also included individuals, aged 18 years or more, whose gender identity differs from the sex assigned at birth. Implemented across 20 sites in 13 States/UTs, the HSS engaged a total of 4,679 H/TG individuals who completed behavioural interviews and provided blood samples, which were subsequently tested at designated laboratories.

Table 6.1: Sample Size and Response Rate by State/UT, H/TG people sites: HSS Plus 2021

State/UT	No. of HSS Sites	Final Sample Size Achieved	Response Rate (%)
Andhra Pradesh	1	217	100.0
Chhattisgarh	1	250	99.6
Delhi	2	500	100.0
Gujarat	1	250	97.7
Karnataka	2	500	100.0
Kerala	3	716	99.7
Maharashtra	1	250	87.4
Odisha	3	604	99.2

State/UT	No. of HSS Sites	Final Sample Size Achieved	Response Rate (%)
Rajasthan	1	250	91.2
Tamil Nadu	1	250	100.0
Telangana*	1	150	100.0
Uttar Pradesh	1	250	100.0
West Bengal	2	492	86.2
India	**20**	**4,679**	**96.9**

*In Telangana, less than 75% of the target sample size was achieved. Findings from Telangana should be interpreted with caution.

Nationally, the response rate for HSS Plus among H/TGs individuals was 96.9%. In almost all States/UTs response rate was higher than 90%, except in West Bengal (86.2%) and Maharashtra (87.4%). State/UT-wise sample size achieved and response rates are presented in Table 6.1. This section presents the key findings from the 2021 round of sentinel surveillance among H/TG people. Initially, the background characteristics of respondents including age, current marital status, education status, current place of residence, primary occupation and types of cell phone are presented. The gender, HIV/AIDS-related service uptake, awareness, and use of pre-exposure prophylaxis (PrEP), sexual behaviour and condom use practices, and stigma and discrimination have been presented next, followed by the prevalence of HIV nationally and by State/UT, which provide a broad perspective.

6.1 Respondents' Characteristics

Information on the basic demographic characteristics was collected from all respondents, including age, literacy status, current place of residence, occupation, etc. The current section describes these profile characteristics of H/TG people across different States/UTs in the country. The mean age of H/TG respondents was 31.2 years nationally and ranged between 26.8 and 36.3 years across different States/UTs. States with high mean age among H/TG respondents were Kerala, Tamil Nadu, Telangana and Gujarat. The mean age was relatively lower among H/TG people in Delhi, Chhattisgarh, and West Bengal (*see Table 6.2*). Overall, most H/TG people surveyed were between the ages 25–34 years (48.7%), followed by the group 35–44 years (24.5%) and 18–24 years (20.5%). A smaller proportion of H/TG people were over 45 years of age (6.2%) (*see Figure 6.1*).

In majority of the States, most surveyed H/TG people were found to be in the 25–34 years age group, except in Telangana, where over 55% of the respondents were between the ages 35–44 years. Nearly 15% of the H/TG respondents in Kerala and Gujarat were over 45 years old.

All respondents were asked about their marital status. The majority of H/TG respondents reported never being married (87.1%), while 9% were currently married and less than 3% were divorced/separated/widowed (*see Figure 6.2*). One-third of H/TG respondents in Odisha reported being currently married at the time of the survey.

Around 90% of H/TG respondents were literate, and around 60% had received more than five years of education (*see Figure 6.3*). More than half of the H/TG respondents in Uttar Pradesh (67.2%) were illiterate, followed by 25.3% in Andhra Pradesh. On the other

hand, in Tamil Nadu, Kerala, Karnataka, Chhattisgarh, Telangana and Gujarat; less than 3% of the H/TG respondents were illiterate (*see Table 6.3*).

Figure 6.1: Distribution of H/TG People by Age Group, HRG HSS Plus 2021 (in %)

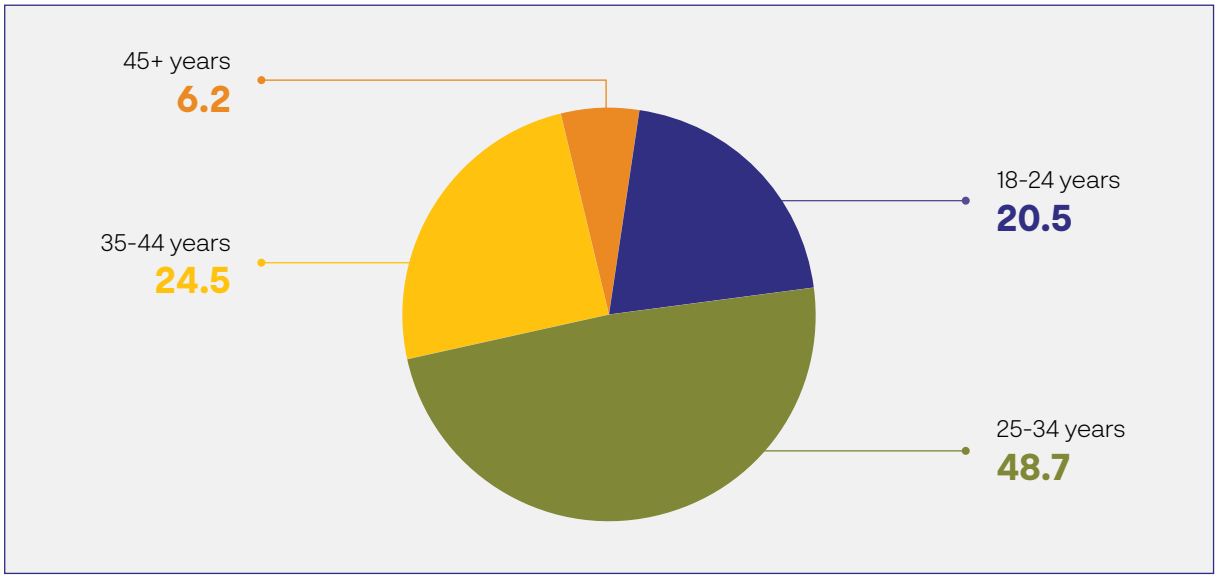


Table 6.2: Age Distribution of Respondents, H/TG People by State/UT, HSS Plus 2021

State/UT	N	Mean Age	H/TG People Age Groups (%)#			
			18–24 Years	25–34 Years	35–44 Years	45+ Years
Andhra Pradesh	217	29.4	6.9	82.5	10.6	0.0
Chhattisgarh	250	26.8	41.2	45.6	12.4	0.8
Delhi	500	27.6	40.6	42.8	15.8	0.8
Gujarat	250	36.3	4.0	40.8	39.6	15.6
Karnataka	500	32.5	9.6	57.2	24.4	8.8
Kerala	716	34.8	10.1	40.9	34.5	14.5
Maharashtra	250	30.7	16.4	61.6	17.6	4.4
Odisha	604	30.3	28.5	40.4	26.5	4.6
Rajasthan	250	30.8	14.8	58.8	23.2	3.2
Tamil Nadu	250	34.3	6.8	48.4	36.0	8.8
Telangana*	150	34.9	12.0	26.7	55.3	6.0
Uttar Pradesh	250	29.7	22.0	54.4	21.6	2.0
West Bengal	492	27.9	34.6	51.0	11.2	3.3
India	**4,679**	**31.2**	**20.5**	**48.7**	**24.5**	**6.2**

*In Telangana, less than 75% of the target sample size was achieved. Findings from Telangana should be interpreted with caution. #Total may not add up to 100% due to missing/no response.

Table 6.3: Current Marital Status and Education Status of H/TG people by State/UT, HSS Plus 2021

State/UT	N	Marital Status# (%)			Education Status# (%)				
		Never Married	Currently Married	Divorced/ Separated/ Widowed	Illiterate	Literate and till 5th Standard	6th to 10th Standard	11th to Graduation	Post-Graduation & Above
Andhra Pradesh	217	82.5	15.7	1.4	25.3	40.6	30.4	3.2	0.5
Chhattisgarh	250	76.8	12.0	8.8	2.4	26.4	54.8	14.4	2.0
Delhi	500	100.0	0.0	0.0	9.2	62.8	22.8	4.6	0.6
Gujarat	250	98.0	0.0	1.6	2.8	47.6	39.6	4.8	5.2
Karnataka	500	99.0	0.0	0.0	1.6	40.4	21.8	23.2	11.8
Kerala	716	77.0	11.5	9.6	0.7	4.7	62.3	30.0	1.8
Maharashtra	250	99.2	0.0	0.0	7.6	24.8	52.0	14.4	0.8
Odisha	604	63.9	33.3	2.3	10.6	30.6	46.9	10.3	1.0
Rajasthan	250	99.6	0.0	0.0	2.0	56.0	33.2	7.2	1.6
Tamil Nadu	250	99.2	0.0	0.0	0.4	22.4	52.4	24.4	0.4
Telangana*	150	70.0	18.0	12.0	2.7	39.3	52.0	5.3	0.7
Uttar Pradesh	250	100.0	0.0	0.0	67.2	6.0	20.4	6.0	0.0
West Bengal	492	86.8	9.6	0.4	11.2	19.5	29.9	26.8	12.6
India	**4,679**	**87.1**	**9.0**	**2.8**	**9.5**	**30.7**	**40.1**	**15.8**	**3.6**

*In Telangana, less than 75% of the target sample size was achieved. Findings from Telangana should be interpreted with caution; #Total may not add to 100% due to missing responses.

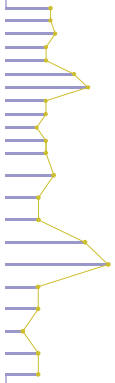


Figure 6.2: Distribution of H/TG People by Current Marital Status, HSS Plus 2021 (in %)

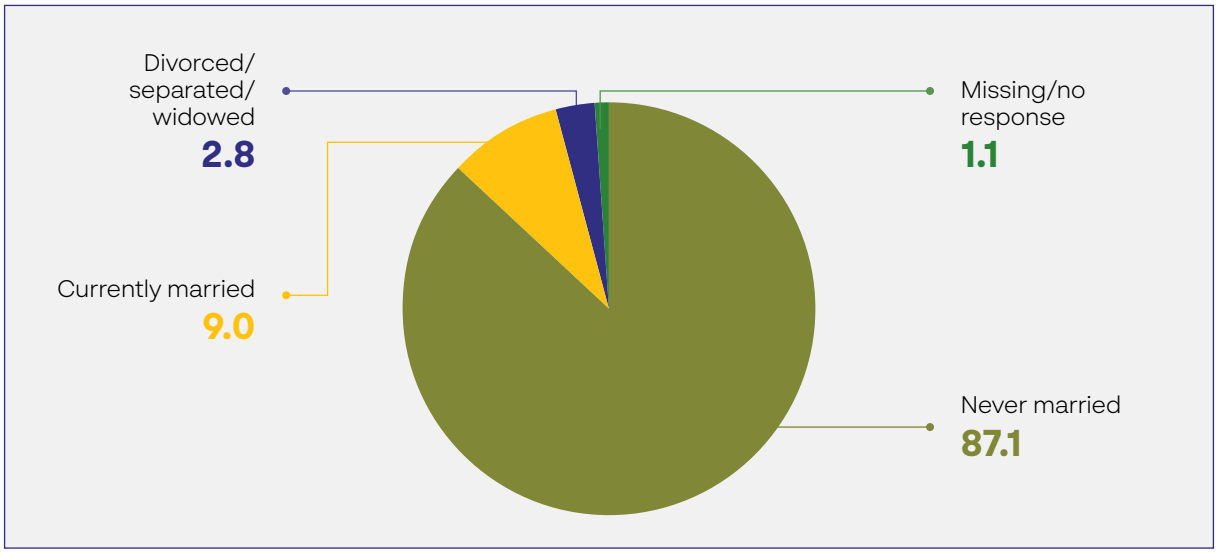
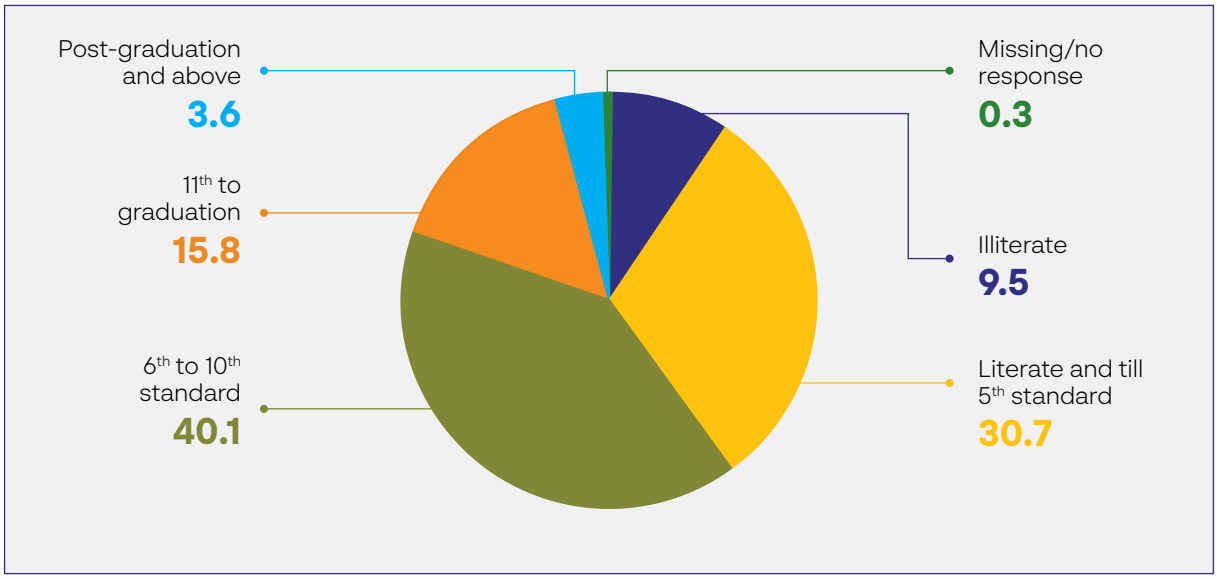


Figure 6.3: Distribution of H/TG People by Education Status, HSS Plus 2021 (in %)



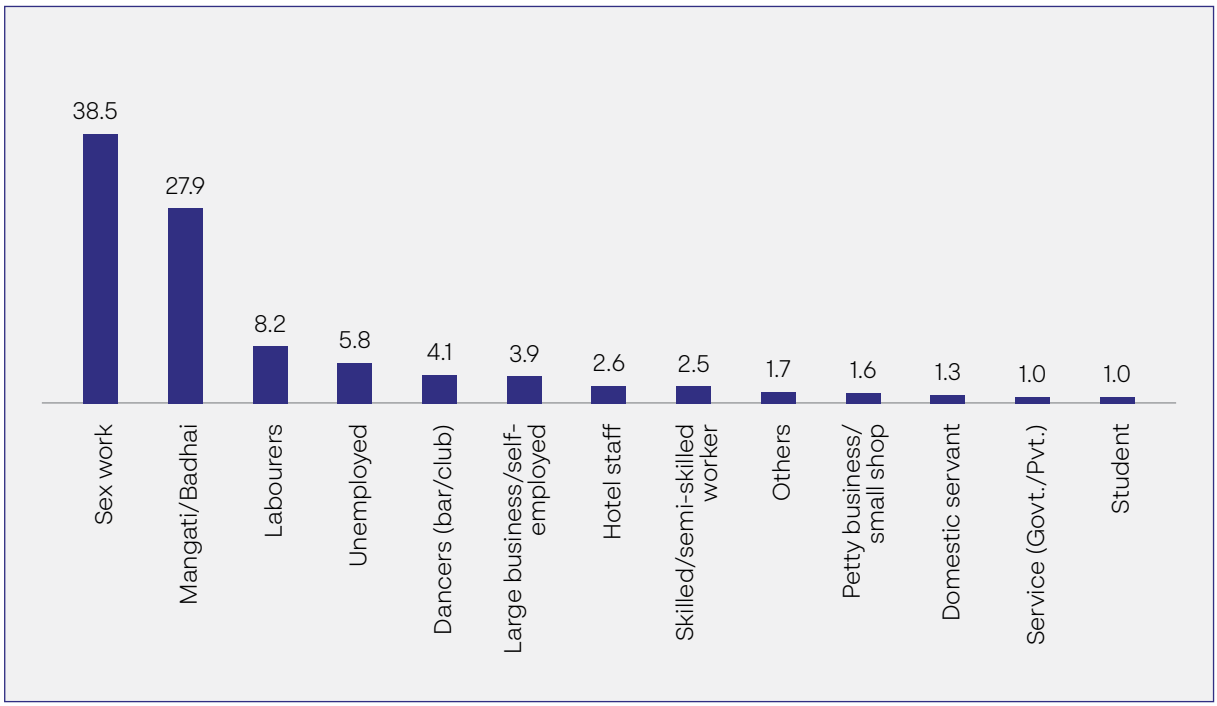
Notably, sex work emerged as the predominant primary occupation reported by H/TG people in many States. Overall, over one-third of H/TG respondents cited sex work as their main occupation, with the highest reported in Karnataka (97.6%), followed by Tamil Nadu and Telangana (90%) and Maharashtra (87.2%). However, in Uttar Pradesh, Chhattisgarh and West Bengal, less than 5% of H/TG people reported sex work as their primary occupation. In Uttar Pradesh (98.8%), a majority of the H/TG respondents reported 'Mangati' or 'Badhai' as their main occupation. Similarly, over three-fifths of the respondents in Delhi, Gujarat and Andhra Pradesh reported the same as their primary occupation (*see Figure 6.4 and Table 6.4*).

Table 6.4: Current Primary Occupation of H/TG People, by State/UT, HSS Plus 2021

State/UT	N	Main Occupation (%)#											
		Labourer	Domestic Servant	Skilled/ Semi-skilled Worker	Petty Business/ Small Shop	Service (Govt./ Pvt.)	Student	Hotel Staff	Sex Work	Mangati/ Badhai	Dancers (Bar/ Club)	Unemployed	Others
Andhra Pradesh	217	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.4	62.7	0.0	0.0	0.5
Chhattisgarh	250	0.8	7.2	2.8	2.4	2.4	4.4	8.0	4.8	46.0	1.2	10.8	8.4
Delhi	500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.4	66.2	0.4	0.0	0.0
Gujarat	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2	64.8	0.0	0.0	0.0
Karnataka	500	0.0	0.6	0.0	0.0	0.0	0.0	0.4	97.6	1.2	0.0	0.2	0.0
Kerala	716	18.2	3.8	7.7	1.8	20.7	0.3	12.8	23.2	0.4	1.0	7.3	1.7
Maharashtra	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	87.2	11.2	0.0	0.0	0.4
Odisha	604	38.2	0.5	9.3	2.8	1.7	1.0	0.5	22.2	0.5	0.2	20.4	2.8
Rajasthan	250	0.0	0.4	0.0	0.0	0.0	0.0	0.0	24.4	59.2	1.2	14.0	0.4
Tamil Nadu	250	0.0	0.4	0.0	0.0	0.0	0.0	1.2	90.0	1.2	0.0	0.0	0.0
Telangana*	150	0.0	0.0	0.0	0.0	0.0	0.0	0.0	90.0	8.7	0.0	0.0	0.0
Uttar Pradesh	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.8	0.0	0.0	0.8
West Bengal	492	4.7	1.2	0.2	7.9	3.5	5.3	0.6	5.5	22.8	35.4	6.7	5.1
India	**4,679**	**8.2**	**1.3**	**2.5**	**1.6**	**3.9**	**1.0**	**2.6**	**38.5**	**27.9**	**4.1**	**5.8**	**1.7**

*In Telangana, less than 75% of the target sample size was achieved. Findings from Telangana should be interpreted with caution; #Total may not add to 100% due to missing responses.

Figure 6.4: Distribution of H/TG People by Current Main Occupation, HSS Plus 2021 (in %)



In HSS Plus 2021, all H/TG people were asked about their current place of residence, distinguishing between urban or rural areas, as well as the types of cell phone they possessed. Nationally, more than three-fourths of H/TG respondents reported residing in urban areas (78.1%). In most of the States, urban residents were the majority, with almost all H/TG respondents in Delhi, Gujarat, Karnataka, Maharashtra, Rajasthan, Telangana and Uttar Pradesh identifying as urban residents. However, almost 50% of respondents in Kerala (53.2%), Odisha (43.5%) and West Bengal (48.4%) reported living in rural areas (*see Table 6.5*).

Almost 70% of the H/TG persons reported having smartphones, while 16.4% had only basic phones. Around 8% of respondents indicated having both types of phones, and only 2.9% reported not owning a cell phone. In comparison to the national estimates, a higher proportion of respondents in Delhi (13.8%) did not own any cell phones. Notably, a majority of H/TG people in Odisha (52.3%) had only basic keypad phones (*see Table 6.5*).

6.2 Gender

The term 'transgender' refers to individuals whose gender identity, expression or behaviour does not conform to or deviate from societal gender norms associated with their assigned sex at birth. This broad term is inclusive and covers various complex and diverse sub-groups, each with unique gender identities, cultures and experiences. In HSS Plus 2021, all H/TG people were asked about their assigned sex at birth and how they primarily identified themselves in terms of gender identity.

Table 6.5: Current Place of Residence and Having Cell Phones of H/TG People by State/UT, HSS Plus 2021

State/UT	N	Current Place of Residence (%)#		Having Cell Phones (%)#			
		Urban	Rural	Basic Keypad Phone	Smart-phone	Both	Do Not Own a Cell Phone
Andhra Pradesh	217	92.2	0.5	11.5	80.2	6.9	0.0
Chhattisgarh	250	93.2	6.4	11.6	73.6	10.8	0.8
Delhi	500	100.0	0.0	21.4	35.8	29.0	13.8
Gujarat	250	99.2	0.0	2.4	96.8	0.4	0.0
Karnataka	500	97.6	0.0	1.4	77.8	11.8	0.0
Kerala	716	42.7	53.2	9.2	87.8	2.1	0.0
Maharashtra	250	99.2	0.0	12.0	86.8	0.0	0.0
Odisha	604	48.8	43.5	52.3	34.3	0.5	9.4
Rajasthan	250	100.0	0.0	7.6	90.0	0.8	0.0
Tamil Nadu	250	93.2	0.0	14.4	65.6	8.0	0.4
Telangana*	150	100.0	0.0	0.0	100.0	0.0	0.0
Uttar Pradesh	250	100.0	0.0	27.6	47.6	22.4	1.6
West Bengal	492	51.0	48.4	12.0	79.3	6.3	0.2
India	**4,679**	**78.1**	**19.2**	**16.4**	**69.9**	**8.0**	**2.9**

*In Telangana, less than 75% of the target sample size was achieved. Findings from Telangana should be interpreted with caution; #Total may not add up to 100% due to missing/no response.

Table 6.6: Assigned Sex at Birth of H/TG People by State/UT, HSS Plus 2021

State/UT	N	Assigned Sex at Birth (%)#		
		Male	Female	Intersex
Andhra Pradesh	217	98.1	0.9	0.9
Chhattisgarh	250	99.2	0.0	0.0
Delhi	500	99.4	0.0	0.6
Gujarat	250	99.6	0.0	0.4
Karnataka	500	97.2	0.0	0.6
Kerala	716	98.6	0.5	0.0
Maharashtra	250	99.6	0.0	0.0
Odisha	604	100.0	0.0	0.0
Rajasthan	250	71.6	0.0	0.0
Tamil Nadu	250	99.2	0.4	0.0
Telangana*	150	100.0	0.0	0.0
Uttar Pradesh	250	99.6	0.0	0.0
West Bengal	492	97.9	0.0	0.0
India	**4,679**	**97.4**	**0.1**	**0.1**

*In Telangana, less than 75% of the target sample size was achieved. Findings from Telangana should be interpreted with caution.
#Total may not add up to 100% due to missing/no answer

The majority of the H/TG people recruited under HSS Plus 2021 were transgender women, with around 97.4% of them reporting being assigned male at birth. However, the respondents have a fluid sexual orientation. In Maharashtra (99.6%) and Chhattisgarh (42.8%), a large majority of the H/TG respondents identified themselves as women (*see Tables 6.6 and 6.7*).

Table 6.7: Gender Identity of H/TG People by State/UT, HSS Plus 2021

State/UT	N	Primarily Identify Themselves in Terms of Gender Identity (%)#				
		Man	Woman	Transgender	Gender Non-binary/ Gender-queer	Others
Andhra Pradesh	217	0.0	13.8	86.1	0.0	0.0
Chhattisgarh	250	3.2	42.8	53.6	0.0	0.0
Delhi	500	0.2	0.4	99.4	0.0	0.0
Gujarat	250	0.8	0.0	98.8	0.4	0.4
Karnataka	500	5.0	0.0	95.0	0.0	0.0
Kerala	716	0.1	0.9	97.9	0.0	0.0
Maharashtra	250	0.0	99.6	0.0	0.0	0.0
Odisha	604	8.2	0.0	77.1	14.5	14.6
Rajasthan	250	0.0	0.0	100.0	0.0	0.0
Tamil Nadu	250	0.0	0.0	99.6	0.0	0.0
Telangana*	150	0.0	0.0	100.0	0.0	0.0
Uttar Pradesh	250	0.0	0.0	99.6	0.0	0.0
West Bengal	492	0.8	5.8	92.4	0.0	0.2
India	**4,679**	**1.9**	**9.0**	**86.7**	**1.9**	**0.02**

*In Telangana, less than 75% of the target sample size was achieved. Findings from Telangana should be interpreted with caution. #Total may not add up to 100% due to missing/no answer

Table 6.8: Distribution of H/TG People According to Sexual Preferences by State/UT, HSS Plus 2021 (in %)

State/UT	N	Sexually Attracted to Whom (%)	
		Male Partner	Female Partner
Andhra Pradesh	217	–	–
Chhattisgarh	250	99.2	98.8
Delhi	500	99.4	0.0
Gujarat	250	97.6	0.0
Karnataka	500	–	–
Kerala	716	–	–
Maharashtra	250	98.4	3.2
Odisha	604	–	–

State/UT	N	Sexually Attracted to Whom (%)	
		Male Partner	Female Partner
Rajasthan	250	99.6	0.0
Tamil Nadu	250	–	–
Telangana*	150	–	–
Uttar Pradesh	250	100.0	0.0
West Bengal	492	–	–
India	**4,679**	**99.0**	**67.4**

*In Telangana, less than 75% of the target sample size was achieved. Findings from Telangana should be interpreted with caution.

They were also asked to whom they were sexually attracted or their sexual preferences. Nearly all respondents from the different States/UTs indicated being sexually attracted to male partners. However, 67.4% also reported being attracted to females (*see Table 6.8*). The survey also inquired whether they had undergone any medical/surgical interventions to alter their physical appearance to be more feminine or more masculine. At the national level, two out of five H/TG respondents reported having undergone such medical/surgical interventions. A significant proportion of H/TG people in the States of Andhra Pradesh, Delhi, Tamil Nadu, Gujarat, Maharashtra and Karnataka had medical/surgical interventions to make their bodies appear more feminine or more masculine (*see Table 6.9*).

Table 6.9: Distribution of H/TG People According to Medical/Surgical Interventions, HSS Plus 2021

State/UT	N	Medical/ Surgical Interventions	Hormones	Breast Augmentation/ Implant	Male-to-female Genital Surgery
Andhra Pradesh	217	100.0	–	–	–
Chhattisgarh	250	16.8	9.5	9.5	9.5
Delhi	500	100.0	99.4	80.6	65.6
Gujarat	250	68.8	0.0	0.0	0.0
Karnataka	500	55.6	0.3	0.3	0.3
Kerala	716	18.0	–	–	–
Maharashtra	250	58.0	2.0	2.0	2.0
Odisha	604	4.9	3.3	3.3	3.3
Rajasthan	250	18.0	17.7	20.0	17.7
Tamil Nadu	250	71.2	–	–	–
Telangana*	150	46.6	0.0	0.0	0.0
Uttar Pradesh	250	0.4	0.0	0.0	0.0
West Bengal	492	25.0	0.0	0.0	0.0
Total	**4,679**	**41.2**	**41.2**	**36.4**	**32.4**

*In Telangana, less than 75% of the target sample size was achieved. Findings from Telangana should be interpreted with caution.

6.3 HIV/AIDS-related Testing and Treatment Services Uptake

At the national level, 99.3% of H/TG people reported having undergone an HIV test in their lifetime. Among those who tested, almost 91.7% had been tested within the last 12 months. About 82.1% of respondents had tested within the last six months, while more than 70% of H/TG respondents had not undergone an HIV test in the last three months. Notably, more than 20% of the H/TG respondents in Delhi and Uttar Pradesh had not been tested for HIV in the last 12 months. Similarly, almost one-third of respondents in Andhra Pradesh and Delhi also had not been tested for HIV in the last six months (*see Table 6.10*).

Overall, there were 177 (3.78%) H/TG persons who tested HIV-positive in HSS Plus 2021. Among them, 62.1% were aware of their HIV-positive status. Overall, 58.2% of total HIV-infected H/TG persons were receiving ART.

6.4 HIV Pre-exposure Prophylaxis (PrEP)

H/TG people who were aware of HIV/AIDS and who did not report being positive were asked questions related to HIV pre-exposure prophylaxis (PrEP) to assess their awareness of the issue. At the national level, only 16% of H/TG respondents reported that they were aware of HIV PrEP, and a negligible proportion (0.1%) reported ever taking PrEP (*see Table 6.11*).

Table 6.10: HIV Testing History among H/TG People by State/UT, HSS Plus 2021

State/UT	N	Ever Tested for HIV (%)	Tested for HIV in Last Three Months (%)	Tested for HIV in Last Six Months (%)	Tested for HIV in Last 12 Months (%)
Andhra Pradesh	217	96.3	24.0	66.4	86.2
Chhattisgarh	250	100.0	37.6	92.4	96.4
Delhi	500	100.0	42.0	67.0	72.4
Gujarat	250	99.6	32.0	86.4	93.2
Karnataka	500	98.6	19.8	82.0	92.2
Kerala	716	99.3	41.6	88.0	98.9
Maharashtra	250	99.6	12.4	77.6	94.8
Odisha	604	100.0	8.9	79.8	93.9
Rajasthan	250	99.2	52.0	95.6	95.6
Tamil Nadu	250	99.2	20.0	78.4	96.4
Telangana*	150	100.0	15.3	92.0	98.0
Uttar Pradesh	250	100.0	23.2	76.8	78.0
West Bengal	492	99.0	26.6	88.2	95.7
India	**4,679**	**99.3**	**28.0**	**82.1**	**91.7**

*In Telangana, less than 75% of the target sample size was achieved. Findings from Telangana should be interpreted with caution.

Table 6.11: Awareness and Use of HIV PrEP among H/TG People by State/UT, HSS Plus 2021

State/UT	N#	Aware of HIV PrEP (%)	Ever Taken PrEP (%)
Andhra Pradesh	207	3.6	0.0
Chhattisgarh	233	0.0	–
Delhi	487	25.3	0.0
Gujarat	241	2.9	0.0
Karnataka	490	25.5	0.2
Kerala	712	6.8	0.4
Maharashtra	237	5.9	0.0
Odisha	579	65.9	0.2
Rajasthan	241	3.3	0.0
Tamil Nadu	247	0.0	–
Telangana*	146	0.0	–
Uttar Pradesh	234	0.0	–
West Bengal	465	0.0	–
India	**4,519**	**16.0**	**0.1**

*In Telangana, less than 75% of the target sample size was achieved. Findings from Telangana should be interpreted with caution; N# represents those who were aware of HIV or AIDS and did not report to be HIV-positive.

6.5 Sexual Behaviour and Condom Use Practices

H/TG people often engage in behaviours that increase their risk of HIV transmission, such as having multiple sex partners and practising unprotected sex. They are also more likely to be involved in commercial sex work compared to other populations. HSS Plus 2021 gathered comprehensive information regarding various aspects of the sexual behaviour of the study group, including the initiation of sex, frequency and volume of sex acts, place of solicitation and entertainment, various types of partners and condom use practices.

At the national level, 93.6% of H/TG people reported engaging in sexual activities, encompassing both penetrative and/or oral sex with a partner. Except in Karnataka (50%), almost all H/TG people across the States reported being sexually active. Overall, 92.7% reported having anal sex, 61% vaginal sex and 79.5% engaged in oral sex. More than 95% of H/TG people across all States/UTs except in Karnataka (44.2%) reported engaging in anal sex. Similarly, oral sex was reported by over four-fifths of the H/TG respondents, except in Delhi, Karnataka and Uttar Pradesh. In contrast, vaginal sex was predominantly reported by respondents in Andhra Pradesh, Chhattisgarh, Kerala, Odisha, Tamil Nadu, Telangana and West Bengal (*see Table 6.12*).

Nationally, 86.2% of the H/TG respondents reported having received money in exchange for sex. The mean age of sexual debut was 17.5 years. The mean number of sexual partners and the number of sexual acts in a week were eported to be 5.2 and 6.3 respectively (*see Table 6.12*).

All H/TG people were asked about the other towns they had visited for meeting sexual partners in the last three months, with three-fifths of them reporting visiting one or more towns for this purpose (*see Table 6.12*).

Table 6.12: General Sexual Behaviour among H/TG People by State/UT, HSS Plus 2021 (in %)

State/UT	N	Ever Had Sex (%)	Anal Sex (%)	Vaginal Sex (%)	Oral Sex (%)	Received Money (%)	Mobility to One or More Town (%)	Age at Sexual Debut (%)	Sexual Partners in a Week (%)	Sex acts in a Week (%)
Andhra Pradesh	217	100.0	100.0	100.0	100.0	81.1	91.7	14.0	9.6	10.7
Chhattisgarh	250	98.0	97.6	97.2	97.6	70.8	75.6	16.8	2.1	2.5
Delhi	500	100.0	99.2	0.2	33.8	99.6	75.4	19.9	15.8	19.7
Gujarat	250	100.0	100.0	0.0	96.8	98.4	18.4	16.2	3.1	3.7
Karnataka	500	50.0	44.2	44.2	44.2	48.0	49.0	19.9	5.5	–
Kerala	716	98.6	98.3	98.3	98.3	87.2	61.3	19.4	3.2	3.5
Maharashtra	250	99.2	97.2	0.0	95.6	96.4	37.6	15.3	3.9	3.9
Odisha	604	96.2	96.2	96.2	96.2	95.4	34.4	19.6	6.3	6.5
Rajasthan	250	99.6	98.8	0.0	86.4	89.2	90.4	19.1	2.1	3.5
Tamil Nadu	250	97.2	97.2	97.2	97.2	96.4	34.8	13.5	2.4	–
Telangana*	150	100.0	100.0	100.0	100.0	100.0	2.0	16.7	2.3	4.6
Uttar Pradesh	250	100.0	99.6	0.4	0.8	98.0	99.6	16.5	1.7	5.5
West Bengal	492	100.0	100.0	100.0	100.0	80.1	79.9	15.8	3.6	5.1
India	**4,679**	**93.6**	**92.7**	**61.0**	**79.5**	**86.2**	**58.9**	**17.5**	**5.2**	**6.3**

*In Telangana, less than 75% of the target sample size was achieved. Findings from Telangana should be interpreted with caution.

All respondents were asked how they met with their sexual partners. At the national level, 84.2% reported meeting sexual partners through common friends/ acquaintances, followed by 79.4% through mobile phones, 75.5% at streets/roadsides, 73% at railway stations/bus stands, 72% through the Internet, and between 60% and 70% respondents reported meeting partners at parks, private parties, massage parlours, public toilets, bar/clubs and cinema halls. (*see Figure 6.5*).

The H/TG people who mentioned the use of mobile applications/web portals for meeting sexual partners were asked about the different applications used. At the national level, three-fifths of the respondents reported WhatsApp, followed by over half of the respondents using Grinder and Facebook (*see Figure 6.6*).

H/TG persons were asked about their sexual partners during their most recent sex act and their condom use practices with these partners. Around 35.6% reported having sex with their regular male partner, while 44.5% were with a commercial male partner and 17.4% were with a casual partner. Less than 1% of the respondents reported engaging in sex acts with H/TG persons or female partners. Among H/TG people who reported having sex with regular male partners, 96.6% used condoms. Similarly, condom use with commercial and casual partners was reported to be 98.3% and 96.8% respectively (*see Figure 6.7*).

Figure 6.5: Distribution of H/TG People by Place of Meeting Sexual Partners, HSS Plus 2021 (in %)

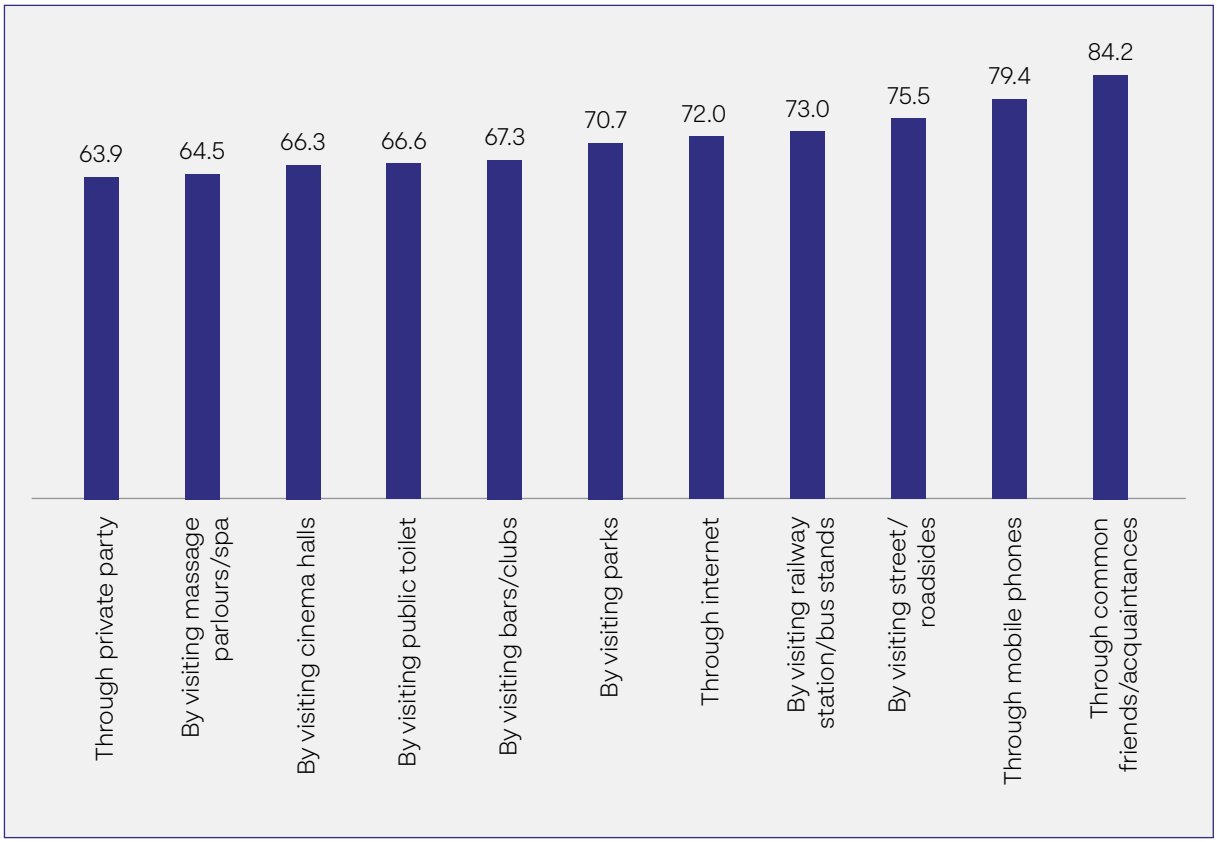


Figure 6.6: Distribution of H/TG People by Preference of Mobile Applications, HSS Plus 2021 (in %)

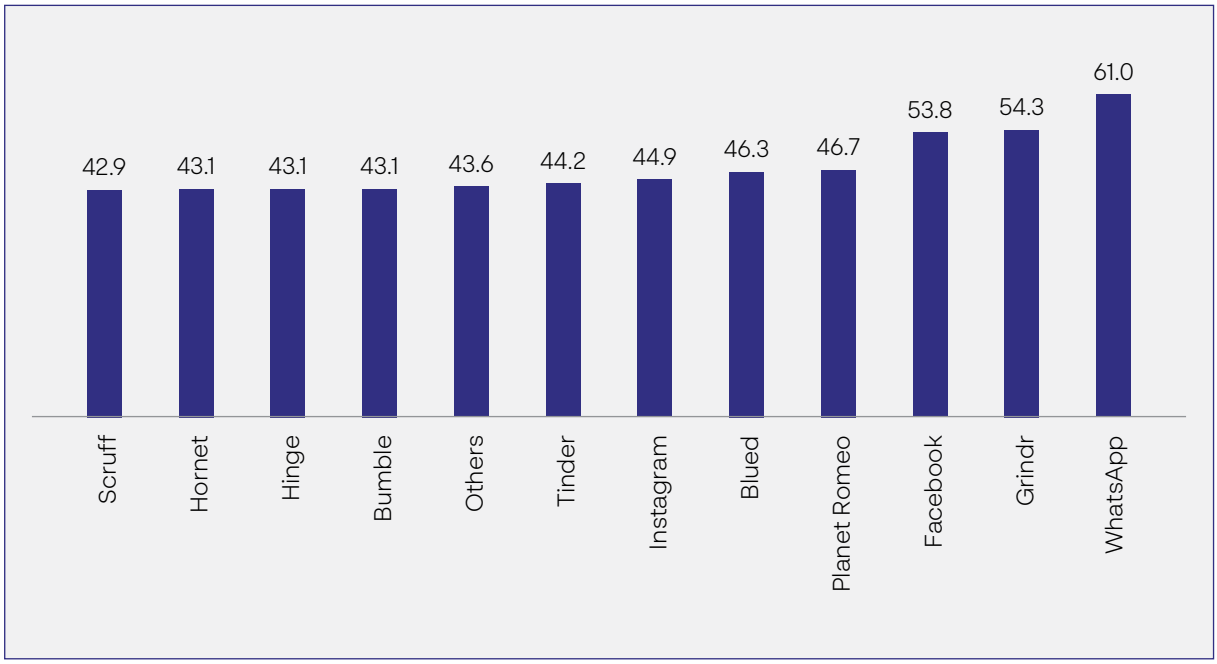
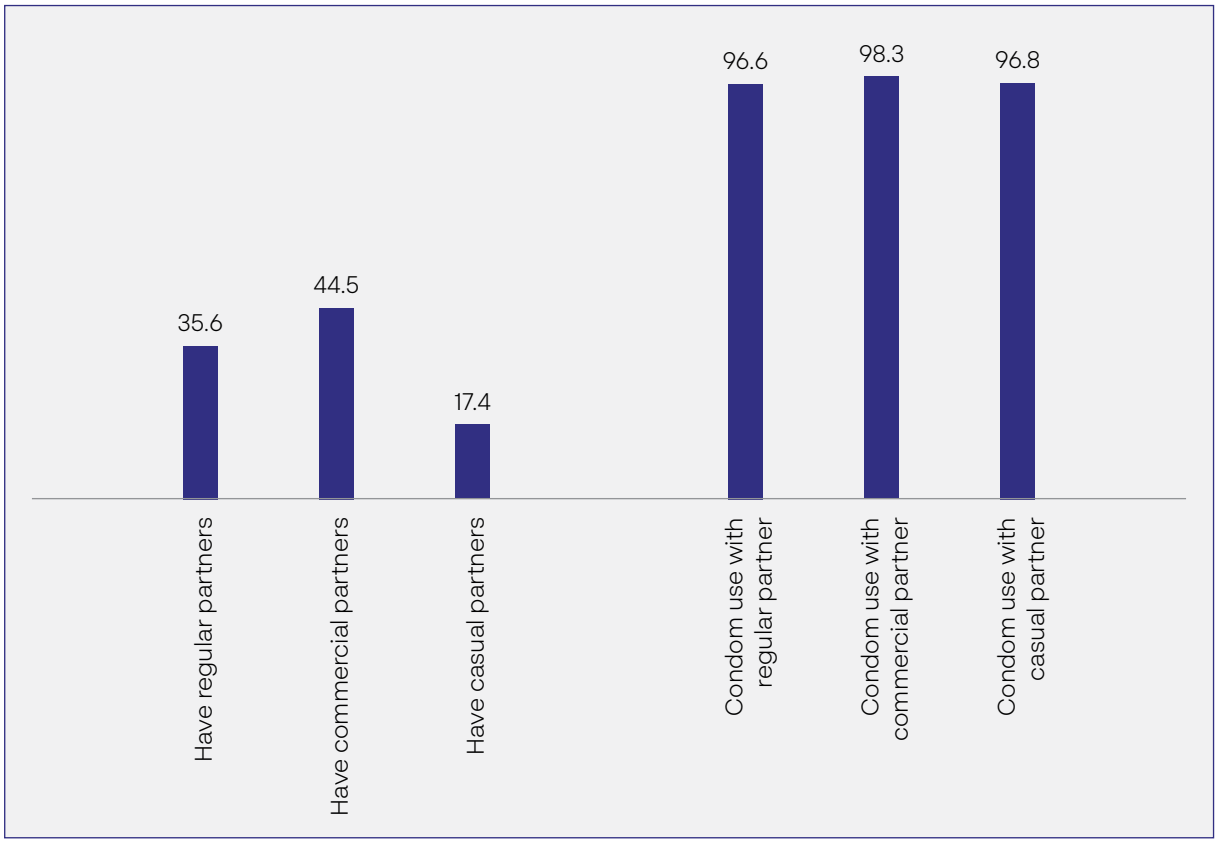


Figure 6.7: Partner Types during the Most Recent Sex Act and Condom Use Practices among H/TG Persons, HSS Plus 2021 (in %)



6.6 Stigma and Discrimination

H/TG people, like other key populations, face considerable stigma and discrimination within their families and society. Such discrimination prevents them from accessing necessary services and adopting safer practices. To better understand the perceived and enacted stigma and discrimination that H/TG people face, HSS Plus included questions on this issue. All H/TGs respondents were asked whether they have avoided seeking health-care services from the health facility or seeking HIV testing services because of fear or concern of harassment/bad words/negative attitudes/comments in the health setting. Additionally, respondents were asked if they avoided seeking these services due to fear or concern that their H/TG identity might be disclosed, fear of physical violence within the health-care setting, or fear of harassment/arrest by law enforcement officials in the health-care setting. The same questions were also asked to those H/TG respondents who were aware of their HIV-positive status to understand the extent of stigma and discrimination at ART/HIV testing centres.

About 9.1% and 8.4% of the respondents reported avoiding health-care and HIV-testing services, citing stigma and discrimination at the facilities. Notably, 66.1% of respondents in Delhi reported avoiding seeking health-care services, and one in two H/TG individuals reported avoiding seeking HIV-testing services. In Karnataka, around 16.0% and 24.8% of H/TG respondents reported avoiding accessing health-care and HIV-testing services respectively, due to experience of stigma and discrimination (*see Table 6.17*). Overall, only about 3.1% of the respondents who were aware of their HIV-positive status reported avoiding services at ART facilities due to stigma and discrimination.

Table 6.17: Stigma and Discrimination among H/TG People by State/UT, HSS Plus 2021

State/UT	N	Stigma at Taking Health-care Services (%)	Stigma at Seeking HIV Testing Services (%)
Andhra Pradesh	217	2.8	2.8
Chhattisgarh	250	1.6	1.6
Delhi	500	66.1	50.4
Gujarat	250	0.0	0.0
Karnataka	500	16.0	24.8
Kerala	716	0.1	0.1
Maharashtra	250	0.0	0.0
Odisha	604	0.2	0.2
Rajasthan	250	0.0	0.0
Tamil Nadu	250	0.0	0.0
Telangana*	150	0.0	0.0
Uttar Pradesh	250	0.0	0.0
West Bengal	492	0.6	0.6
India	**4,679**	**9.1**	**8.4**

*In Telangana, less than 75% of the target sample size was achieved. Findings from Telangana should be interpreted with caution.

6.7 Levels of HIV

In the HSS Plus 2021 round, the observed HIV prevalence among H/TG at the national level was 3.78% (95% CI: 3.24–4.33) vis-à-vis. 3.14% (95% CI: 2.61–3.66) noted in the 2017 round. Figure 6.8 and Table 6.18 depict the sero-prevalence of HIV at the State/UT level. In terms of co-infections, the sero-prevalence of HIV-HBV among H/TG persons was 0.09% (95% CI: 0.00–0.17) while the sero-prevalence of HIV-HCV was 0.06%. (95% CI: 0.00–0.14). The sero-prevalence for HBV and HCV among the HIV-positive respondents was 2.30% (95% CI: 0.07–4.53) and 1.72% (95% CI: 0.00–3.66), respectively.

Highest HIV prevalence was noted in the State of West Bengal (9.15%, 95% CI: 6.60–11.69), followed by Chhattisgarh (6.00%, 95% CI: 3.06–8.94), Maharashtra (6.00%, 95% CI: 3.06–8.94), Tamil Nadu (4.80%, 95% CI: 2.15–7.45), Andhra Pradesh (4.61%, 95% CI: 1.82–7.40) and Telangana (4.00%, 95% CI: 0.86–7.14).

Figure 6.8: State/UT-wise HIV Prevalence among H/TG, HSS Plus 2021 (in %)

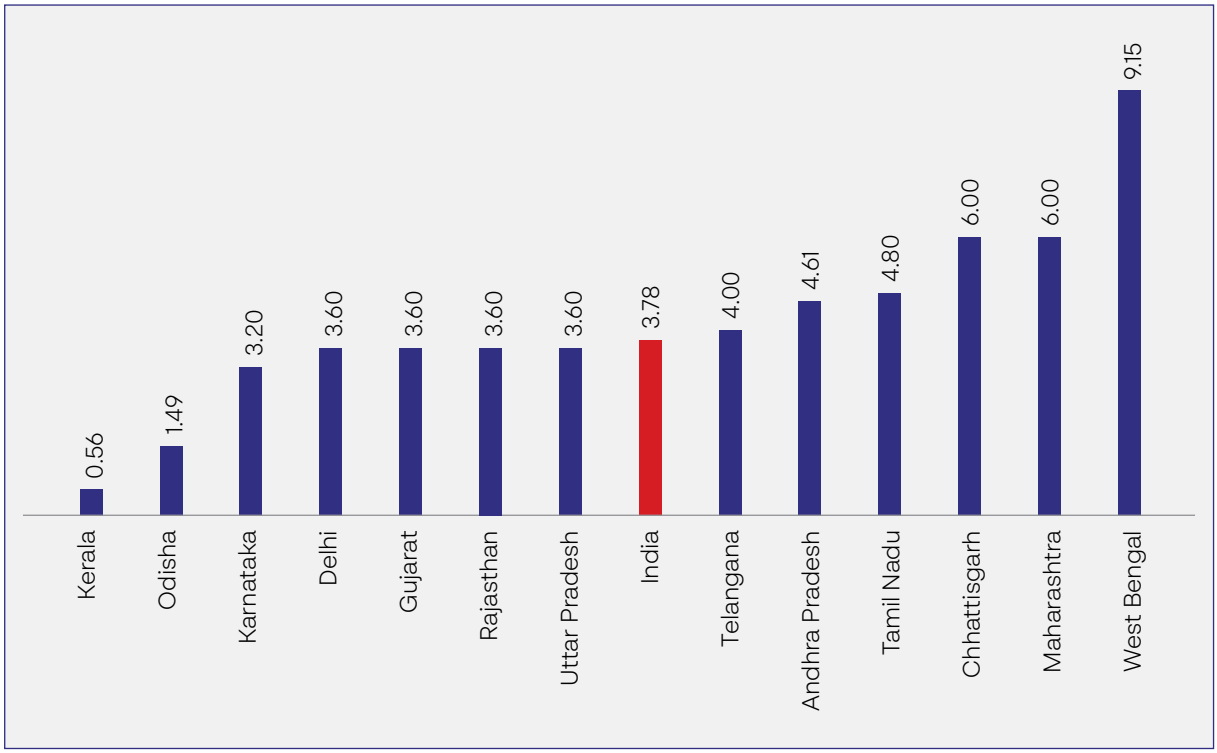


Table 6.18: State/UT-wise Sero-prevalence of HIV among H/TG Populations, HSS Plus 2021 (in %)

State/UT	HIV	
	N	Sero-prevalence
Andhra Pradesh	217	4.61 (1.82–7.40)
Chhattisgarh	250	6.00 (3.06–8.94)
Delhi	500	3.60 (1.97–5.23)
Gujarat	250	3.60 (1.29–5.91)
Karnataka	500	3.20 (1.66–4.74)
Kerala	716	0.56 (0.01–1.10)
Maharashtra	250	6.00 (3.06–8.94)
Odisha	604	1.49 (0.52–2.46)
Rajasthan	250	3.60 (1.29–5.91)
Tamil Nadu	250	4.80 (2.15–7.45)
Telangana	150	4.00 (0.86–7.14)
Uttar Pradesh	250	3.60 (1.29–5.91)
West Bengal	492	9.15 (6.60–11.69)
India	**4,679**	**3.78 (3.24–4.33)**

*In Telangana, less than 75% of the target sample size was achieved. Findings from Telangana should be interpreted with caution.

6.8 HIV Prevalence by Respondents' Characteristics

Table 6.19 presents the HIV prevalence among H/TG persons categorized by background characteristics at the national level in HSS Plus 2021. In general, HIV prevalence among H/TG persons increased with age. It was highest among those in the age group of 45 years or older (4.45%) and lowest among those in the age category of 18 to 24 years (2.81%) (*see Figure 6.9*). HIV prevalence was highest among those who were currently married (4.99%), followed by those who were never married (3.68%) or divorced/separated/widowed (3.03%) (*see Figure 6.10*). Higher HIV prevalence was noted among those who were illiterate (5.64%) and lowest among those who had education between 6th and 10th standard (3.54%) (*see Figure 6.11*). HIV prevalence was 4.58% among H/TG residing in urban areas as compared to 1.58% belonging to rural areas (*see Figure 6.12*).

HIV prevalence was highest at 12% among those who engaged in petty business/ small enterprises, followed by 10.17% among those working as domestic servants and 7.31% among those whose main occupation was reported as 'Mangati'. Among H/TG who reported sex work as their profession, the HIV prevalence was 4.22% (*see Figure 6.13*).

Figure 6.9: HIV Prevalence among H/TG by Age Group, HSS Plus 2021 (in %)

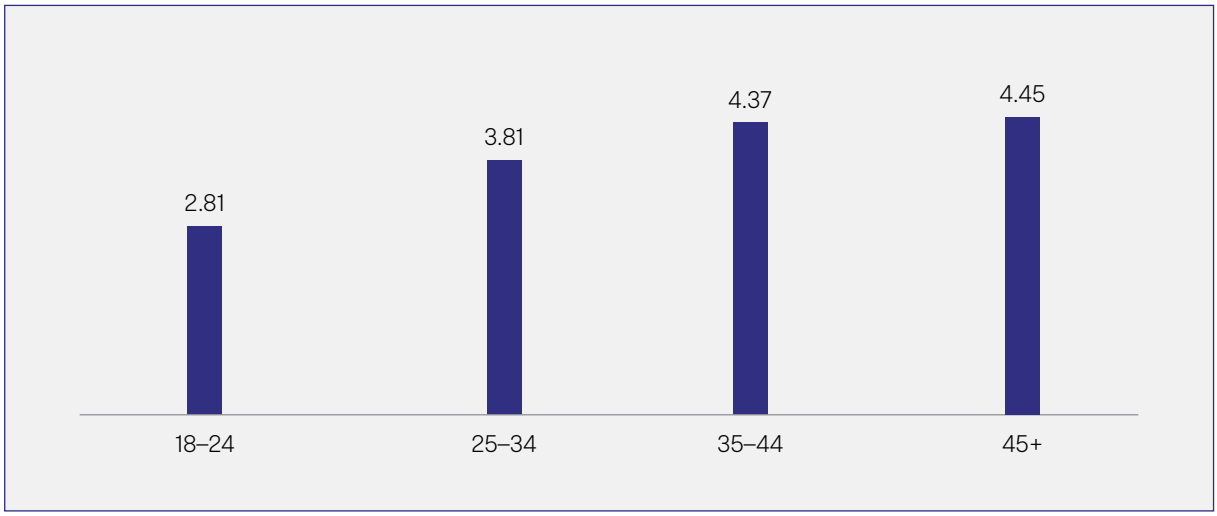


Figure 6.10: HIV Prevalence among H/TG by Marital Status, HSS Plus 2021 (in %)

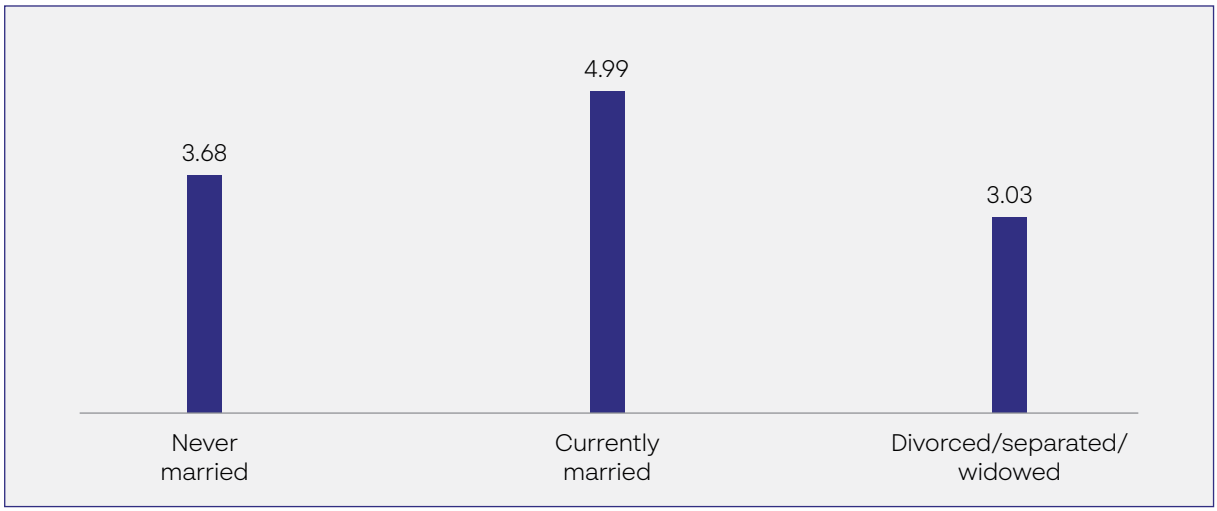


Figure 6.11: HIV Prevalence among H/TG by Education, HSS Plus 2021 (in %)

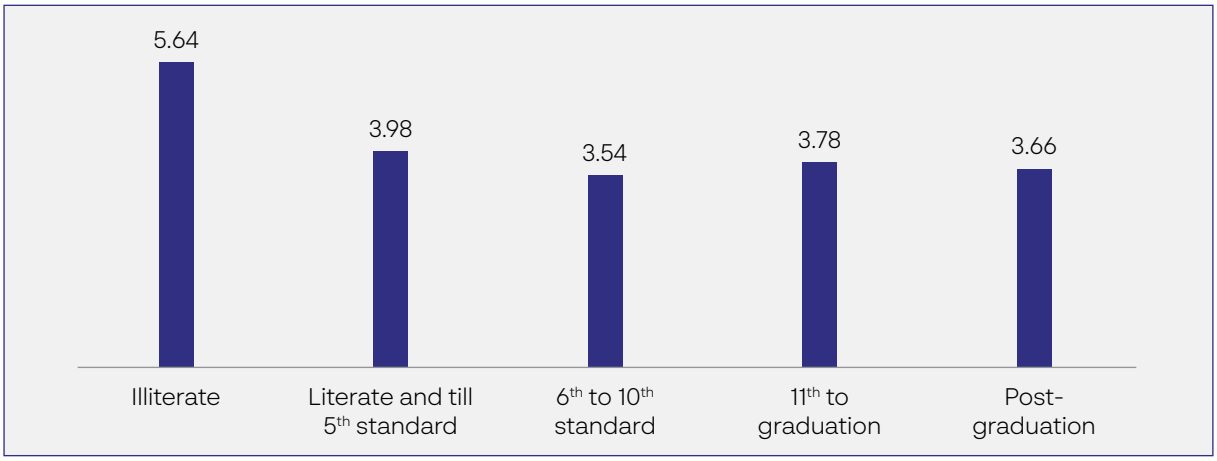


Figure 6.12: HIV Prevalence among H/TG by Place of Residence, HSS Plus 2021 (in %)

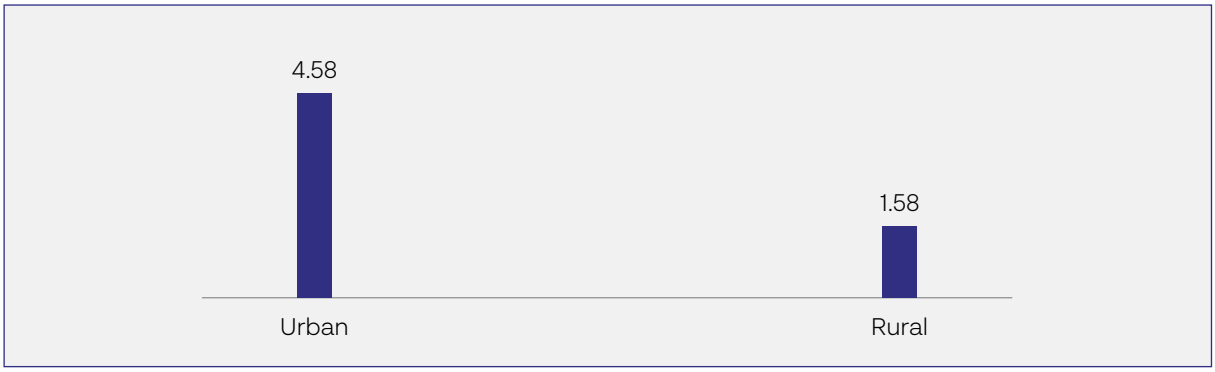


Figure 6.13: HIV Prevalence among H/TG by Occupation, HSS Plus 2021 (in %)

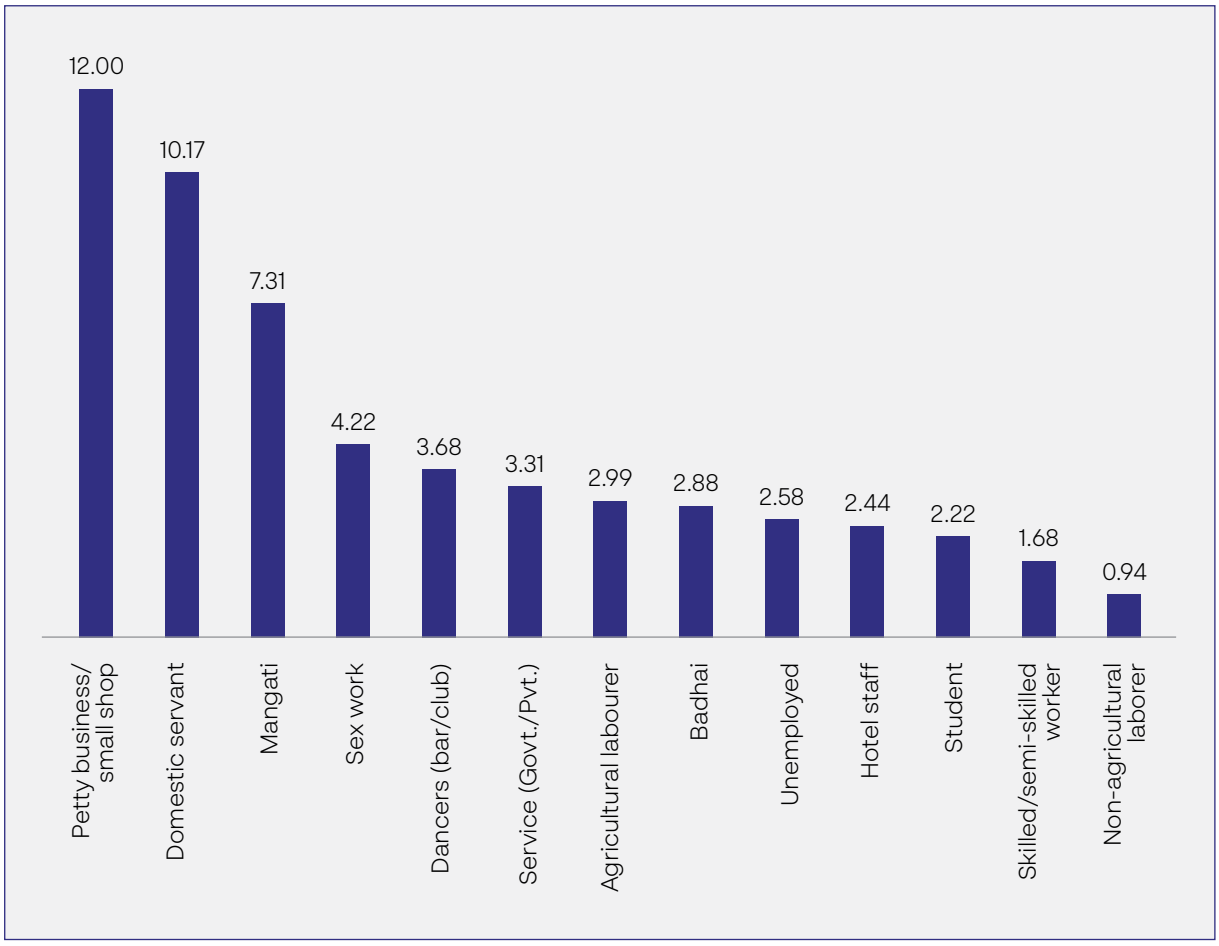


Table 6.19: HIV Prevalence among H/TG by Background Characteristics, HSS Plus 2021 (in %)

Background Characteristics	Disaggregation	Distribution		HIV-positive
		Frequency*	Percent	Percent
Age	18–24 years	961	20.5	2.81
	25–34 years	2,281	48.7	3.81
	35–44 years	1,145	24.5	4.37
	45+ years	292	6.2	4.45
Residence	Urban	3,492	74.6	4.58
	Rural	885	18.9	1.58
Marital status	Never married	4,075	87.1	3.68
	Currently married	421	9.0	4.99
	Divorced/separated/widowed	132	2.8	3.03
Education	Illiterate	443	9.5	5.64
	Literate and till 5th standard	1,381	29.5	3.98
	6th to 10th standard	1,810	38.7	3.54
	11th to graduation	714	15.3	3.78
	Post-graduation	164	3.5	3.66
Respondent's primary occupation	Agricultural labourer	67	1.4	2.99
	Non-agricultural labourer	319	6.8	0.94
	Domestic servant	59	1.3	10.17
	Skilled/semi-skilled worker	119	2.5	1.68
	Petty business/small shop	75	1.6	12.00
	Service (Govt./Pvt.)	181	3.9	3.31
	Student	45	1.0	2.22
	Hotel staff	123	2.6	2.44
	Sex worker	1,800	38.5	4.22
	Mangati	301	6.4	7.31
	Badhai	1,006	21.5	2.88
	Dancers (bar/club)	190	4.1	3.68
	Unemployed	271	5.8	2.58

*Total may not add up to 4,679 because of missing/not applicable response

07

Single Male Migrants

Migrants constitute one of the core bridge population groups in India, covered by Targeted Interventions (TIs) as part of the HIV prevention programme implemented under the National AIDS and STD Control Programme (NACP). As of March 2021, NACO has partnered with 1,067 industries, with 868 actively implementing HIV/AIDS-related activities for 2.4. lakh workers/migrants across 26 States. While the TI approach for bridge population is broadly similar to that for key populations, it incorporates specific modifications to address the unique needs of the migrant population. NACO has conducted extensive research to identify migration corridors across the country, mapping significant internal migration patterns between districts and States. In 2020–21, States/UTs established 210 TIs, reaching out to 41.61 lakh migrant individuals across India.

Table 7.1: Sample Size by State/UT, SMM Sites: HSS Plus 2021

State/UT	No. of HSS	Final Sample Size
Andhra Pradesh	3	750
Assam	1	249
Chandigarh	2	500
Chhattisgarh	1	250
Delhi	1	265
Gujarat	3	750
Himachal Pradesh	1	250
Karnataka	2	500
Kerala	2	500
Madhya Pradesh	1	258
Maharashtra	3	750
Mizoram	1	250

State/UT	No. of HSS	Final Sample Size
Odisha	1	250
Puducherry	1	250
Punjab	2	499
Rajasthan	1	255
Tamil Nadu	2	500
Telangana	1	250
Uttar Pradesh	3	750
West Bengal	1	250
India	**33**	**8,276**

HSS Plus operationally defined Single Male Migrants (SMMs) in HSS Plus as 'Single males, aged 18 years or more, living at a place other than their 'place of usual residence' without their spouse or family, for work and visiting the home town at least once a year'. HSS Plus was implemented at 33 sites across 20 States/UTs (*see Table 7.1*). Overall, a total of 8,276 SMMs completed behavioural interviews and provided blood samples for laboratory testing. This section presents the key findings from the 2021 round of sentinel surveillance among SMMs.

The analysis begins with an overview of the respondents' background characteristics, including age, current marital status, education status, current place of residence, duration of migration, primary occupation and types of cell phone owned. Following this, the report presents findings on HIV/AIDS-related service uptake, awareness levels, injecting drug use practices, sexual behaviour and condom use practices with both female and male partners. The analysis concludes with HIV prevalence data at both national and State/UT levels among SMMs, which offers a comprehensive perspective on the situation.

7.1 Respondents' Characteristics

Demographic information, including age, literacy status and duration of migration, was collected from all respondents. This section details these profile characteristics of SMMs across different States/UTs in India. The mean age of SMMs at the national level was 29.8 years, with notable variations across States/UTs, ranging from 26.8 years in Madhya Pradesh to 35.5 years in West Bengal. The age distribution showed that 28.9% of SMMs were between 18 and 24 years old, with the majority (44.8%) falling in the 25–34 age range (*see Figure 7.1 and Table 7.2*). Almost half of the SMM respondents from Mizoram and Puducherry were in the age group of 18–24 years.

Figure 7.1: Distribution of SMMs by Age Group, HSS Plus 2021 (in %)

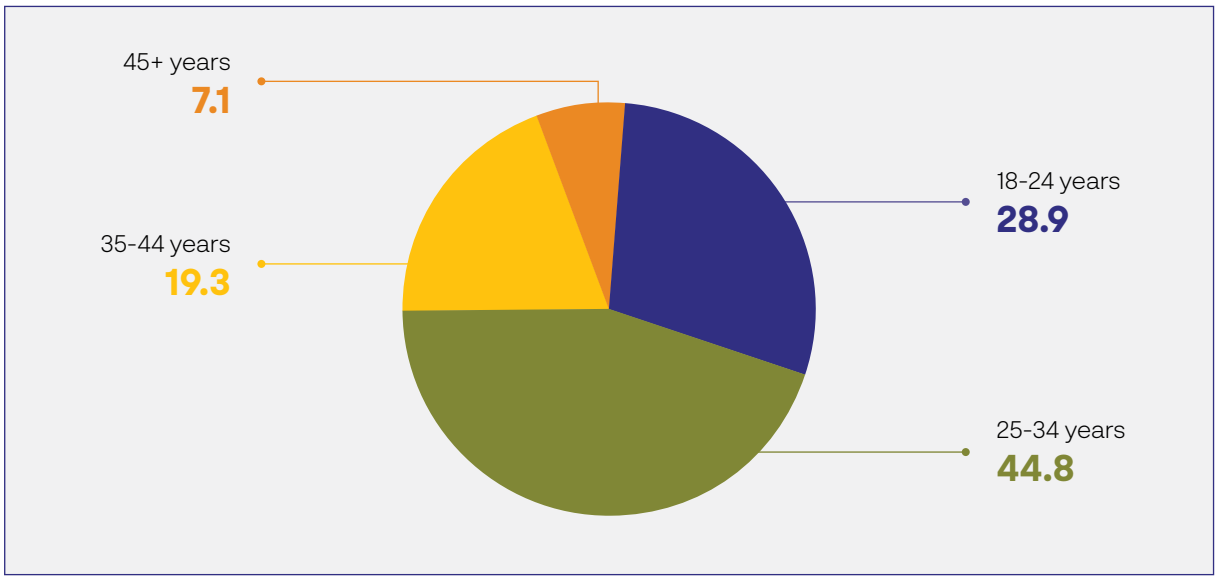
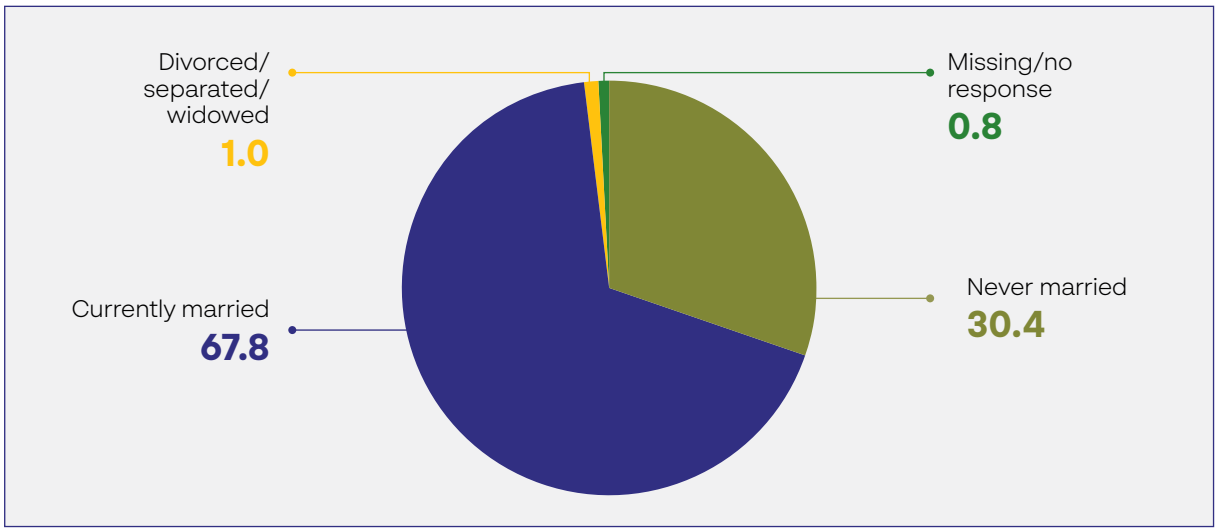


Table 7.2: Age Distribution of SMM Respondents by State/UT, HSS Plus 2021

State/UT	N	Mean age	Age Group (%)#			
			18–24 Years	25–34 Years	35–44 Years	45+ Years
Andhra Pradesh	750	28.2	26.7	59.1	13.7	0.5
Assam	249	30.9	17.7	51.0	28.1	3.2
Chandigarh	500	31.5	25.6	35.4	25.4	13.6
Chhattisgarh	250	28.2	26.8	59.2	13.6	0.4
Delhi	265	32.6	22.6	32.5	31.7	13.2
Gujarat	750	28.3	24.9	62.7	11.6	0.8
Himachal Pradesh	250	26.9	42.4	41.6	14.8	1.2
Karnataka	500	28.8	29.2	52.6	13.0	5.2
Kerala	500	29.4	32.8	42.4	18.0	6.8
Madhya Pradesh	258	26.8	37.6	53.1	8.9	0.4
Maharashtra	750	32.9	29.7	30.4	21.3	18.5
Mizoram	250	28.0	47.2	28.8	15.6	8.4
Odisha	250	30.9	15.6	58.0	25.6	0.8
Puducherry	250	27.1	47.2	34.0	14.4	4.4
Punjab	499	30.1	37.9	30.3	19.6	12.2
Rajasthan	255	27.4	42.7	38.4	14.1	4.7
Tamil Nadu	500	27.4	39.4	42.2	15.2	3.2
Telangana	250	31.0	12.8	59.6	25.6	2.0
Uttar Pradesh	750	32.0	18.1	43.7	26.5	11.6
West Bengal	250	35.5	13.2	28.0	41.2	17.6
India	**8,276**	**29.8**	**28.9**	**44.8**	**19.3**	**7.1**

#Total may not add up to 100% due to missing/no response.

Figure 7.2: Distribution of SMMs by Current Marital Status, HSS Plus 2021 (in %)



Nationally, around 30.4% of all the recruited SMMs reported never being married, and only 1% reported being divorced/ separated/widowed (*see Figure 7.2*). Notably, in States like Madhya Pradesh, Puducherry and Himachal Pradesh, over half of the SMMs had never been married. In contrast, in Chandigarh, Telangana, Uttar Pradesh and West Bengal, 81%–90% of respondents reported being currently married. In Madhya Pradesh, about 12.8% of SMMs reported being divorced/separated/ widowed (*see Table 7.3*).

Almost 89% of SMM respondents were literate, with around two-fifths of them having more than five years of education (*see Figure 7.3*). More than one-fourth of the SMM respondents in Telangana (26.8%) and Uttar Pradesh (25.3%) were illiterate, followed by 24.8% in West Bengal. In contrast, in States like Chhattisgarh, Gujarat, Madhya Pradesh, Odisha and Rajasthan, only 0%–2% of the SMM respondents were illiterate (*see Table 7.3*).

Figure 7.3: Distribution of SMMs by Education Status, HSS Plus 2021 (in %)

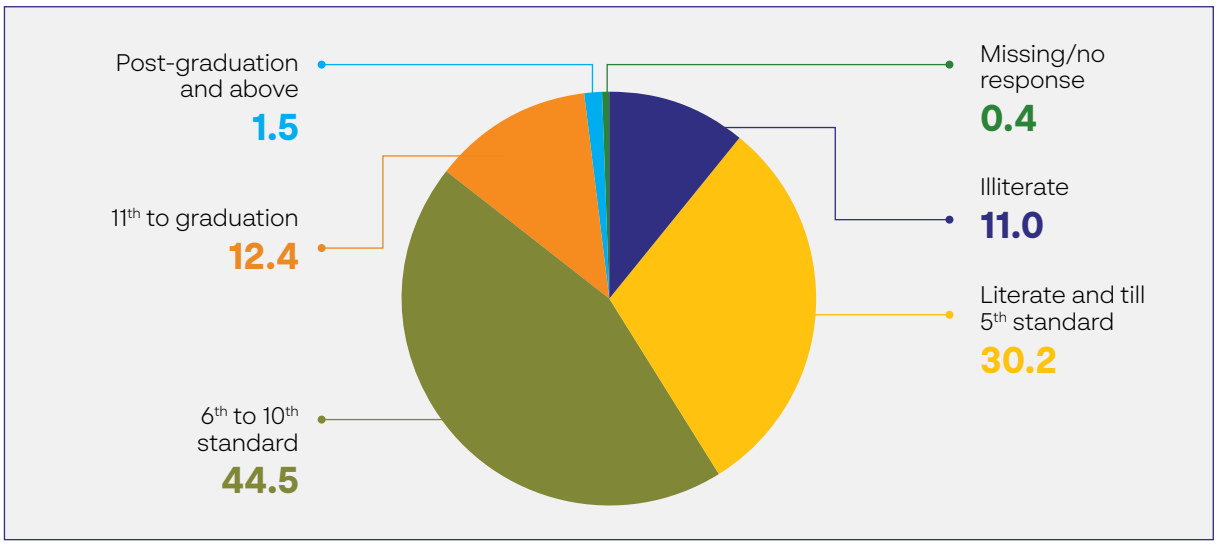


Table 7.3: Current Marital Status and Level of Education of SMMs by State/UT, HSS Plus 2021

State/UT	N	Marital Status			Education Status				
		Never Married	Currently Married	Divorced/ Separated/ Widowed	Illiterate	Literate and till 5th Standard	6th to 10th Standard	11th to Graduation	Post-Graduation & Above
Andhra Pradesh	750	23.9	76.0	0.0	2.3	18.3	60.0	19.3	0.1
Assam	249	35.7	60.2	4.0	14.9	30.9	45.8	8.0	0.4
Chandigarh	500	18.4	81.2	0.2	6.4	16.2	60.2	12.4	4.8
Chhattisgarh	250	37.6	59.2	0.0	2.0	16.0	54.4	23.6	3.6
Delhi	265	21.9	75.5	0.4	18.1	35.5	33.2	11.3	1.9
Gujarat	750	19.9	76.0	3.1	1.3	28.9	48.5	18.7	1.6
Himachal Pradesh	250	57.6	39.6	0.0	17.6	43.6	28.0	10.4	0.0
Karnataka	500	29.6	69.6	0.0	5.2	33.0	48.4	12.4	0.8
Kerala	500	39.8	59.0	0.4	15.4	42.0	41.8	0.6	0.0
Madhya Pradesh	258	65.9	21.3	12.8	0.4	19.0	37.6	30.2	12.8
Maharashtra	750	23.6	74.9	0.4	16.5	21.1	48.7	12.3	1.2
Mizoram	250	48.8	50.8	0.4	17.2	23.6	55.2	3.2	0.8
Odisha	250	32.8	66.0	0.0	0.0	53.2	42.4	2.0	0.0
Puducherry	250	54.8	45.2	0.0	10.0	14.8	47.2	24.4	3.6
Punjab	499	41.9	57.1	1.0	8.4	24.2	43.5	21.8	1.6
Rajasthan	255	32.5	66.3	0.0	0.0	15.7	67.5	15.3	1.2
Tamil Nadu	500	44.6	54.4	0.2	12.6	13.0	60.4	13.0	0.4
Telangana	250	15.6	84.0	0.0	26.8	44.0	21.6	7.6	0.0
Uttar Pradesh	750	13.1	86.1	0.0	25.3	59.5	14.1	0.3	0.0
West Bengal	250	10.8	89.2	0.0	24.8	60.8	12.4	1.6	0.0
India	**8,276**	**30.4**	**67.8**	**1.0**	**11.0**	**30.2**	**44.5**	**12.4**	**1.5**

#Total may not add up to 100% due to missing/no response.

All SMMs were asked about the duration of their migration to their current place of residence for work as well as their history of visiting other towns, cities or districts for work outside their native place. At the national level, more than half (55%) of SMM respondents reported having migrated to their current place for work over a year ago. Only a small proportion (7.6%) of SMM respondents reported having migrated to their current place within the past three months. In contrast, almost half of SMM respondents in Mizoram (47.2%) migrated within the past three months.

Around one in three SMM respondents at the national level (32.1%) had travelled to another town or city or district for work purposes, which was not their native place. However, more than two-thirds of SMM respondents in Himachal Pradesh, Karnataka, Madhya Pradesh and Rajasthan had travelled to other places for work.

In HSS Plus 2021, all SMMs were asked about their most recent visit to their native place. More than one-third (35.2%) of SMM respondents reported visiting their native place during the last six months to less than one year ago, while about 15.6% visited their native place at least one year ago. Notably, more than half of the SMM respondents in Mizoram, Chhattisgarh and West Bengal reported that they had visited their native place within the last three months.

In HSS Plus 2021, all SMMs were asked about their primary occupation at their current place of work where they had migrated for employment purposes (*see Figure 7.4*). Around 47.6% of SMM respondents reported being skilled or semi-skilled workers, while 36.9% of respondents worked as labourers, predominantly in the non-agricultural sector. More than 90% of SMMs in Andhra Pradesh, Chhattisgarh and Rajasthan were skilled or semi-skilled workers, whereas almost all respondents in Karnataka, Mizoram and West Bengal (99.6%) were labourers. A significant proportion of SMM respondents in Delhi (16.2%) and Assam (22.9%) reported their current main occupation as hand cart or rickshaw pullers, whereas 18.4% of respondents in Odisha and 10.1% in Gujarat reported being transport workers. Notably, one-third (34.1%) of respondents in Assam reported being engaged in petty businesses or small shops (*see Table 7.5*).

Figure 7.4: Distribution of SMMs by Current Main Occupation, HSS Plus 2021 (in %)

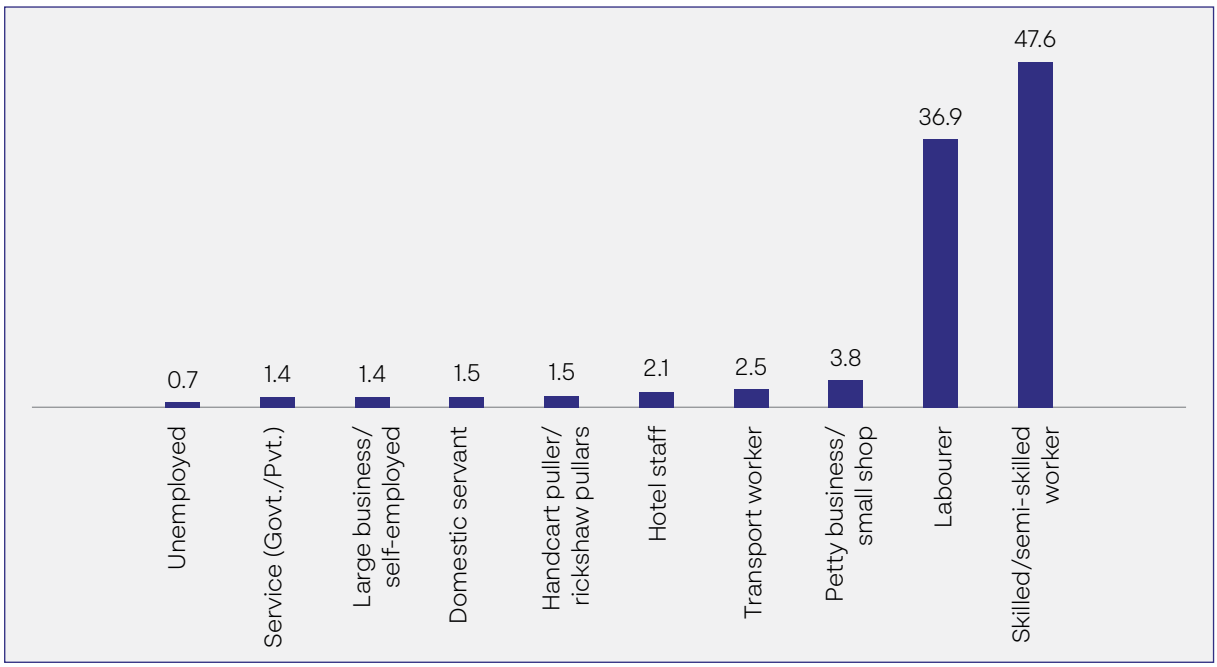


Table 7.4: Duration of Migration and Whether SMMs Visited Other Places (Not Their Native Place) by State/UT, HSS Plus 2021

State/UT	N	Duration of Migration (%)#				Visited Other Towns/ Cities/ Districts (%)	Visit to Native Place (%)#			
		Within Three Months	Three Months to Less Than Six Months	Six Months to Less Than One Year	One Year or More		Within Three Months	Three Months to Less Than Six Months	Six Months to Less Than One Year	One Year or More
Andhra Pradesh	750	10.1	25.6	6.5	56.9	40.9	6.5	13.5	69.5	8.5
Assam	249	2.8	30.1	32.5	34.5	7.2	10.4	36.9	30.5	21.7
Chandigarh	500	2.0	13.2	20.0	64.8	31.4	7.8	21.2	48.4	18.8
Chhattisgarh	250	4.8	5.6	24.4	65.2	10.0	57.6	18.8	8.0	9.2
Delhi	265	8.3	14.0	18.1	59.2	7.5	25.3	35.8	26.8	5.3
Gujarat	750	15.9	40.5	16.3	25.9	32.4	31.5	40.3	15.5	4.4
Himachal Pradesh	250	25.2	36.0	14.8	23.2	80.0	35.2	33.2	13.2	12.0
Karnataka	500	4.0	38.4	9.8	47.0	86.4	29.8	18.6	7.8	42.2
Kerala	500	0.2	0.2	15.0	83.2	40.6	1.0	9.4	29.4	58.6
Madhya Pradesh	258	5.8	20.2	40.3	33.7	92.6	45.0	24.4	20.5	4.3
Maharashtra	750	0.9	1.5	15.3	81.6	15.1	4.4	13.5	68.5	9.2
Mizoram	250	47.2	13.2	4.4	35.2	6.4	51.2	14.4	4.8	29.2
Odisha	250	39.6	21.2	33.6	5.2	8.0	12.4	37.6	46.4	1.6
Puducherry	250	1.6	0.4	4.8	93.2	0.8	10.4	56.8	25.6	6.0
Punjab	499	0.8	0.4	0.6	98.2	6.0	18.4	27.3	22.2	32.1
Rajasthan	255	1.6	3.1	12.2	82.7	98.4	1.6	25.9	54.1	9.0
Tamil Nadu	500	0.4	6.0	14.6	78.2	30.8	9.8	37.6	34.0	14.4
Telangana	250	3.2	11.6	54.8	30.0	46.0	5.6	64.8	22.8	2.8
Uttar Pradesh	750	5.2	65.3	23.5	5.9	14.8	0.7	36.7	53.3	5.1
West Bengal	250	0.8	1.2	0.0	98.0	1.2	59.6	34.4	4.4	0.4
India	**8,276**	**7.6**	**20.3**	**16.5**	**55.0**	**32.1**	**17.5**	**28.0**	**35.2**	**15.6**

#Total may not add up due to missing/no response.

Table 7.5: Current Main Occupation of SMMs by State/UT, HSS Plus 2021

State/UT	N	Main Occupation (%)#										
		Domestic Servant	Skilled/ Semi-skilled worker	Petty Business/ Small Shop	Large Business/ Self-employed	Service (Govt./ Pvt.)	Hand Cart Pullers/ Rickshaw Pullers	Hotel Staff	Unem-ployed	Labourers	Transport Workers	Others**
Andhra Pradesh	750	0.0	90.1	0.0	0.0	0.0	0.0	0.0	0.0	9.6	0.0	0.0
Assam	249	2.4	4.0	34.1	2.0	0.0	22.9	17.3	2.8	8.4	6.0	0.0
Chandigarh	500	2.8	40.2	3.6	0.4	1.6	2.2	10.4	2.4	32.4	4.0	0.0
Chhattisgarh	250	4.4	94.4	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0
Delhi	265	0.0	4.5	6.0	0.8	6.8	16.2	0.0	0.8	59.2	3.8	0.0
Gujarat	750	4.8	20.9	14.0	13.5	0.8	0.3	0.9	0.5	32.8	10.1	0.0
Himachal Pradesh	250	2.0	1.6	10.4	0.4	16.8	2.8	0.0	10.0	54.4	0.8	0.0
Karnataka	500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.8	0.0	0.0
Kerala	500	0.6	46.2	0.2	0.0	0.4	0.0	3.0	0.0	49.2	0.0	0.0
Madhya Pradesh	258	0.0	73.6	8.5	0.0	10.9	3.5	0.8	0.0	0.0	2.7	0.0
Maharashtra	750	0.1	80.5	2.9	0.3	0.4	0.9	4.5	0.9	6.7	2.4	0.3
Mizoram	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0
Odisha	250	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	80.8	18.4	0.0
Puducherry	250	19.2	0.4	0.0	0.0	0.0	0.0	7.6	0.0	72.8	.0	0.0
Punjab	499	0.2	74.1	4.4	0.6	1.2	0.0	0.0	0.2	18.2	1.0	0.0
Rajasthan	255	0.0	99.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tamil Nadu	500	0.2	47.4	0.0	0.0	0.0	0.0	0.0	0.0	49.8	0.6	0.0
Telangana	250	0.0	93.2	0.0	0.4	0.4	0.0	0.0	0.0	4.4	0.4	0.0
Uttar Pradesh	750	0.1	69.2	0.0	0.0	0.0	0.0	0.0	0.0	30.3	0.0	0.0
West Bengal	250	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.6	0.0	0.0
India	**8,276**	**1.5**	**47.6**	**3.8**	**1.4**	**1.4**	**1.6**	**2.1**	**0.7**	**36.9**	**2.5**	**0.0**

#Total may not add up to 100% due to missing/no response.

7.2 HIV/AIDS-related Testing and Treatment Services Uptake

At the national level, 45.7% of SMMs reported that they had tested for HIV at some point in their lives. Around 34.3% had tested in the last 12 months, 20.3% had tested within the last six months and 9.1% of the respondents tested in the last three months. The majority of the SMM respondents in Chhattisgarh, West Bengal, Uttar Pradesh and Karnataka reported that they had not undergone an HIV test in the last 12 months (*see Table 7.6*).

In HSS plus 2021, there were 74 (0.89%) SMMs who tested positive for HIV. Out of these individuals, 44.6% reported being aware of their HIV-positive status. Notably, 58.1% of all HIV infected SMMs were currently on ART.

7.3 Injecting Drug Use Practices

All SMMs were asked about the use of injection drugs for non-medical reasons preceding the survey. Nationally, 1.1% of SMMs reported having injected drugs for non-medical reasons at some point in their lives. Among them, only 0.5% reported having injected drugs for non-medical reasons in the last 12 months. A significant proportion of SMMs (11.6%) in Madhya Pradesh reported having injected drugs for non-medical reasons in their lifetime, with 10.5% of those individuals having injected in the last 12 months. In Rajasthan, around 7.8% of SMMs reported lifetime injection drug use (*see Table 7.7*). Among those SMMs who injected drugs, more than half (57.1%) used a new needle/syringe for injecting.

Table 7.6: HIV Testing History among SMMs by State/UT, HSS Plus 2021

State/UT	N	Ever Tested for HIV (%)	Tested in Last 3 Months (%)	Tested in Last 6 Months (%)	Tested in Last 12 Months (%)
Andhra Pradesh	750	71.7	.3	4.8	44.4
Assam	249	22.1	5.2	16.1	21.3
Chandigarh	500	68.2	7.8	35.0	53.6
Chhattisgarh	250	9.6	4.0	4.8	4.8
Delhi	265	24.9	2.6	4.9	13.6
Gujarat	750	88.8	21.2	55.5	84.7
Himachal Pradesh	250	50.8	35.2	35.6	38.0
Karnataka	500	23.8	2.2	2.4	2.6
Kerala	500	–	–	–	–
Madhya Pradesh	258	67.4	13.2	34.1	62.4
Maharashtra	750	39.2	3.5	11.3	25.2
Mizoram	250	21.6	1.2	3.2	8.0
Odisha	250	20.4	15.2	16.4	19.2
Puducherry	250	17.2	6.8	15.2	16.8
Punjab	499	96.8	12.8	30.9	67.5
Rajasthan	255	99.6	82.0	91.8	99.6
Tamil Nadu	500	39.6	3.4	15.6	21.8
Telangana	250	88.4	3.6	53.6	82.8
Uttar Pradesh	750	4.1	1.1	3.2	3.9
West Bengal	250	12.8	0.0	0.0	0.4
India	**8,276**	**45.7**	**9.1**	**20.3**	**34.3**

Table 7.7: Injecting Drug Use Practices among SMMs by State/UT, HSS Plus 2021

State/UT	N	Ever Injected (%)	Injected in Last 3 Months (%)	Injected in Last 12 Months (%)	New N/S (%)
Andhra Pradesh	750	0.0	0.0	0.0	–
Assam	249	0.8	0.4	0.8	–
Chandigarh	500	0.4	0.2	0.2	–
Chhattisgarh	250	0.4	0.0	0.0	–
Delhi	265	1.5	0.0	0.0	–
Gujarat	750	0.7	0.0	0.1	–
Himachal Pradesh	250	0.0	0.0	0.0	–
Karnataka	500	0.2	0.0	0.0	–
Kerala	500	2.6	0.0	0.0	–
Madhya Pradesh	258	11.6	6.2	10.5	76.7
Maharashtra	750	0.5	0.0	0.0	–
Mizoram	250	1.6	0.8	0.8	–
Odisha	250	0.0	0.0	0.0	–
Puducherry	250	0.0	0.0	0.0	–
Punjab	499	0.2	0.0	0.0	–
Rajasthan	255	7.8	0.8	2.4	70.0
Tamil Nadu	500	0.2	0.0	0.2	–
Telangana	250	0.0	0.0	0.0	–
Uttar Pradesh	750	0.0	0.0	0.0	–
West Bengal	250	0.0	0.0	0.0	–
India	**8,276**	**1.1**	**0.3**	**0.5**	**57.1**

7.4 Sexual Behaviour and Condom Use Practices with Female Partner

All SMMs were asked questions related to sexual risk behaviours and condom use practices with various types of partners (commercial, regular and casual female partners) at the place of their interview. The survey explored the dynamics of different partner types, places where they meet their paid sexual partners, use of Internet/ web applications/mobile applications for finding female sexual partners, and condom use practices. Understanding these patterns provides crucial insights into the epidemiology and risk of HIV among SMMs. Knowledge about the geographic patterns and variations in solicitation or entertainment locations and other sexual behaviours is vital for enhancing the effectiveness of HIV prevention programmes, allowing for better targeting and improved coverage.

All SMMs were asked if they ever paid to have sexual intercourse with a female partner at the place of interview (district or town). At the national level, around 51.1% of SMMs reported having paid for sexual services from a female partner, however, significant variation was observed among States/UTs (*see Table 7.8*). While more than 80.0% of SMM respondents in Assam, Delhi, Gujarat, Himachal Pradesh, Rajasthan and West Bengal reported having paid female partners, less than 10% of them in Tamil Nadu and Mizoram reported having paid female partners.

Table 7.8: Meeting with Paid Female Sexual Partners of SMMs by State/UT, HSS Plus 2021

State/UT	N	Paid Partner at Destination	Met Paid Female Sexual Partners at/through (%)#									
			Brothels	Street/ Road Side	Railway Station/ Bus Stand	Cinema Halls	Parks	Bars /Clubs	Massage Parlor/ Spa	Market Place/ Labour *Naka*	Common Friends/ Acquaintances	Visiting their Homes
Andhra Pradesh	750	51.9	0.5	20.1	1.1	5.2	4.7	0.0	0.0	10.0	17.3	5.3
Assam	249	80.3	–	–	–	–	–	–	–	–	–	–
Chandigarh	500	73.6	7.0	3.8	1.0	.8	1.6	3.8	0.4	2.0	11.4	40.2
Chhattisgarh	250	38.0	0.4	19.6	0.0	0.0	0.0	0.0	0.0	0.0	6.0	12.4
Delhi	265	84.5	31.3	3.4	1.1	.0	6.4	.0	.0	34.0	54.0	12.5
Gujarat	750	85.1	29.9	31.2	14.4	6.9	8.8	9.2	7.1	13.5	8.5	16.3
Himachal Pradesh	250	84.8	6.0	18.4	0.8	0.4	0.0	0.0	0.0	0.4	68.4	39.6
Karnataka	500	49.2	0.0	46.8	26.4	.6	5.0	0.2	0.2	13.4	39.8	0.8
Kerala	500	72.6	0.2	43.2	50.0	3.8	.4	0.0	0.0	26.4	20.4	.0
Madhya Pradesh	258	56.6	1.9	3.9	0.0	0.0	9.7	0.0	0.8	1.2	17.8	34.5
Maharashtra	750	36.5	12.8	1.1	0.1	0.1	0.0	0.4	0.0	5.2	4.3	10.7
Mizoram	250	4.8	—	–	–	–	–	–	–	–	–	–
Odisha	250	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Puducherry	250	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
Punjab	499	21.8	12.6	1.0	0.0	0.0	0.0	0.0	0.2	0.0	7.0	2.4
Rajasthan	255	97.3	0.0	0.4	0.0	2.4	50.2	0.0	0.0	0.0	80.8	2.0
Tamil Nadu	500	9.2	0.0	2.8	1.0	.0	.0	0.0	0.6	1.0	3.8	.0
Telangana	250	72.0	0.8	15.2	0.0	19.2	11.6	0.4	0.0	65.2	38.8	5.6
Uttar Pradesh	750	36.1	2.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	30.8	3.6
West Bengal	250	81.6	74.8	31.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
India	**8,276**	**51.1**	**11.4**	**16.0**	**8.8**	**4.6**	**6.6**	**3.7**	**3.3**	**10.8**	**21.3**	**11.7**

#Total may not add up to 100% due to multiple responses.

In the HSS Plus, all SMMs were asked about the methods/approaches used to meet their paid sexual partners. Nationally, the most frequently reported meeting method was through common friends/ acquaintances (21.3%), followed by chance meetings at streets/roadsides (16%), visits to their homes (11.7%), visits to brothels (11.4%), during activities at the market place/ labour *naka* (10.8%) and visits to railway station/bus stand (8.8%). In West Bengal, 74.8% of the respondents reported visiting brothels to meet their paid sexual partners (*see Table 7.8*).

Across most States/UTs and at the national level, a majority of the respondents reported having sex with a paid female partner within the past three months preceding the survey. An exception to this pattern was observed in Chandigarh, Gujarat and Rajasthan, where most of the respondents reported their last sexual act with a paid female partner more than three months ago. At the national level, reported condom use with paid female partners was 53.6%. However, more than 90% condom use was reported in Maharashtra and Tamil Nadu. In contrast, reported condom use during last sex act with paid female partners was much lower in the states of Uttar Pradesh (4.1%), Rajasthan (20.7%) and Assam (33.5%) (*see Table 7.9*).

Table 7.9: Sexual Behaviour with Paid Female Partners and Condom Use Practices among SMMs by State/UT, HSS Plus 2021

State/UT	Paid Female Partner at Destination (N)	Last Had Sex with a Paid Female Partner (%)				Condom Use in The Last Sexual Act with a Paid Female Partner (%)
		Less Than a Month	One Month to Less Than Three Months	Three Months to Less Than One Year	One Year or More	
Andhra Pradesh	389	21.0	62.2	15.8	1.0	76.4
Assam	200	13.8	53.2	33.0	.0	33.5
Chandigarh	368	8.4	22.8	43.5	25.3	68.9
Chhattisgarh	95	14.3	50.5	29.7	5.5	76.4
Delhi	224	54.8	41.6	3.7	0.0	–
Gujarat	638	10.1	33.8	47.7	8.3	62.0
Himachal Pradesh	212	56.7	34.3	7.0	2.0	39.4
Karnataka	246	63.4	33.3	3.3	0.0	–
Kerala	363	55.8	17.9	11.0	15.2	–
Madhya Pradesh	146	22.5	66.2	10.6	0.7	78.9
Maharashtra	274	9.9	61.4	19.5	9.2	97.4
Mizoram	12	0.0	0.0	8.3	91.7	50.0
Puducherry	–	–	–	–	–	–
Punjab	109	5.7	25.5	42.5	26.4	48.1
Rajasthan	248	1.2	9.9	40.7	48.1	20.7
Tamil Nadu	46	23.9	43.5	28.3	4.3	93.5
Telangana	180	0.0	59.3	39.0	1.7	87.6
Uttar Pradesh	271	24.7	71.9	3.4	0.0	4.1
West Bengal	204	70.9	24.1	4.4	0.5	61.9
India	**4,227**	**26.3**	**40.3**	**23.8**	**9.6**	**53.6**

All SMMs were asked whether they ever had sex with casual sexual partners and/or regular partners at the place of interview. At the national level, 20.3% of SMMs reported having casual female partners and 16% had regular female partner at the place of interview. More than 60% of SMM respondents in Odisha, Rajasthan and Telangana reported having casual partners, whereas more than 50% of SMM respondents in Punjab had regular sexual partners at the place of interview (*see Table 7.10 and 7.11*).

Reported condom use during the last sexual act was with a regular partner was 50.6% (*see Table 7.11*), while it was 66.1% with a casual partner. Overall, condom use with any type of partner was considerably lower in Punjab. The reported condom use with a casual partner and with regular partner was 29.2% and 34.4% respectively. Similarly, 19.2% of SMMs in Madhya Pradesh reported using condoms with casual partners (*see Tables 7.10 and 7.11*).

Table 7.10: Sexual Behaviour with Casual Female Partner at Migrant Place and Condom Use Practices among SMMs by State/UT, HSS Plus 2021

State/UT	N	Casual Female Partner	When had Last Sex with a Casual Female Partner (%)#				Condom Use in Last Sex Act with a Casual Partner (%)
			Less Than a Month	One Month to Less Than Three Months	Three Months to Less Than One Year	One Year or More	
Andhra Pradesh	750	24.1	4.4	57.8	37.8	0.0	97.8
Assam	249	0.0	–	–	–	–	–
Chandigarh	500	18.4	6.5	28.3	38.0	27.2	78.3
Chhattisgarh	250	3.2	0.0	62.5	37.5	0.0	50.0
Delhi	265	1.9	0.0	80.0	20.0	0.0	25.0
Gujarat	750	24.1	4.4	59.4	32.8	3.3	91.7
Himachal Pradesh	250	31.6	45.6	38.0	12.7	3.8	39.0
Karnataka	500	0.2	100.0	0.0	0.0	0.0	–
Kerala	500	14.0	13.2	45.6	19.1	22.1	–
Madhya Pradesh	258	20.9	24.5	52.8	20.8	1.9	19.2
Maharashtra	750	20.9	40.8	39.5	14.6	5.1	61.8
Mizoram	250	3.6	0.0	0.0	11.1	88.9	44.4
Odisha	250	88.4	19.5	58.4	22.2	0.0	79.5
Puducherry	250	1.2	0.0	0.0	33.3	66.7	33.3
Punjab	499	24.0	8.3	50.8	32.5	8.3	29.2
Rajasthan	255	77.6	1.5	15.8	42.3	40.3	68.0
Tamil Nadu	500	14.8	43.2	31.1	12.2	13.5	87.5
Telangana	250	66.8	.0	61.1	37.7	1.2	82.0
Uttar Pradesh	750	7.7	75.9	22.4	0.0	1.7	–
West Bengal	250	1.6	0.0	25.0	75.0	0.0	–
India	**8,276**	**20.3**	**16.5**	**45.2**	**28.1**	**10.1**	**66.1**

#Total may not add up to 100% due to missing/no response

All SMMs were asked about the types of cell phones and whether cell phones and/or Internet were used to seek a female sexual partner in the location where interview was conducted. The majority of SMMs (59.3%) at the national level reported owning a smartphone. Around 2.6% of SMMs reported that they had both a basic keypad phone and a smartphone. About 45.3% of SMMs in Uttar Pradesh did not own any cell phone. Around one in five SMMs reported the same in Mizoram (18%) and Assam (17.3%). However, more than 70% of SMMs from Andhra Pradesh, Chandigarh, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Puducherry, Punjab and Tamil Nadu reported having smartphones. In contrast, more than 90% of the respondents in Odisha had only basic keypad phones.

Among respondents who reported using phone and/or Internet for seeking paid sexual partners, around 14.2% of SMM respondents reported using the Internet to meet their female sexual partners. However, there were significant variations

Table 7.11: Sexual Behaviour with Regular Female Partners at Migrant Place and Condom Use Practices among SMMs by State/UT, HSS Plus 2021

State/UT	N	Regular Female Sexual Partner	When Had Last Sex with A Regular Partner (%)#				Condom Use with a Regular Partner (%)
			Less Than a Month	One Month to Less Than Three Months	Three Months to Less Than One Year	One Year or More	
Andhra Pradesh	750	10.7	8.9	51.9	39.2	0.0	96.2
Assam	249	5.6	35.7	42.9	21.4	0.0	21.4
Chandigarh	500	24.8	11.3	22.6	38.7	27.4	75.6
Chhattisgarh	250	3.2	0.0	62.5	37.5	0.0	75.0
Delhi	265	7.5	80.0	15.0	5.0	0.0	10.5
Gujarat	750	30.0	3.6	64.9	28.9	2.7	88.9
Himachal Pradesh	250	8.4	42.9	47.6	9.5	0.0	33.3
Karnataka	500	7.0	28.6	60.0	11.4	0.0	54.3
Kerala	500	14.2	31.0	23.9	25.4	19.7	0.0
Madhya Pradesh	258	29.8	77.9	20.8	1.3	0.0	35.1
Maharashtra	750	21.7	42.3	28.8	14.1	14.7	52.1
Mizoram	250	–	–	–	–	–	–
Odisha	250	–	–	–	–	–	–
Puducherry	250	2.8	0.0	0.0	14.3	85.7	14.3
Punjab	499	57.7	42.3	35.3	16.1	6.3	34.4
Rajasthan	255	21.6	70.9	16.4	3.6	9.1	5.6
Tamil Nadu	500	4.4	0.0	9.1	18.2	72.7	13.6
Telangana	250	36.4	6.6	39.6	49.5	4.4	40.7
Uttar Pradesh	750	0.5	25.0	50.0	0.0	25.0	0.0
West Bengal	250	8.8	9.1	40.9	45.5	4.5	63.6
India	**8,276**	**16.0**	**29.4**	**37.7**	**23.2**	**9.7**	**50.6**

#Total may not add up to 100% due to missing/no response

Table 7.12: Use of Mobile Phones/Internet to Seek Female Sexual Partners of SMMs by State/UT, HSS Plus 2021

State/UT	N	Type of Cell Phone (%)#				Use of Internet to Seek a Female Sexual Partner (%)	Internet-based Applications (%)#					
		Basic Keypad Phone	Smartphone	Both	Do Not Own a Cell Phone		Facebook	WhatsApp	Bumble	Hinge	Instagram	Tinder
Andhra Pradesh	750	11.9	82.7	0.7	1.9	49.9	6.3	43.5	0.0	0.0	0.0	0.0
Assam	249	40.6	42.2	0.0	17.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chandigarh	500	16.2	72.6	4.2	6.8	20.0	10.6	14.6	0.0	0.0	0.4	0.0
Chhattisgarh	250	26.8	68.4	0.0	3.6	1.6	1.2	0.4	0.0	0.0	0.0	0.0
Delhi	265	55.1	34.3	1.5	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gujarat	750	9.2	81.2	6.8	0.0	45.6	36.1	32.7	1.2	3.5	8.4	14.1
Himachal Pradesh	250	74.0	20.4	0.4	3.6	12.8	12.0	5.2	0.4	0.0	0.4	0.0
Karnataka	500	35.6	47.6	13.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kerala	500	17.4	74.6	4.0	3.0	18.4	8.6	1.6	0.0	0.2	0.4	0.4
Madhya Pradesh	258	7.8	77.5	14.0	0.0	38.4	22.5	19.8	0.0	0.0	0.4	0.0
Maharashtra	750	25.2	70.3	0.0	3.9	4.9	1.3	3.3	0.0	0.0	0.1	0.3
Mizoram	250	18.0	64.0	0.0	18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Odisha	250	96.4	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Puducherry	250	18.4	76.4	0.0	5.2	2.8	2.0	2.8	0.0	0.0	0.0	0.0
Punjab	499	20.8	73.9	0.6	4.2	1.6	1.2	0.6	0.0	0.0	1.2	0.2
Rajasthan	255	36.1	61.2	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tamil Nadu	500	18.4	72.8	0.8	8.0	11.4	9.8	3.4	0.0	0.0	2.0	0.0
Telangana	250	62.0	33.6	0.0	2.8	8.4	8.0	8.0	0.0	0.0	0.0	0.0
Uttar Pradesh	750	35.6	17.9	0.0	45.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
West Bengal	250	46.8	39.6	1.2	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
India	**8,276**	**28.6**	**59.3**	**2.6**	**8.3**	**14.2**	**7.2**	**9.5**	**0.1**	**0.3**	**1.0**	**1.3**

#Total may not add up to 100% due to missing/no response.

among States/UTs (*see Table 7.12*). Nearly half of SMM respondents in Andhra Pradesh (49.9%) and Gujarat (45.6%) reported using the Internet for seeking partners. At the national and State levels, the most widely used Internet applications for solicitation were WhatsApp and Facebook. In Gujarat, around 14.1% SMM respondents reported using Tinder, and 8.4% respondents reported using Instagram as one of the Internet applications to meet female partners.

7.5 Sexual Behaviour and Condom Use Practices with Male Partners

All SMMs were asked whether they had ever engaged in sexual intercourse with a male partner. At the national level, 2.2% of SMM respondents reported ever having had sexual intercourse with a male partner. Among those, 1.2% of SMMs reported having sexual intercourse with a male partner at the place of interview.

About 38.5% of SMMs reported having sex with a male partner within the last three months. Additionally, 39.4% of SMMs reported having paid money or payment in kind in exchange for sex with a male partner, whereas 21.3% of SMM respondents reported both, i.e., having received as well as paid money for having sexual intercourse with a male partner. Reported condom use during their last sexual act with a male partner was 21.9%.

All SMMs were asked whether cell phones and/or Internet were used to seek male sexual partners. At both State/UT and national levels, very few SMM respondents reported using cell phones and/or Internet to seek male sexual partners.

7.6 Levels of HIV

In the HSS Plus 2021 round, the national observed HIV prevalence among SMMs was 0.89% (95% CI: 0.69–1.10) vis-à-vis. 0.51% (95% CI: 0.34–0.68) noted in the 2017 round. Figure 7.5 and Table 7.13 depict the sero-prevalence of HIV at the State/UT level. In terms of co-infections, the sero-prevalence of both HIV-HBV and HIV-HCV was 0.05% (95% CI: 0.00–0.09). Likewise, the sero-prevalence for both HBV and HCV among the HIV-positive respondents was 5.41% (95% CI: 0.25–10.56).

The highest HIV prevalence was noted in the State of Mizoram (4.80%, 95% CI: 2.15–7.45), followed by Assam (3.21%, 95% CI: 1.02–5.40), West Bengal (3.20%, 95% CI: 1.02–5.38), Punjab (3.01%, 95% CI: 1.51–4.50), Odisha (1.60%, 95% CI: 0.04–3.16), Chhattisgarh (1.20%, 95% CI: 0.00–2.55) and Andhra Pradesh (0.93%, 95% CI: 0.25-1.62), (*see Figure 7.5 and Table 7.13*).

Figure 7.5: State/UT-wise HIV Prevalence among SMMs, HSS Plus 2021 (in %)

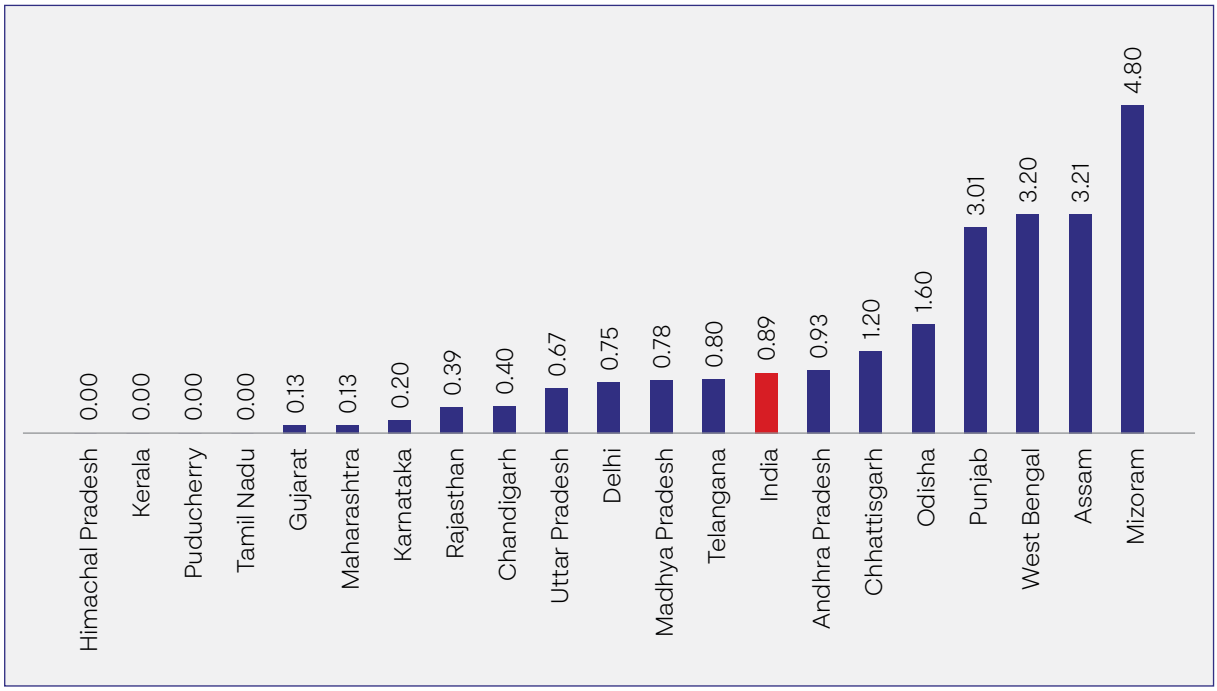


Table 7.13: State/UT-wise Sero-prevalence of HIV among SMMs, HSS Plus 2021 (in %)

State/UT	HIV	
	N	Sero-prevalence
Andhra Pradesh	750	0.93 (0.25–1.62)
Assam	249	3.21 (1.02–5.40)
Chandigarh	500	0.40 (0.00–0.95)
Chhattisgarh	250	1.20 (0.00–2.55)
Delhi	265	0.75 (0.00–1.80)
Gujarat	750	0.13 (0.00–0.39)
Himachal Pradesh	250	0.00 (0.00–0.00)
Karnataka	500	0.20 (0.00–0.59)
Kerala	500	0.00 (0.00–0.00)
Madhya Pradesh	258	0.78 (0.00–1.85)
Maharashtra	750	0.13 (0.00–0.39)
Mizoram	250	4.80 (2.15–7.45)
Odisha	250	1.60 (0.04–3.16)
Puducherry	250	0.00 (0.00–0.00)
Punjab	499	3.01 (1.51–4.50)
Rajasthan	255	0.39 (0.00–1.16)
Tamil Nadu	500	0.00 (0.00–0.00)
Telangana	250	0.80 (0.00–1.90)
Uttar Pradesh	750	0.67 (0.08–1.25)
West Bengal	250	3.20 (1.02–5.38)
India	**8,276**	**0.89 (0.69–1.10)**

7.7 HIV Prevalence by Respondents' Characteristics

Table 7.14 presents the HIV prevalence among SMMs characterized by background characteristics at the national level in HSS Plus 2021. Generally, HIV prevalence among SMMs has been observed to increase with age. The highest prevalence of 1.88% was noted among those aged 45 years or older, while the lowest was among those aged 18 to 24 years (0.33%) (*see Figure 7.6*). HIV prevalence was higher among SMMs who were divorced/separated /widowed (3.75%) than among those who were currently married (1.02%) or never married (0.56%) (*see Figure 7.7*). Additionally, HIV prevalence declined with increasing education levels, except for those with education from the 11th standard up to graduation (*see Figure 7.8*).

HIV prevalence was highest among those who reported working mainly in the transport and unorganized sectors, including truck drivers/helpers (2.70%), handcart pullers/rickshaw drivers (1.47%), non-agricultural labourers (1.09%) and auto/taxi drivers (1.09%) (*see Figure 7.9*).

Figure 7.6: HIV Prevalence among SMMs by Age Group, HSS Plus 2021 (in %)

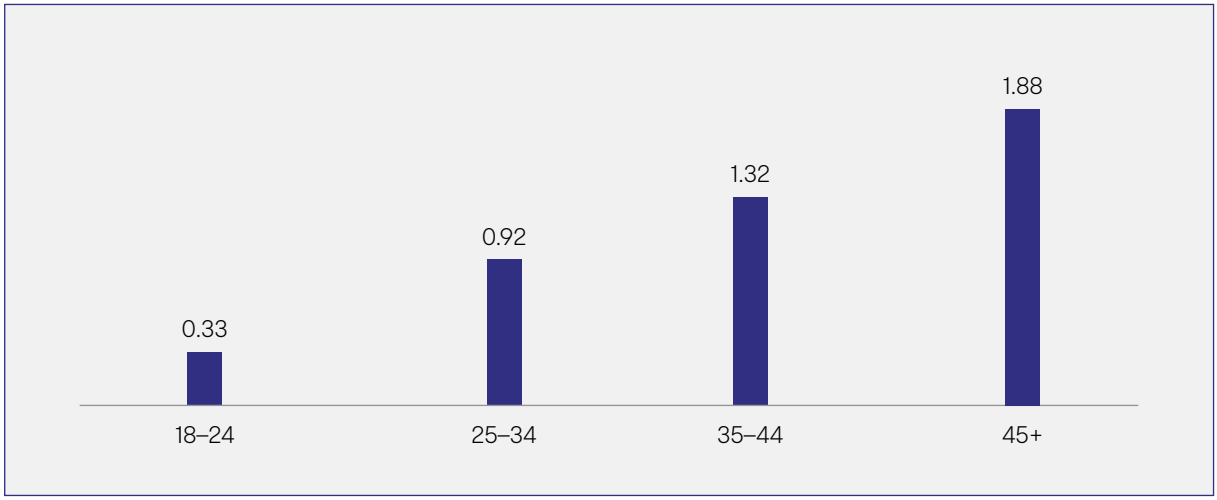


Figure 7.7: HIV Prevalence among SMMs by Marital Status, HSS Plus 2021 (in %)

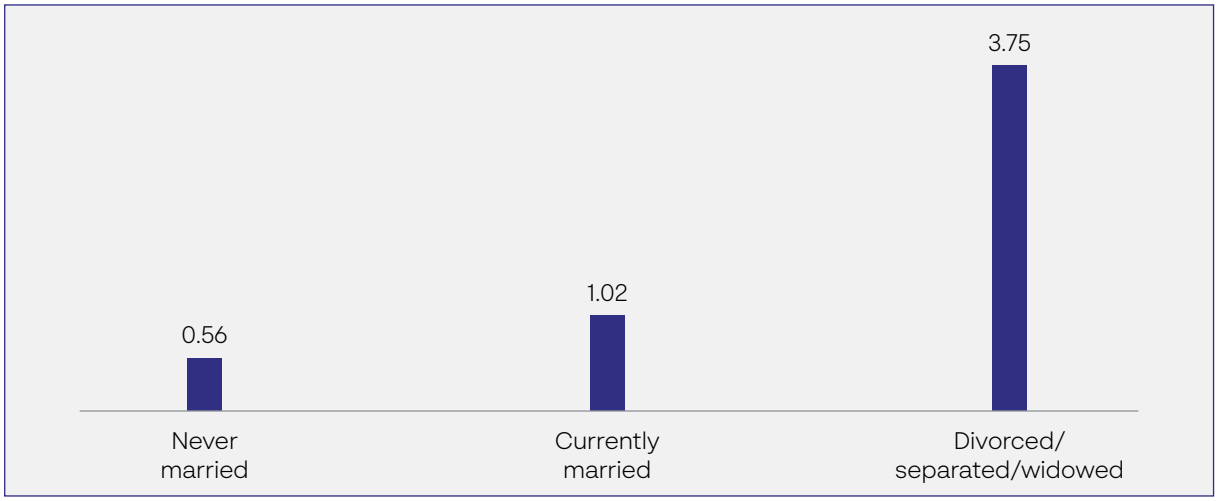


Figure 7.8: HIV Prevalence among SMMs by Education, HSS Plus 2021 (in %)

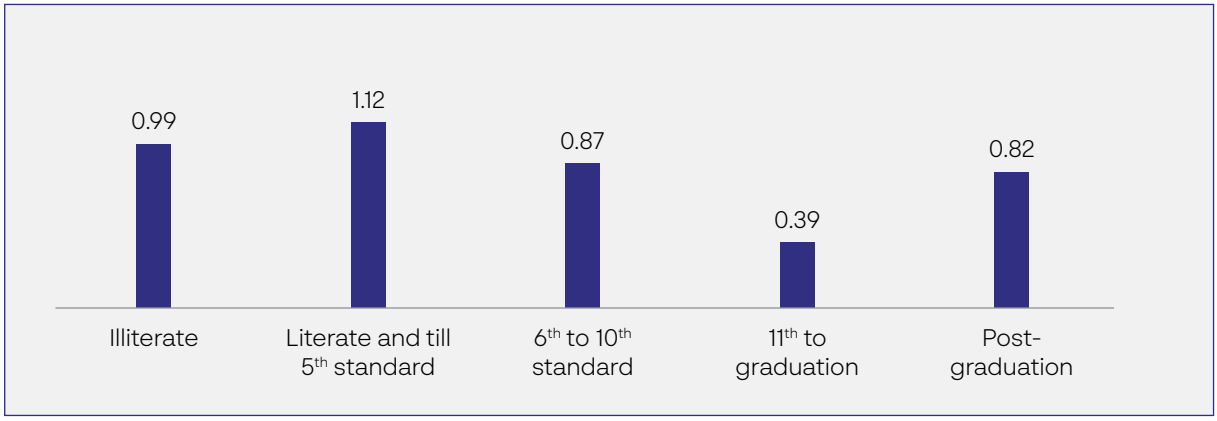


Figure 7.9: HIV Prevalence among SMMs by Occupation, HSS Plus 2021 (in %)

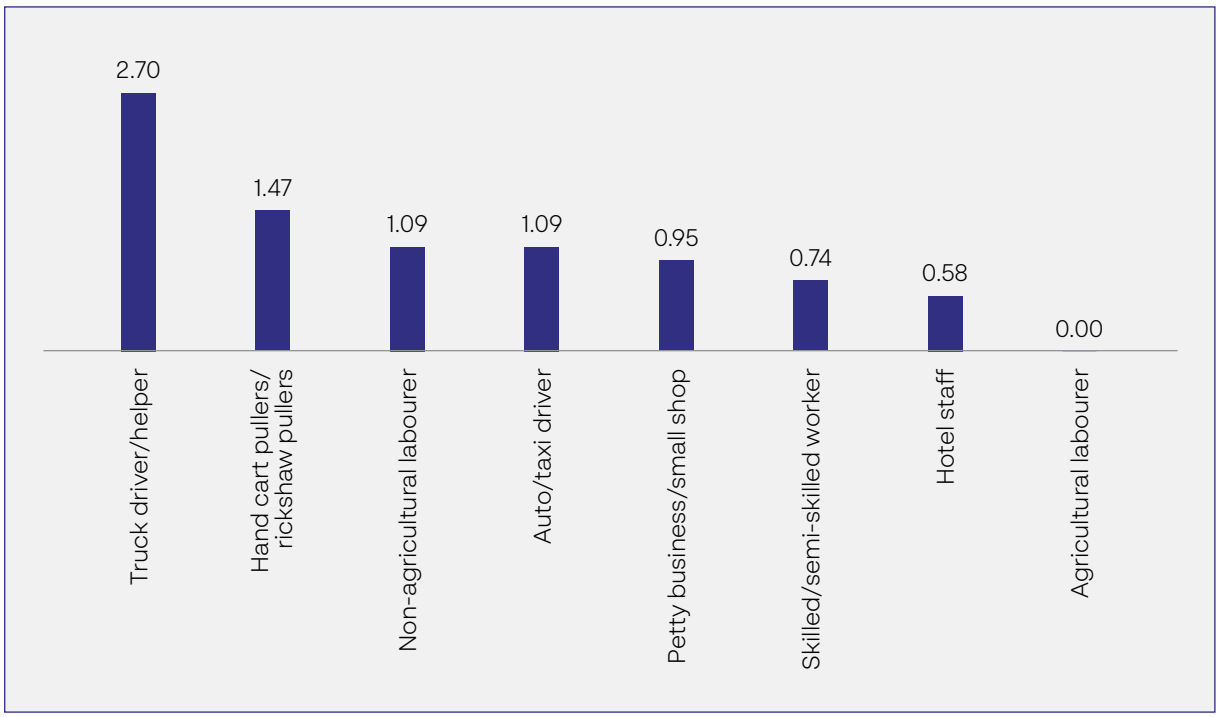


Table 7.14: HIV Prevalence among SMMs by Background Characteristics, HSS Plus 2021 (in %)

Background Characteristics	Disaggregation	Distribution		HIV-positive
		Frequency*	Percent	Percent
Age	18–24 years	2,393	28.9	0.33
	25–34 years	3,704	44.8	0.92
	35–44 years	1,595	19.3	1.32
	45+ years	584	7.1	1.88
Marital status	Never married	2,519	30.4	0.56
	Currently married	5,613	67.8	1.02
	Divorced/separated/widowed	80	1.0	3.75
Education	Illiterate	913	11.0	0.99
	Literate and till 5th standard	2,500	30.2	1.12
	6th to 10th standard	3,680	44.5	0.87
	11th to graduation	1,029	12.4	0.39
	Post-graduation	122	1.5	0.82
Respondent's primary occupation	Agricultural labourer	28	0.3	0.00
	Non-agricultural labourer	3,024	36.5	1.09
	Skilled/semi-skilled worker	3,936	47.6	0.74
	Petty business/small shop	317	3.8	0.95
	Truck driver/Helper	111	1.3	2.70
	Auto/taxi driver	92	1.1	1.09
	Hand cart pullers/rickshaw pullers	136	1.6	1.47
	Hotel staff	172	2.1	0.58

*Total may not add up to 8,276 because of missing/not applicable response.

08

Long-Distance Truckers

Truckers constitute a key bridge population group in India, covered by Targeted Interventions (TIs) as part of the HIV prevention programme implemented under the National AIDS and STD Control Programme (NACP). Relatively high prevalence of HIV among truckers in India is well-documented, with individuals in the transport sector facing increased vulnerability to HIV and other STIs. Long-distance truck drivers and their helpers, who spend extended periods on highways away from home and family, are particularly susceptible to engaging in high-risk sexual behaviour. Factors contributing to their vulnerability include multiple sex partners, limited awareness about condom usage, and inconsistent or non-existent condom use. This dynamic significantly contributes to the transmission of HIV infection, facilitating its spread from high-risk to low-risk populations, including the migrants' spouses. Under NACP, comprehensive prevention-testing-treatment intervention strategies have included truckers as a target population. The TI Programme aims to reach 20 lakh truckers through peer-led interventions and link worker schemes.

Table 8.1: Sample Size by State/UT at LDT Sites: HSS Plus 2021

State/UT	No. of HSS Sites	Final Sample Size
Andhra Pradesh	2	500
Assam	2	472
Chhattisgarh	2	500
Delhi	1	250
Gujarat	4	1,000
Jharkhand	2	461
Karnataka	1	250
Kerala	1	250
Madhya Pradesh	1	255

State/UT	No. of HSS Sites	Final Sample Size
Maharashtra	2	500
Nagaland	1	249
Odisha	1	250
Punjab	1	257
Rajasthan	1	249
Tamil Nadu	2	500
Telangana	2	500
Uttar Pradesh	4	1,000
Uttarakhand	1	238
West Bengal	3	747
India	**34**	**8,428**

HSS Plus operationally defined LDTs as 'Truckers, aged 18 years or older, who travel more than 800 km one way between source and destination'. The HSS Plus in 2021 was implemented at 34 sites across 19 States/UTs (*see Table 8.1*). Overall, a total of 8,428 LDTs completed behavioural interviews and provided blood samples, which were subsequently tested at designated laboratories. This section presents key findings from the 2021 round of sentinel surveillance among LDTs.

The analysis initially presents the respondents' background characteristics, including age, current marital status, education status, current main role as truckers, days spent away from their usual place of residence, and types of cell phones owned. Following this, the report presents findings on halt point characteristics, uptake of HIV/AIDS-related testing and treatment services, injecting drug use practices, sexual behaviour and condom use practices with both female and male partners. The analysis concludes with HIV prevalence data at both national and State/UT levels among LDTs, providing a comprehensive perspective of the current situation within this population group.

8.1 Respondents' Characteristics

This section outlines the profile characteristics of LDTs across different States/UTs in India. At the national level, the mean age of LDTs was 34.1 years. However, significant variations were observed across the States/UTs, with relatively lower mean age in Maharashtra (29.7 years), Madhya Pradesh, Rajasthan and Karnataka (31 years). In contrast, the mean age was relatively higher than the national average in Odisha and Telangana (37 years), Punjab (36.6 years), Kerala, Tamil Nadu and Uttar Pradesh (35 years) (*see Table 8.2*).

Nationally, less than one-fifth (17.2%) of the LDTs reported their ages to be between 18 and 24 years, while the majority were in the 25–34 years age range. A similar distribution was observed in Andhra Pradesh, Assam, Chhattisgarh, Delhi, Gujarat, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. However, a considerable proportion of LDTs from Madhya Pradesh (36.1%) and Maharashtra (31.8%) reported being in the 18 to 24 years age group. Moreover, a significant proportion of LDTs in Uttar Pradesh, Delhi and Odisha (20%–28%) were in the age group exceeding 45 years (*see Table 8.2*).

Table 8.2: Age Distribution of LDT Respondents by State/UT, HSS Plus 2021

State/UT	N	Mean age	Age group of LDTs (%)			
			18–24 Years	25–34 Years	35–44 Years	45+ Years
Andhra Pradesh	500	33.3	11.6	44.4	40.2	3.8
Assam	472	34.9	18.6	32.4	28.4	20.6
Chhattisgarh	500	32.5	17.2	43.4	28.6	10.8
Delhi	250	34.7	19.6	35.2	24.0	21.2
Gujarat	1,000	34.3	14.3	36.9	32.9	15.9
Jharkhand	461	34.7	8.7	39.0	42.3	10.0
Karnataka	250	31.7	29.6	32.0	26.4	12.0
Kerala	250	35.8	7.6	36.4	42.0	14.0
Madhya Pradesh	255	31.1	36.1	31.0	17.3	15.7
Maharashtra	500	29.7	31.8	39.4	21.4	7.4
Nagaland	249	32.4	28.9	33.7	21.3	16.1
Odisha	250	37.6	13.2	31.2	27.6	28.0
Punjab	257	36.6	5.4	36.6	41.6	16.3
Rajasthan	249	31.2	25.7	39.0	26.5	8.8
Tamil Nadu	500	35.6	8.8	39.0	35.2	17.0
Telangana	500	37.0	8.0	26.2	47.8	18.0
Uttar Pradesh	1,000	35.1	16.0	31.4	31.5	21.1
Uttarakhand	238	32.9	26.9	31.1	26.9	15.1
West Bengal	747	34.2	20.2	33.9	27.0	18.9
India	**8,428**	**34.1**	**17.2**	**35.5**	**31.7**	**15.5**

Figure 8.1: Distribution of LDTs by Age Group, HSS Plus 2021 (in %)

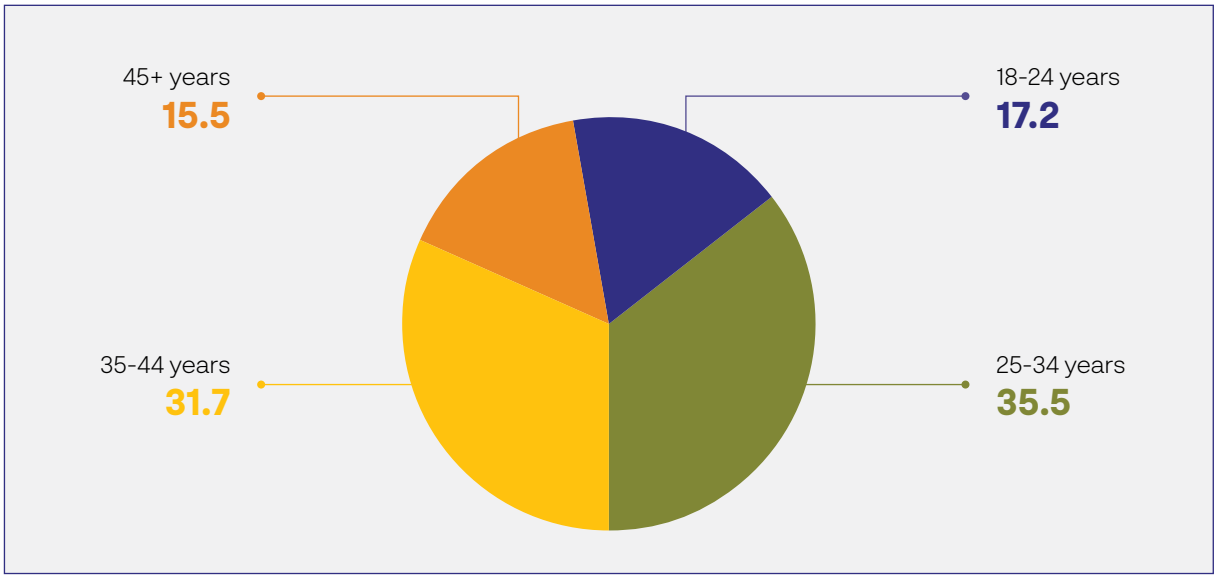


Figure 8.2: Distribution of LDTs by Current Marital Status, HSS Plus 2021 (in %)

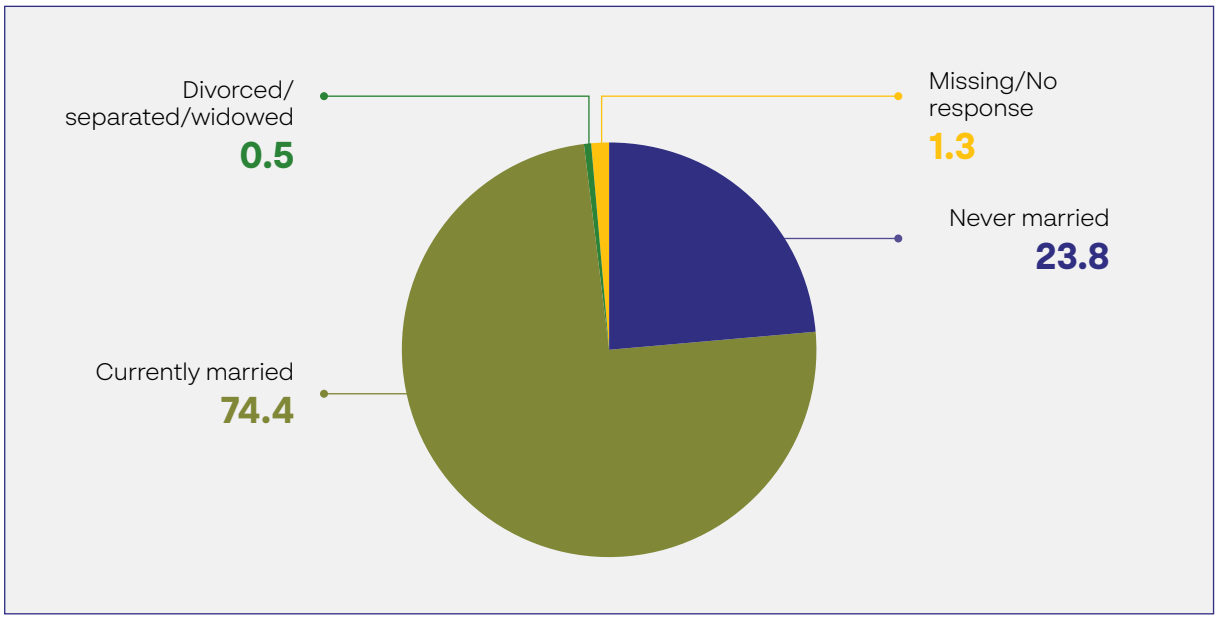
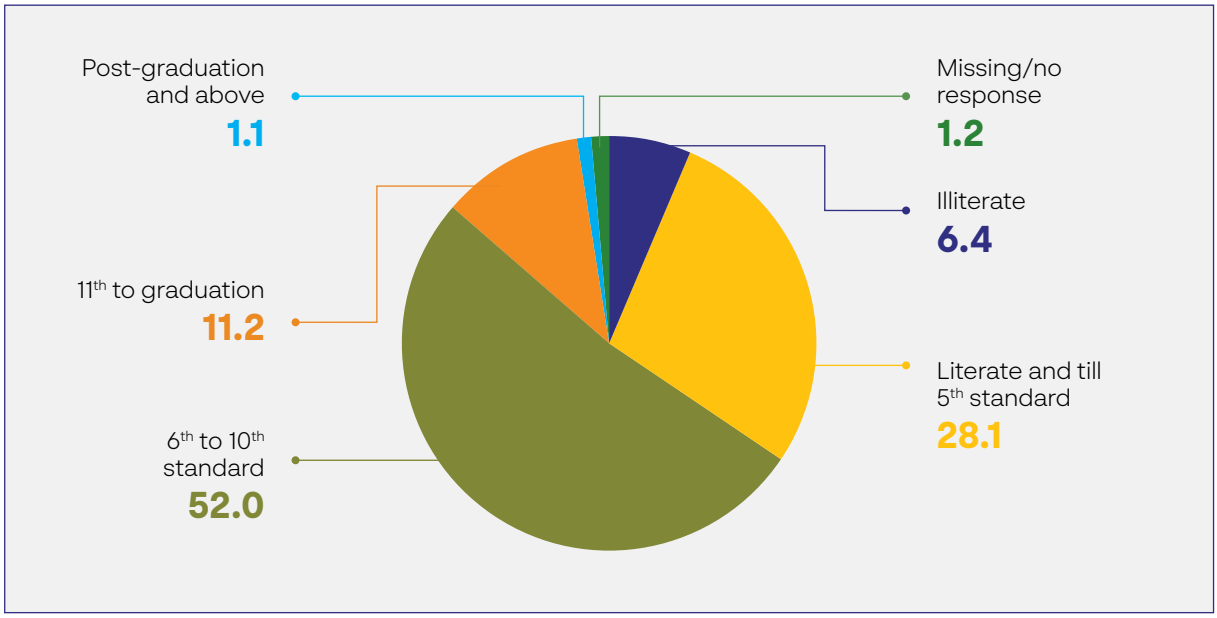


Figure 8.3: Distribution of LDTs by Education Status, HSS Plus 2021 (in %)



Nationally, about 23.8% of all the recruited LDTs reported never having been married, while a small proportion (0.5%) reported being divorced/separated/widowed. In States like Madhya Pradesh and Punjab, a high proportion (40.4%) of respondents reported never having been married. In contrast, in States like Odisha, Kerala, Andhra Pradesh, Gujarat, Rajasthan, Telangana and Jharkhand, a high majority (80%–91%) of respondents reported being currently married. In Uttarakhand, 2.5% of LDTs reported being divorced/separated/widowed (*see Table 8.3*).

Table 8.3: Current Marital Status and Level of Education of LDTs by State/UT, HSS Plus 2021

State/UT	N	Current Marital Status# (%)			Level of Education# (%)				
		Never Married	Currently Married	Divorced/ Separated/ Widowed	Illiterate	Literate and till 5th Standard	6th to 10th Standard	11th to Graduation	Post-Graduation & Above
Andhra Pradesh	500	16.8	82.0	0.2	0.8	30.8	52.2	14.6	1.4
Assam	472	25.0	75.0	0.0	12.7	32.2	49.2	4.9	0.4
Chhattisgarh	500	28.6	71.2	0.2	6.2	32.6	53.8	6.8	0.6
Delhi	250	26.4	73.2	0.4	18.4	13.2	42.8	21.6	4.0
Gujarat	1,000	14.3	83.9	0.3	3.2	30.6	48.8	13.7	2.7
Jharkhand	461	6.9	91.1	1.5	11.7	27.1	58.8	2.0	0.0
Karnataka	250	32.8	65.2	0.0	1.2	25.6	59.6	12.4	0.4
Kerala	250	15.6	80.4	0.4	2.4	2.0	68.4	22.8	0.0
Madhya Pradesh	255	40.4	59.6	0.0	9.0	31.0	47.5	12.2	0.4
Maharashtra	500	38.2	59.6	0.4	4.6	23.6	53.8	16.2	1.0
Nagaland	249	22.9	57.4	0.0	21.3	21.7	27.3	7.2	0.4
Odisha	250	20.0	80.0	0.0	4.4	23.6	63.2	8.4	0.0
Punjab	257	40.1	58.4	1.2	26.8	54.9	16.0	2.3	0.0
Rajasthan	249	15.7	83.9	0.0	2.4	27.3	59.8	8.4	1.2
Tamil Nadu	500	30.8	66.4	0.0	0.4	18.8	60.8	15.6	3.2
Telangana	500	13.0	86.4	0.0	4.8	8.8	73.2	11.8	0.4
Uttar Pradesh	1,000	25.7	73.9	0.3	5.6	39.7	43.1	11.2	0.4
Uttarakhand	238	28.2	68.9	2.5	7.1	14.3	63.9	11.8	2.9
West Bengal	747	28.0	70.3	1.3	2.5	36.8	50.7	9.8	0.0
India	**8,428**	**23.8**	**74.4**	**0.5**	**6.4**	**28.1**	**52.0**	**11.2**	**1.1**

#Total may not add to 100% due to missing/no response.

At the national level, around 93.6% of LDTs were literate, with around two-thirds (65.5%) having received more than five years of education (*see Figure 8.3*). Notably, more than one-fifth of the LDTs in Punjab (26.8%) and Nagaland (21.3%) were illiterate, followed by 18.4% in Delhi, and 12.7% in Assam. On the other hand, in Tamil Nadu and Andhra Pradesh, only 0.4%–0.8% of the LDTs were illiterate (*see Table 8.3*).

In the HSS Plus 2021, all LDTs were asked about their current role as truckers, specifying whether they were drivers, helpers or both, and the types of cell phones they owned. A majority of LDTs (75.3%) at the national level reported their main role as drivers, while 17.9% identified themselves as helpers. More than one-third of LDTs (36%) in Nagaland and Odisha reported their current main role as helpers.

When asked about the types of cell phones owned, almost two-thirds of LDTs reported having smartphones (65.3%) and additionally, 5.7% reported having both basic keypad phones and smartphones. At the State level, more than 80% of LDTs from Jharkhand, Karnataka, Kerala, Odisha, Rajasthan and Tamil Nadu reported having smartphones. On the other hand, more than 50% of the respondents in Assam and Uttar Pradesh had only basic keypad phones.

In the HSS Plus 2021, all LDTs were asked about the number of nights they had spent away from their usual place of residence in the last seven days preceding the interview. Nationally, LDTs spent an average of 4.4 nights away. The majority (46%) reported spending 2–5 nights away, while 31.5% spent 6–7 nights away. Around 7.7% of the respondents reported spending 0–1 night

Table 8.4: Current Primary Role as Truckers and Having Cell Phones by State/UT, HSS Plus 2021

State/UT	N	Current Primary Role as Trucker (%)#			Having Cell Phones (%)#			
		Driver	Helper	Both	Do Not Own a Cell Phone	Basic Keypad Phone	Smartphone	Own Both Types of Phones
Andhra Pradesh	500	71.4	20.0	6.0	0.0	20.2	71.4	8.0
Assam	472	79.0	20.1	0.0	9.7	55.5	34.1	0.4
Chhattisgarh	500	83.4	15.0	1.2	2.6	35.8	61.0	0.0
Delhi	250	98.0	1.2	0.4	2.8	32.4	62.4	2.4
Gujarat	1,000	79.4	13.1	3.5	0.1	16.0	76.2	6.4
Jharkhand	461	87.4	5.0	6.9	0.9	11.7	80.5	5.4
Karnataka	250	63.6	32.4	0.4	1.6	13.2	84.0	0.0
Kerala	250	83.2	0.8	14.8	0.0	8.8	89.2	1.6
Madhya Pradesh	255	86.7	6.3	6.7	7.8	37.6	52.9	1.2
Maharashtra	500	74.0	24.4	1.4	3.8	14.6	70.6	9.0
Nagaland	249	45.8	36.5	2.0	1.2	15.7	50.6	31.7
Odisha	250	62.8	36.0	0.0	0.4	14.4	82.4	0.0
Punjab	257	52.5	19.8	27.6	2.3	10.9	45.9	40.9
Rajasthan	249	77.5	19.7	0.0	0.0	17.7	81.9	0.4
Tamil Nadu	500	97.6	0.0	0.0	0.0	8.6	80.6	10.0
Telangana	500	71.2	27.6	0.0	3.0	18.4	78.4	0.0
Uttar Pradesh	1,000	63.7	27.2	6.9	2.3	50.1	44.0	3.1
Uttarakhand	238	91.6	8.0	0.0	3.8	34.9	60.5	0.8
West Bengal	747	67.2	20.5	12.3	1.5	36.3	58.6	3.6
India	**8,428**	**75.3**	**17.9**	**4.8**	**2.2**	**26.1**	**65.3**	**5.7**

#Total may not add to 100% due to missing/no response.

away. Notably, more than 90% of LDTs in Assam and Delhi and over half in Rajasthan, Odisha and Gujarat reported spending 6–7 nights away from their usual residence in the last seven days.

8.2 HIV/AIDS-related Testing and Treatment Services Uptake

At the national level, 44.5% of the respondents reported undergoing HIV testing at some point in their lives. Among them, one-third (32.2%) had been tested in the last 12 months. Notably, 19.3% reported having tested during the last six months, and 6.1% during the last three months. Upon examining specific States, it was observed that nearly all respondents in Karnataka and Rajasthan had never undergone HIV testing. Furthermore, over 80% of the respondents in Chhattisgarh, Karnataka, Kerala, Madhya Pradesh and Nagaland had not been tested for HIV in the last 12 months (*see Table 8.6*).

Table 8.5: Number of Nights Spent Away from Their Usual Place of Residence in the Last Seven Days among LDTs by State/UT, HSS Plus 2021

State/UT	N	Average	Number of Nights Spent Away from Usual Place of Residence (%)#		
			0–1 Night	2–5 Nights	6–7 Nights
Andhra Pradesh	500	3.7	1.6	90.4	8.0
Assam	472	6.6	0.6	2.8	93.0
Chhattisgarh	500	3.9	0.0	38.4	0.0
Delhi	250	6.8	0.0	4.4	95.2
Gujarat	1,000	5.3	6.5	35.7	57.8
Jharkhand	461	4.2	6.7	26.0	19.5
Karnataka	250	2.6	18.4	54.8	2.0
Kerala	250	3.3	3.6	91.6	4.4
Madhya Pradesh	255	5.0	3.5	53.7	42.7
Maharashtra	500	4.3	16.2	45.8	38.0
Nagaland	249	2.4	7.2	15.7	0.0
Odisha	250	5.4	4.8	37.2	58.0
Punjab	257	4.2	0.4	82.9	14.4
Rajasthan	249	5.3	3.6	36.9	59.4
Tamil Nadu	500	2.7	24.4	47.0	9.8
Telangana	500	4.3	4.8	65.4	23.2
Uttar Pradesh	1,000	4.3	3.0	58.5	37.6
Uttarakhand	238	3.9	24.4	41.2	34.5
West Bengal	747	2.2	16.5	42.3	0.0
India	**8,428**	**4.4**	**7.7**	**46.0**	**31.5**

#Total may not add to 100% due to missing/no response

Table 8.6: HIV Testing History among LDTs by State/UT, HSS Plus 2021

State/UT	N	Ever Tested for HIV (%)	Tested for HIV in Last Three Months (%)	Tested for HIV in Last Six Months (%)	Tested for HIV in Last 12 Months (%)
Andhra Pradesh	500	78.8	8.6	27.4	51.0
Assam	472	60.6	2.3	12.5	39.8
Chhattisgarh	500	36.6	2.0	6.8	19.6
Delhi	250	60.4	11.2	32.4	44.4
Gujarat	1,000	52.1	7.3	25.4	42.6
Jharkhand	461	60.3	0.0	41.2	51.8
Karnataka	250	4.0	1.6	2.4	3.2
Kerala	250	24.4	3.6	8.8	16.4
Madhya Pradesh	255	26.7	2.0	7.1	14.1
Maharashtra	500	35.0	8.2	16.0	27.4
Nagaland	249	45.8	1.2	4.8	20.9
Odisha	250	11.6	0.4	0.4	1.6
Punjab	257	59.1	17.1	58.0	58.8
Rajasthan	249	0.4	0.0	0.0	0.0
Tamil Nadu	500	86.4	25.4	55.8	64.0
Telangana	500	44.6	1.0	14.4	36.6
Uttar Pradesh	1,000	21.3	7.5	13.9	18.6
Uttarakhand	238	41.6	13.0	23.1	33.2
West Bengal	747	48.6	0.7	5.6	27.0
India	**8,428**	**44.5**	**6.1**	**19.3**	**32.2**

Overall, in the HSS Plus 2021, there were 84 respondents (1.00%) who tested positive for HIV. Among them, 13.1% reported being aware of their HIV-positive status. Notably, only 11.9% of the total HIV infected LDTs were on ART.

8.3 Injecting Drug Use Practices

All LDTs were asked about the use of injection drugs for non-medical reasons preceding the survey. Nationally, around 3% of LDTs reported injecting drugs at some point in their lives, with 2% of them injecting drugs for non-medical reasons in the last 12 months. Notably, in Rajasthan 16.5% LDTs reported a history of injecting drugs for non-medical reasons in their lifetime. Among those LDTs who injected drugs, about 5%–7% in Andhra Pradesh, Rajasthan and Uttar Pradesh reported engaging in injection drug use in the last 12 months.

Among LDTs who injected drugs, only half of them used a new needle/syringe for injecting. However, in Uttarakhand, Tamil Nadu and Andhra Pradesh, nearly all LDTs used a new needle/syringe during the last injecting episode (*see Table 8.7*).

Table 8.7: Injecting Drug Use Practices among LDTs by State/UT, HSS Plus 2021

State/UT	N	Ever Injected Drug for Non-medical Reasons (%)#	Injected Drug for Non-medical Reasons within Last Three Months (%)#	Injected Drug for Non-medical Reasons during Last 12 Months (%)#	Used New N/S when Injected Last (%)#
Andhra Pradesh	500	6.8	6.0	6.2	96.8
Assam	472	1.3	0.4	0.4	60.0
Chhattisgarh	500	4.4	0.4	2.2	57.1
Delhi	250	8.0	7.2	7.6	31.6
Gujarat	1,000	0.7	0.2	0.3	28.6
Jharkhand	461	1.5	0.0	0.0	71.4
Karnataka	250	1.2	1.2	1.2	66.7
Kerala	250	0.0	0.0	0.0	–
Madhya Pradesh	255	3.1	0.4	0.4	–
Maharashtra	500	0.0	0.0	0.0	–
Nagaland	249	0.0	0.0	0.0	–
Odisha	250	0.0	0.0	0.0	0.0
Punjab	257	0.0	0.0	0.0	0.0
Rajasthan	249	16.5	0.0	5.6	0.0
Tamil Nadu	500	0.8	0.0	0.2	100.0
Telangana	500	0.0	0.0	0.0	0.0
Uttar Pradesh	1,000	7.1	6.5	6.6	58.0
Uttarakhand	238	1.7	1.3	1.7	100.0
West Bengal	747	3.2	1.1	2.0	45.8
India	**8,428**	**3.0**	**1.6**	**2.0**	**50.0**

8.4 Halt Point Characteristics

Halt points are locations where numerous trucks stop for various purposes, categorized into three types. The first category consists of forced halt points, where truckers must stop for administrative purposes. The second type includes refreshment and rest halt points, offering truckers a relaxed environment free from job-related pressures. Finally, the third category comprises business halt points, where truckers stop to unload and load consignments for their return or onward journey. Notably, these halt points not only serve crucial logistical and operational functions for truckers but also attract highly active and easily accessible sex networks along highways. This dual nature of halt points makes them significant locations for potential HIV transmission. Therefore, a comprehensive understanding of these halt points is essential for enhancing existing HIV prevention programmes and interventions.

Table 8.8: Primary Reasons for Stopping at Halt Points, Duration of Stay and Engagement with Female and Male Partners by State/UT, HSS Plus 2021

State/UT	N	Reasons for Halting (%)#				Duration of Stay at Halt Points (%)#				At Halt Points (%)#			
		For Refreshment and Rest	For Business Purpose	For Administrative Purpose	Others	Less Than Six Hours	Six hours to Less Than 12 hours	12 hours to Less Than One Day	One Day or More	Aware of Locations for Finding FSWs	Engaged with FSWs	Aware of Locations for Finding Male Partners	Engaged with Male Partners
Andhra Pradesh	500	21.2	70.2	5.6	3.0	2.8	11.0	17.2	69.0	66.6	53.2	15.4	3.2
Assam	472	0.0	99.8	0.2	0.0	0.0	0.0	0.0	0.0	38.6	38.6	3.8	3.8
Chhattisgarh	500	43.6	56.2	0.2	0.0	5.0	10.4	21.6	62.4	30.6	19.4	2.0	0.2
Delhi	250	2.4	94.4	1.6	0.4	5.2	30.4	10.4	52.4	80.4	63.2	58.0	21.2
Gujarat	1,000	35.9	61.2	2.3	0.2	26.2	49.6	16.1	7.6	73.1	38.9	32.7	2.2
Jharkhand	461	52.3	32.1	14.5	0.9	6.1	34.3	53.8	5.2	5.4	2.4	0.2	0.0
Karnataka	250	0.0	100.0	0.0	0.0	0.0	0.8	0.0	99.2	94.4	56.8	42.8	10.0
Kerala	250	0.0	0.0	99.6	0.0	99.2	0.0	0.4	0.0	34.8	1.6	1.6	0.0
Madhya Pradesh	255	0.0	99.2	0.0	0.8	11.0	7.8	14.5	66.3	6.7	1.2	1.2	0.4
Maharashtra	500	3.2	94.4	0.6	1.6	33.8	36.8	8.8	19.6	2.6	0.6	1.8	0.0
Nagaland	249	61.4	27.7	8.0	0.0	0.8	15.3	30.9	49.8	48.2	9.2	0.8	0.4
Odisha	250	0.0	100.0	0.0	0.0	15.6	40.4	10.0	34.0	41.6	6.0	32.4	1.2
Punjab	257	43.2	50.2	5.4	0.0	41.6	49.4	5.1	0.8	93.4	80.2	38.1	24.1
Rajasthan	249	33.3	66.3	0.4	0.0	2.8	20.9	42.6	32.5	12.0	10.0	0.4	0.4
Tamil Nadu	500	50.4	47.6	0.0	0.0	34.0	16.4	20.6	27.6	76.6	52.2	41.6	5.2
Telangana	500	2.6	97.2	0.0	0.0	0.4	16.2	31.8	51.6	46.4	35.6	16.8	0.0
Uttar Pradesh	1,000	54.8	43.6	1.2	0.4	38.2	33.7	14.5	9.8	33.3	21.3	2.0	0.6
Uttarakhand	238	0.0	95.4	0.4	3.4	3.8	1.3	2.9	90.8	88.7	26.9	82.8	2.9
West Bengal	747	18.2	78.4	2.9	0.1	20.1	28.8	23.2	25.0	69.5	27.0	1.1	0.4
India	**8,428**	**26.6**	**67.2**	**5.3**	**0.5**	**19.6**	**24.7**	**18.0**	**30.8**	**49.2**	**29.0**	**16.6**	**2.9**

#Total may not add to 100% due to missing/no response.

Nationally, almost two-thirds of LDTs reported that the primary reason for stopping at halt points was for business purposes, while slightly more than one-fourth mentioned stopping for refreshment and rest. Notably, over half of LDTs from Tamil Nadu, Jharkhand, Uttar Pradesh and Nagaland reported stopping at these halt points for refreshment and rest.

All respondents were asked about the duration of their stay at halt points where the interview was being conducted. Around 19.6% of LDTs reported spending less than six hours, while one-third mentioned being there for a day or longer. Nearly all LDTs in Karnataka and more than 90% in Uttarakhand reported staying at that halt point for a day or more.

All LDT respondents were asked about their awareness of locations near halt points where they might find female sex workers and if they had engaged in sex with them at those locations. Almost half of the respondents were aware of such locations, and 29% reported having engaged in sexual activities at such locations. Notably, in Punjab, almost 93.4% of LDTs were aware of these locations, with more than 80% of them having engaged in sex with FSWs at those locations. Similarly, high levels of awareness and engagement were reported in other States: Karnataka (94.4% aware and 56.8% engaged), Uttarakhand (88.7% aware and 26.9% engaged), and Delhi (80.4% aware and 63.2% engaged).

Additionally, all LDTs were asked about their awareness of any locations near halt points where they might encounter a male partner for sexual activities and whether they had engaged in sexual activities with them at those locations. About 16.6% of LDTs were aware of such locations, but only 2.9% of them reported engaging in sexual activities with a male partner at these locations. Notably, in Delhi, Karnataka, Odisha, Tamil Nadu and Uttarakhand, a considerable proportion of LDTs were aware of such locations. However, only 2%–20% engaged with male partners at these locations (*see Table 8.8*).

8.5 Sexual Behaviour and Condom Use Practices with Female Partners

All LDTs were asked about their sexual behaviours with different types of female partners, including paid, casual and regular partners, at the locations where the interviews were conducted. Given that LDTs face a high risk of HIV due to multiple partners, understanding condom use patterns with these different partner types becomes crucial.

HSS Plus 2021 also included questions about LDTs' use of mobile phones and Internet to meet female partners at the place of interview. This inquiry aimed to shed light on emerging methods/means of connecting with sexual partners. However, due to the small sample size of LDTs reporting the use of mobile phones and Internet for meeting both female and male sexual partners, the survey does not present State/UT-wise results for these indicators.

At the national level, 43% of LDT respondents reported having sex with paid female partners. The majority reported that their last sex with paid female partners at the interview site was within the past three months across the States/UTs as well as at the national level, except in Madhya Pradesh where most respondents reported their last sex act with paid female partners more than a year ago.

At the national level, reported condom use with a paid female partner was 70.7%.

However, more than 90% of condom use was reported in the States of Andhra Pradesh, Assam, Jharkhand, Kerala, Maharashtra and Nagaland. In contrast, reported condom use during the last sex act with paid female partners was less than 50% in Tamil Nadu and Chhattisgarh (*see Table 8.9*).

Table 8.9 Sexual Behaviour with Paid Female Partners at the Place of Interview and Condom Use Practices among LDTs by State/UT, HSS Plus 2021

State/UT	N	Had Paid Female Partner (%)	Last Sex Act (%)#				Condom Use during Last Sex Act with a Paid Female Partner (%)
			Less Than a Month Ago	Between 1 Month and Less Than 3 Months Ago	Between 3 Months and Less than 1 Year Ago	1 Year or More Than 1 Year Ago	
Andhra Pradesh	500	53.2	30.0	17.4	1.4	0.0	95.5
Assam	472	43.6	2.8	8.5	26.9	5.5	94.6
Chhattisgarh	500	35.4	4.6	9.2	11.0	9.8	48.9
Delhi	250	61.2	28.4	21.2	10.8	0.4	80.0
Gujarat	1,000	47.1	15.8	23.0	6.2	1.9	52.7
Jharkhand	461	52.1	0.0	43.6	5.4	3.0	98.3
Karnataka	250	98.0	25.6	63.6	8.0	0.0	67.5
Kerala	250	11.6	0.0	0.8	6.4	4.0	92.3
Madhya Pradesh	255	21.6	2.7	2.7	5.5	10.6	67.3
Maharashtra	500	52.4	4.8	11.0	30.0	6.6	99.2
Nagaland	249	14.9	0.4	0.4	9.6	4.0	97.3
Odisha	250	38.4	10.4	12.4	6.4	8.0	72.2
Punjab	257	25.3	10.5	12.8	1.9	0.0	86.2
Rajasthan	249	12.4	0.0	2.0	7.2	3.2	67.7
Tamil Nadu	500	68.6	19.8	31.2	9.2	1.8	36.2
Telangana	500	37.8	16.0	18.2	3.4	0.0	51.6
Uttar Pradesh	1,000	32.3	14.5	9.1	4.5	3.7	73.6
Uttarakhand	238	35.7	9.7	7.1	12.2	6.7	62.4
West Bengal	747	46.7	8.7	15.4	16.1	6.4	66.8
India	**8,428**	**43.0**	**11.6**	**16.8**	**9.8**	**3.9**	**70.7**

#Total may not add up to 100% due to missing/no response.

Table 8.10: Sexual Behaviour with Casual and Regular Female Partners and Condom Use Practices among LDTs by State/UT, HSS Plus 2021

State/UT	N	Had Casual Female Partner (%)	Time of Last Sex Act (%)#				Condom Use in Last Sex Act (%)	Had Regular Female Partner (%)	Time of Last Sex Act (%)#				Condom Use during Last Sex Act (%)
			Less Than a Month	Between 1 Month and Less Than 3 Months Ago	Between 3 Months and Less Than 1 Year Ago	1 Year or More Than 1 Year Ago			Less Than a Month Ago	Between 1 Month and Less Than 3 Months Ago	Between 3 Months and Less Than 1 Year Ago	1 Year or More Than 1 Year Ago	
Andhra Pradesh	500	0.2	0.0	0.0	0.2	0.0	100.0	1.8	1.0	0.8	0.0	0.0	100.0
Assam	472	2.1	1.1	0.2	0.6	0.2	60.0	54.2	17.6	18.6	15.9	1.3	36.8
Chhattisgarh	500	21.8	0.4	4.6	8.4	8.4	15.6	17.8	2.0	7.0	5.2	3.6	20.2
Delhi	250	34.8	9.6	8.0	11.6	5.6	78.2	44.4	17.6	10.0	6.8	10.0	35.1
Gujarat	1,000	6.8	0.4	4.1	1.5	0.7	95.5	38.9	13.3	21.0	3.8	0.6	50.0
Jharkhand	461	4.6	0.0	0.7	2.4	1.5	71.4	77.9	2.2	65.1	8.9	1.5	98.1
Karnataka	250	10.0	5.2	3.2	1.6	0.0	16.0	12.8	8.8	2.8	0.8	0.0	6.5
Kerala	250	3.6	0.4	0.0	1.2	2.0	66.7	90.4	72.4	4.4	9.6	2.8	15.4
Madhya Pradesh	255	3.9	1.2	0.0	0.0	0.4	30.0	83.1	64.3	9.8	3.9	5.1	17.0
Maharashtra	500	2.0	1.2	0.4	24.6	0.4	90.0	24.6	13.8	6.6	2.0	1.6	31.7
Nagaland	249	9.2	0.0	2.0	5.2	2.0	73.9	14.1	0.4	3.6	9.2	0.8	80.0
Odisha	250	16.0	3.6	2.8	5.6	4.0	20.0	10.0	4.0	4.8	0.8	0.0	4.3
Punjab	257	6.2	1.6	3.5	0.8	0.4	68.8	7.8	5.1	1.6	1.2	0.0	40.0
Rajasthan	249	0.8	0.0	0.0	0.0	0.8	0.0	6.8	0.0	3.2	2.8	0.8	70.6
Tamil Nadu	500	10.6	3.0	6.8	0.4	0.0	9.8	25.6	5.8	17.6	0.8	0.6	4.9
Telangana	500	1.8	0.6	0.6	0.2	0.0	14.3	44.2	22.0	21.8	0.4	0.0	4.1
Uttar Pradesh	1,000	12.9	9.0	3.3	0.0	0.6	31.0	20.8	15.8	2.8	1.7	0.5	17.4
Uttarakhand	238	29.0	14.3	4.2	6.7	3.8	60.9	42.4	18.1	10.1	10.5	3.8	57.4
West Bengal	747	28.2	5.0	7.9	5.6	9.8	23.2	55.7	35.2	14.2	5.0	1.3	7.2
India	**8,428**	**10.7**	**3.0**	**3.1**	**2.3**	**2.3**	**40.9**	**35.3**	**16.0**	**13.4**	**4.3**	**1.4**	**33.9**

#Total may not add up to 100% due to missing/no responses

All LDTs who reported having sex with paid female partners were asked about the locations where they usually meet with paid female sexual partners. At the national level, around 36.7% of LDTs reported having met with paid sexual partners on highways during the trip, while 25.7% and 23.4% reported meeting their paid female sexual partners at source location and destination location of their trips, respectively.

All LDTs were asked whether they had engaged in sexual activities with casual or regular sexual partners at the place of interview. At the national level, 10.7% of LDT respondents reported having a casual female partner, and 35.3% had a regular female partner at the place of interview. Notably, more than one-fourth of LDTs in Delhi, Uttarakhand and West Bengal reported having a casual partner. Additionally, more than three-fourths of LDTs in Jharkhand, Kerala and Madhya Pradesh and more than 40.0% in Assam, Delhi, Telangana, Uttarakhand and West Bengal had regular sexual partners at the place of interview (*see Table 8.10*).

The reported condom use during the last sex act with a regular partner was 33.9%. In contrast, it was 40.9% with casual partners. The overall condom use with any type of partner was significantly lower in Chhattisgarh, Karnataka, Odisha, Tamil Nadu, Telangana and West Bengal (*see Table 8.10*).

All LDTs were asked about the use of cell phones and/or Internet to seek female sexual partners at the location where the interview was conducted. About 5.2% of LDTs reported using the Internet to connect with their female sexual partners; WhatsApp (2.7%) and Facebook (2.8%) were the primary Internet applications used for solicitation.

8.6 Sexual Behaviour and Condom Use Practices with Male Partners

All LDTs were asked whether they ever engaged in sexual activities with male partners. At the national level, 3.7% of LDTs reported having male sexual partners. A significant proportion of LDTs in Tamil Nadu (20%), Punjab (11.7%) and Karnataka (10.8%) reported ever having engaged in sexual activities with male partners.

About 1% of LDTs reported having engaged in sexual activities with a male partner within the last three months. Nationally, the reported condom use during the last sex act with a male partner was 57.5%. However, only 6.4% of LDTs in Tamil Nadu and one-fourth in West Bengal and Odisha reported using condoms (*see Table 8.11*).

All LDTs were asked whether cell phones and/or Internet were used to seek male sexual partners. A negligible proportion of LDTs at the State/UT and national levels reported using cell phones and/or Internet to seek male sexual partners.

Table 8.11 Sexual Behaviour with Male Partners and Condom Use Practices among LDTs by State/UT, HSS Plus 2021

State/UT	N	Ever Had Male Sexual Partner (%)	Last Sex Act, Less Than 3 Months Ago (%)	Type Of Sex Act (%)			Condom Use During Last Sex Act (%)
				Received Money or Payment in Kind	Paid Money or Payment in Kind	Both (Received as well as Paid)	
Andhra Pradesh	500	3.4	1.4	0.0	1.6	1.0	93.8
Assam	472	4.4	3.0	0.4	1.5	1.9	100.0
Chhattisgarh	500	1.8	0.2	0.4	0.8	0.0	88.9
Delhi	250	1.2	0.8	0.8	0.4	0.0	66.7
Gujarat	1,000	4.0	1.2	0.4	1.0	0.4	97.4
Jharkhand	461	2.0	0.2	0.9	0.2	0.2	100.0
Karnataka	250	10.8	6.0	0.8	6.8	2.8	77.8
Kerala	250	0.0	0.0	0.0	0.0	0.0	0.0
Madhya Pradesh	255	2.4	0.4	0.0	0.0	0.0	33.3
Maharashtra	500	0.2	0.0	0.0	0.0	0.0	100.0
Nagaland	249	0.0	0.0	0.0	0.0	0.0	0.0
Odisha	250	1.6	0.8	0.0	1.6	0.0	25.0
Punjab	257	11.7	0.8	1.9	1.2	8.6	96.7
Rajasthan	249	0.4	0.0	0.0	0.0	0.0	0.0
Tamil Nadu	500	20.0	1.6	1.0	16.4	1.2	6.4
Telangana	500	1.8	0.6	0.2	0.6	0.2	80.0
Uttar Pradesh	1,000	1.3	0.3	0.1	0.3	0.4	61.5
Uttarakhand	238	3.4	2.9	0.4	0.0	0.0	75.0
West Bengal	747	2.1	0.8	1.1	0.0	0.1	25.0
India	**8,428**	**3.7**	**1.0**	**0.5**	**1.7**	**0.7**	**57.5**

#Total may not add up to 100% due to missing/no response

8.7 Levels of HIV

In the HSS Plus 2021 round, nationally, the observed HIV prevalence was 1.00% (95% CI: 0.78–1.21), vis-à-vis. 0.86% (95% CI: 0.64–1.07) noted in the 2017 round. Figure 8.4 and Table 8.12 depict the sero-prevalence of HIV at the State/UT level. In terms of co-infections, the sero-prevalence of HIV-HBV among LDTs was 0.05% (95% CI: 0.00–0.09), while the sero-prevalence of HIV-HCV was 0.10% (95% CI: 0.03–0.16). The sero-prevalence for HBV and HCV among the HIV-positive respondents was 4.76% (95% CI: 0.21–9.32) and 9.52% (95% CI: 3.25–15.80), respectively.

HIV prevalence of 2% or more was noted in States of Punjab (2.33%, 95% CI: 0.49–4.18), Assam (2.12%, 95% CI: 0.82–3.42), Uttarakhand (2.10%, 95% CI: 0.28–3.92), West Bengal (2.01%, 95% CI: 1.00–3.01), Chhattisgarh (2.00%, 95% CI: 0.77–3.23), and Odisha (2.00%, 95% CI: 0.26–3.74).

Figure 8.4: State/UT-wise HIV Prevalence among LDTs, HSS Plus 2021 (in %)

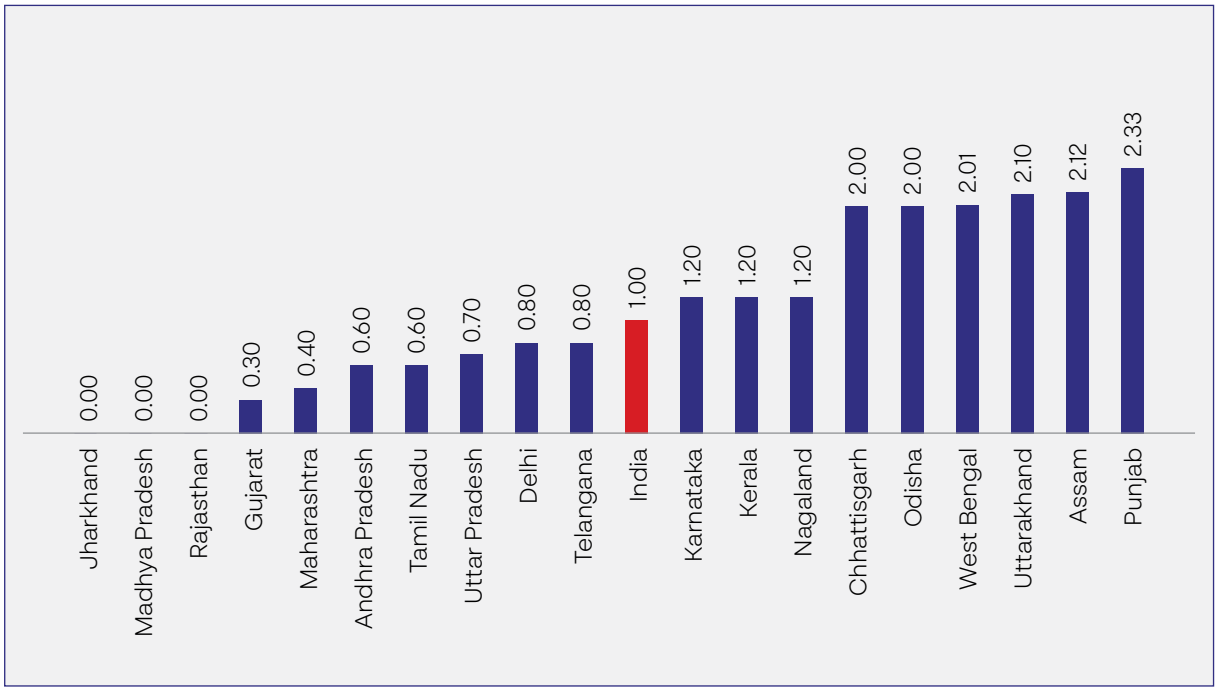


Table 8.12: State/UT-wise Sero-prevalence of HIV among LDTs, HSS Plus 2021 (in %)

State/UT	HIV	
	N	Sero-prevalence
Andhra Pradesh	500	0.60 (0.00–1.28)
Assam	472	2.12 (0.82–3.42)
Chhattisgarh	500	2.00 (0.77–3.23)
Delhi	250	0.80 (0.00–1.90)
Gujarat	1,000	0.30 (0.00–0.64)
Jharkhand	461	0.00 (0.00–0.00)
Karnataka	250	1.20 (0.00–2.55)
Kerala	250	1.20 (0.00–2.55)
Madhya Pradesh	255	0.00 (0.00–0.00)
Maharashtra	500	0.40 (0.00–0.95)
Nagaland	249	1.20 (0.00–2.56)
Odisha	250	2.00 (0.26–3.74)
Punjab	257	2.33 (0.49–4.18)
Rajasthan	249	0.00 (0.00–0.00)
Tamil Nadu	500	0.60 (0.00–1.28)
Telangana	500	0.80 (0.02–1.58)
Uttar Pradesh	1,000	0.70 (0.18–1.22)
Uttarakhand	238	2.10 (0.28–3.92)
West Bengal	747	2.01 (1.00–3.01)
India	**8,428**	**1.00 (0.78–1.21)**

8.8 HIV Prevalence by Respondents' Characteristics

Table 8.13 presents the HIV prevalence among LDTs categorized by background characteristics at the national level in HSS Plus 2021. In general, HIV prevalence among LDTs has been observed to increase with age. The highest prevalence was noted among those who were 45 years or older (1.68%), while the lowest was among those aged between 18 and 24 years (0.41%) (*see Figure 8.5*). Unlike HRGs, prevalence was higher among those who were currently married (1.02%) or never married (0.95%) (*see Figure 6.10*). HIV prevalence decreased with increasing levels of education, except among those who were post-graduates. However, owing to the small number of respondents who reported having completed post-graduation, this finding should be interpreted with caution. HIV prevalence among those who were illiterate was at 1.30% (*see Figure 6.11*).

Figure 8.5: HIV Prevalence among LDTs by Age Group, HSS Plus 2021 (in %)

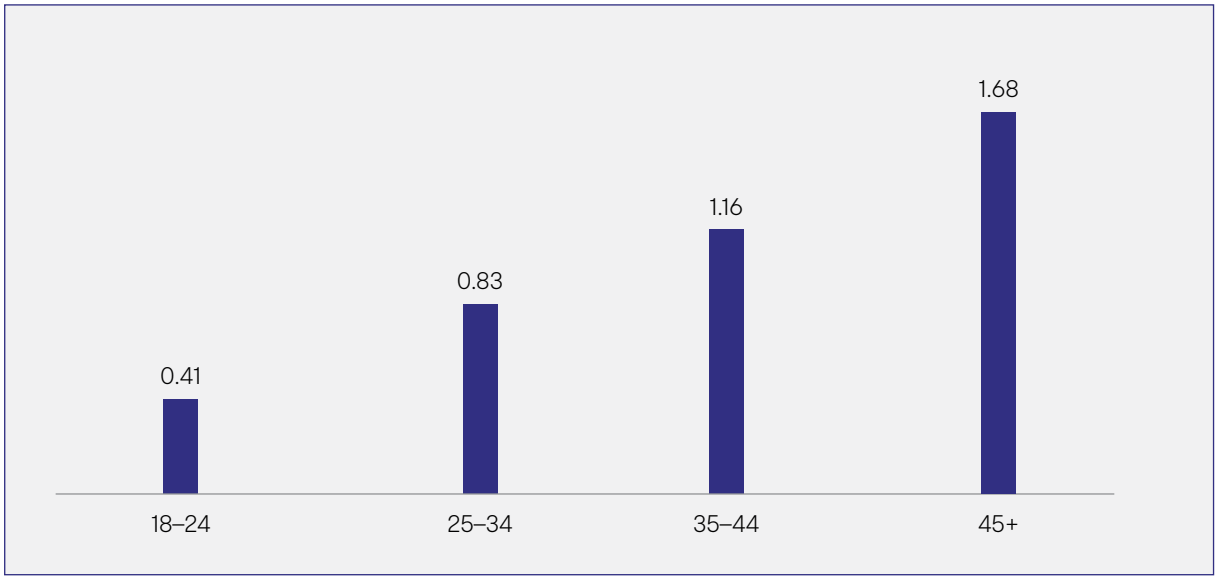


Figure 8.6: HIV Prevalence among LDTs by Marital Status, HSS Plus 2021 (in %)

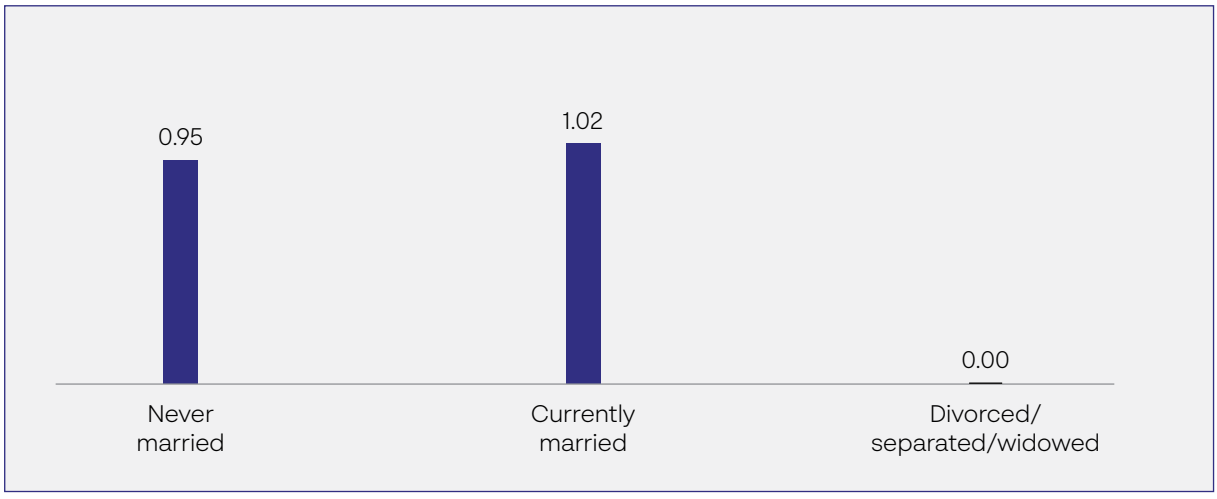


Figure 8.7: HIV Prevalence by Education, H/TG HSS Plus 2021 (in %)

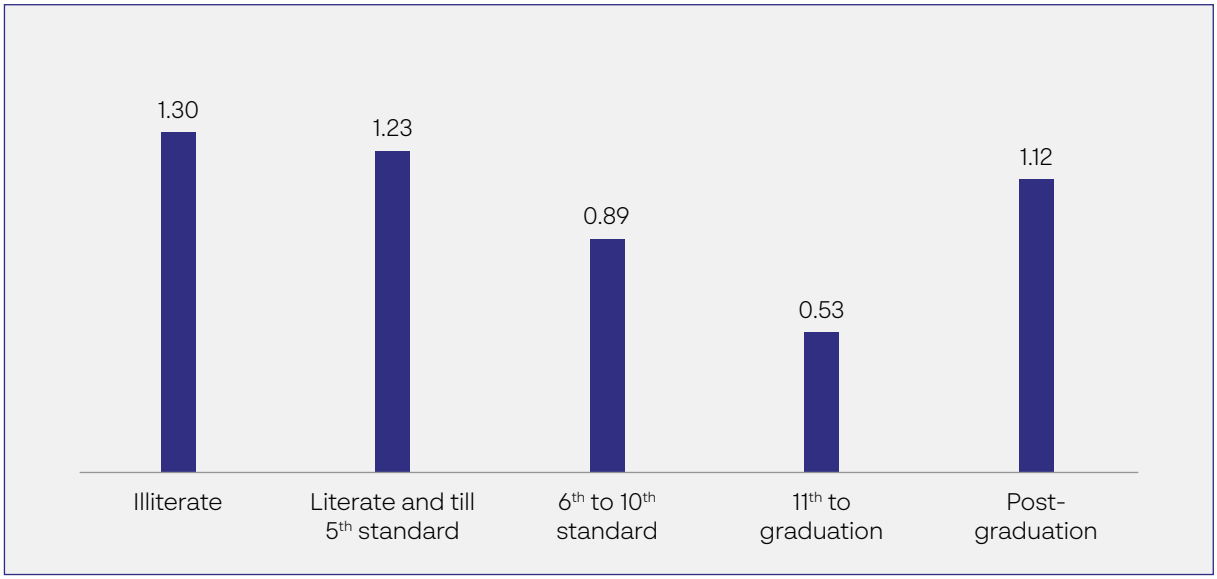


Table 8.13: HIV Prevalence among LDTs by Background Characteristics, HSS Plus 2021

Background Characteristics	Disaggregation	Distribution		HIV-positive
		Frequency*	Percent	Percent
Age	18–24 years	1,450	17.2	0.41
	25–34 years	2,996	35.5	0.83
	35–44 years	2,675	31.7	1.16
	45+ years	1,307	15.5	1.68
Marital status	Never married	2,002	23.8	0.95
	Currently married	6,270	74.4	1.02
	Divorced/separated/widowed	38	0.5	0.00
Education	Illiterate	539	6.4	1.30
	Literate and till 5th standard	2,365	28.1	1.23
	6th to 10th standard	4,386	52.0	0.89
	11th to graduation	946	11.2	0.53
	Post-graduation	89	1.1	1.12

*Total may not add up to 8,428 because of missing/not applicable response

09

Discussion

Over the past three decades, the HIV Surveillance system in India has undergone significant expansion and evolution, playing a pivotal role in strategic planning and informed decision-making for the national HIV prevention programme. The system's growth has been characterized by the expansion of sentinel sites across the country, covering all population groups. This extensive network has consistently provided trend data and supported epidemiological investigations, fostering an evidence-based approach to responses.

A noteworthy milestone was achieved during the 17th round of HSS Plus in 2021, where additional biomarkers for Hepatitis B and Hepatitis C were integrated. While the scaling-up of sites occurred across all population groups, there was a notable expansion specifically for bridge population groups. The implementation of HSS Plus in 2021 covered 65 sites, marking a considerable increase from the 55 sites covered in the 2017 HSS. This expansion has provided the programme with a more robust sample size for data interpretation.

In 2021, the 17th round of HSS Plus was implemented at 243 FSW sites, 100 MSM sites, 110 IDU sites, 20 H/TG people sites, 31 SMM sites and 34 LDT sites across 32 States/UTs in India. The data from this round highlighted that the HIV epidemic in India remains concentrated among HRGs, with higher prevalence among IDUs (9.03%, 95% CI: 8.69–9.37), H/TG (3.78%, 95% CI: 3.24–4.33), and MSM (3.26%, 95% CI: 3.03–3.48) population groups at the national level. Although the prevalence among FSWs (1.85%, 95% CI: 1.75–1.96) has remained stable, the high-level epidemic among IDUs remains a major concern. The prevalence of HIV infection among LDTs (1.00%, 95% CI: 0.78–1.21) and SMMs (0.89%, 95% CI: 0.69–1.10) is almost four to five times higher than that in the general population in 2021.

Among the HRGs, States such as Mizoram, Punjab, Maharashtra, Meghalaya, West Bengal, Chhattisgarh, Odisha, Assam and Rajasthan exhibit HIV prevalence rates higher than the national estimates across all typologies. Similarly, in the bridge population, higher HIV prevalence is noted in States like Punjab, Assam, West Bengal, Odisha and Chhattisgarh. In addition to the above States, higher HIV prevalence among H/TG and SMMs was also observed in Andhra Pradesh. Similarly, HIV prevalence among IDUs and LDTs in Uttarakhand was relatively higher than the national estimates.

Higher HIV prevalence among IDUs has been noted in almost all the past HSS rounds. The prevalence of HIV among IDUs in the current round not only remains high but exhibits an increasing trend compared to the 2017 round, particularly in the north-eastern and northern parts of the country. Mizoram recorded the highest HIV prevalence at 32.08% (95% CI: 29.88–34.28; 7 sites), followed by 19.57% in Punjab (95% CI: 18.22–20.93; 13 sites), 18.41% in Maharashtra (95% CI: 13.05–23.77; 1 site), 18.00% in Tripura (95% CI: 13.24–22.76; 1 site), 15.87% in Delhi (95% CI: 13.25–18.48; 3 sites), 11.48% in Meghalaya (95% CI: 8.43–14.54; 2 sites), and 11.24% in Assam (95% CI: 8.69–13.80; 2 sites). In 2017, the observed prevalence among IDUs was 19.81% in Mizoram, 12.09% in Punjab, 8.55% in Tripura and 1.62% in Meghalaya. It is important to further understand the factors sustaining the epidemic in these States to strengthen the AIDS response.

Evidence from HSS indicates a growing trend of using mobile phones and the Internet for soliciting clients/partners, highlighting the need for tailored virtual interventions, especially among MSM and H/TG communities. A majority of the H/TG people and over half of the MSM population reported using mobile phones for solicitation or client communication. Additionally, Internet usage for solicitation was observed, with popular apps such as WhatsApp, Facebook and Grinder. This transition from physical to virtual platforms is well documented in NACO's white paper, and the findings from HSS Plus 2021 corroborate the need for specific interventions under NACP.

Over half of the SMM and LDT respondents acknowledged engaging in sexual activities with paid female partners at the interview locations. More than four-fifth of the SMM respondents from Assam, Delhi, Gujarat, Himachal Pradesh, Rajasthan and West Bengal reported having paid female sexual partners. The reported condom use with paid partners was 53.6% for SMMs and 71% for LDTs. Notably, a significant proportion of the recruited SMMs (67.8%) and LDTs (74.4%) reported being currently married, thereby increasing HIV exposure risk to their spouses and other sexual partners.

HSS Plus has been instrumental in identifying hidden transmission patterns and areas requiring renewed focus. These epidemiological findings should guide tailored responses at national, State and district levels. A crucial strategy involves combining treatment with strengthened prevention programmes among high-risk populations and their clients, including migrants and truck drivers exhibiting high-risk behaviours. The HSS Plus 2021 report provides comprehensive data on HIV prevalence among HRG and bridge population groups. Notably, for the first time, it includes information on HIV-HBV and HIV-HCV co-infections among these groups.

India remains committed to achieving the "End of AIDS" as a public health threat by 2030. Despite past successes, challenges persist due to the diverse nature of the HIV epidemic and its complex drivers across different States. The data from HIV Plus 2021 will contribute to more informed and holistic care approaches, aligning with the objectives of the NACP Phase V. Further in-depth analysis of this data is expected to enhance the understanding of the HIV epidemic and related co-morbidities, driving shared actions for comprehensive care and prevention.

ANNEXURES

Annexure 1A: State/UT-wise Sero-prevalence of HIV among FSWs, HSS 2003–2021 (in %)

State/UT	2003	2004	2005	2006	2007	2008–09	2010–11	2017	2021
A&N Islands	–	0.50	0.40	–	–	–	–	–	–
Andhra Pradesh	20.00	16.97	12.97	7.32	9.74	11.14	6.86	0.68	1.78
Arunachal Pradesh	–	–	–	0.00	–	0.00	0.28	0.27	0.27
Assam	0.00	0.00	0.76	0.46	0.44	0.80	0.46	0.21	1.65
Bihar	4.80	0.20	2.24	1.68	3.40	2.98	2.30	0.40	0.62
Chandigarh	0.60	0.80	0.67	0.67	0.40	0.82	0.00	0.00	0.80
Chhattisgarh	–	–	–	1.57	1.43	–	2.73	0.42	1.92
DD & DNH	–	–	–	–	–	–	–	–	–
Delhi	1.61	4.60	3.15	2.80	3.15	2.17	0.70	1.60	0.81
Goa	30.15	–	–	–	–	6.40	2.70	0.80	0.60
Gujarat	–	9.20	8.13	6.40	6.53	3.74	1.62	0.97	1.34
Haryana	–	–	2.00	1.19	0.91	1.55	0.48	3.00	1.33
Himachal Pradesh	0.00	0.80	0.00	0.66	0.87	0.55	0.53	0.08	0.55
J&K and Ladakh	–	–	–	0.00	–	0.00	0.00	0.00	0.40
Jharkhand	–	0.00	0.80	0.88	1.09	0.94	0.82	0.28	0.55
Karnataka	14.40	21.60	18.39	8.64	5.30	14.40	5.10	3.33	3.01
Kerala	1.94	–	–	0.32	0.87	1.46	0.73	0.10	0.44
Madhya Pradesh	–	–	1.82	1.07	0.67	–	0.93	0.64	0.75
Maharashtra	54.29	41.69	23.62	19.57	17.91	10.77	6.89	3.48	2.54
Manipur	12.80	12.40	10.00	11.60	13.07	10.87	2.80	1.40	1.13
Meghalaya	–	–	–	–	–	–	–	5.94	10.92
Mizoram	–	13.69	14.00	10.40	7.20	9.20	–	24.68	56.15
Nagaland	4.40	4.44	10.80	16.40	8.91	14.06	3.21	3.60	2.00
Odisha	–	5.18	2.60	1.00	0.80	2.40	2.07	0.51	0.65
Puducherry	–	1.94	0.28	1.44	1.30	–	1.21	0.27	0.50
Punjab	0.00	–	–	1.36	0.65	0.97	0.85	2.00	3.38
Rajasthan	3.92	2.31	3.72	2.55	4.16	3.58	1.28	1.40	2.75
Sikkim	–	–	–	–	0.00	0.44	0.00	0.46	0.00
Tamil Nadu	8.80	4.00	5.49	4.62	4.68	6.22	2.69	1.47	1.52
Telangana	–	–	–	–	–	–	–	3.54	1.81
Tripura	–	–	–	–	–	–	0.21	1.20	2.90
Uttar Pradesh	6.60	8.00	3.50	1.52	0.78	1.03	0.62	0.22	1.04
Uttarakhand	–	–	–	–	–	–	0.44	0.00	0.42
West Bengal	6.47	4.11	6.80	6.12	5.92	4.12	2.04	1.25	1.27
India	**10.33**	**9.43**	**8.44**	**4.90**	**5.06**	**4.94**	**2.67**	**1.56**	**1.85**

*Please note: During HSS Plus 2021, in Mizoram, less than 75% of the sample size was achieved, so findings should be interpreted with caution.

Annexure 1B: State/UT-wise Sero-prevalence of HIV among MSM, HSS, 2003–2021 (in %)

State	2003	2004	2005	2006	2007	2008–09	2010–11	2017	2021
A&N Islands	1.25	–	–	–	–	–	–	–	–
Andhra Pradesh	13.20	16.00	6.45	10.25	17.04	23.60	10.14	1.60	2.06
Arunachal Pradesh	–	–	–	–	–	–	–	–	–
Assam	–	–	–	0.78	2.78	0.41	1.40	2.40	3.61
Bihar	1.60	1.60	0.40	0.30	0.00	1.64	4.20	3.63	0.41
Chandigarh	–	1.36	1.60	4.80	3.60	2.79	0.40	2.40	1.61
Chhattisgarh	–	–	–	–	–	–	14.98	2.47	4.01
DD & DNH	–	–	–	–	–	–	–	–	–
Delhi	27.42	6.67	20.40	12.27	11.73	7.87	5.34	1.80	2.59
Goa	9.09	1.68	4.90	4.80	7.93	6.40	4.53	0.60	2.40
Gujarat	–	6.80	10.67	11.20	8.40	5.48	3.00	3.99	4.61
Haryana	–	–	–	0.00	5.39	3.20	3.05	2.79	6.89
Himachal Pradesh	–	–	–	0.44	0.00	0.40	1.23	0.82	1.56
J&K and Ladakh	–	–	–	–	–	–	–	–	–
Jharkhand	–	–	–	–	–	2.00	0.40	0.86	6.68
Karnataka	10.80	10.00	11.61	19.20	17.60	12.52	5.36	5.40	2.81
Kerala	–	0.89	3.20	0.64	0.96	0.75	0.36	0.23	0.35
Madhya Pradesh	–	–	–	–	–	–	7.94	4.40	1.84
Maharashtra	18.80	11.20	10.40	15.60	11.80	11.90	9.91	4.69	4.18
Manipur	29.20	14.00	15.60	10.40	16.40	17.21	10.53	8.40	9.43
Meghalaya	–	–	–	–	–	–	–	–	9.09
Mizoram	–	–	–	–	–	–	–	–	12.80
Nagaland	–	–	–	–	–	–	13.58	7.66	3.06
Odisha	–	–	–	–	7.37	4.19	3.79	0.80	1.20
Puducherry	–	5.22	5.60	2.47	2.00	–	1.21	0.20	0.00
Punjab	–	–	–	4.80	1.22	3.00	2.18	4.67	11.62
Rajasthan	–	–	–	0.00	–	–	–	4.80	6.40
Sikkim	–	–	–	–	–	–	–	–	–
Tamil Nadu	4.20	6.80	6.20	5.60	6.60	5.24	2.41	1.02	2.07
Telangana	–	–	–	–	–	–	–	3.10	2.67
Tripura	–	–	–	–	–	–	–	–	–
Uttar Pradesh	–	–	–	–	0.40	4.07	1.56	1.14	1.10
Uttarakhand	–	–	–	–	–	–	–	2.85	2.68
West Bengal	–	1.33	0.54	6.60	5.61	4.90	5.09	2.34	4.36
India	**8.47**	**7.47**	**8.74**	**6.41**	**7.41**	**7.30**	**4.43**	**2.69**	**3.26**

*Please note: During HSS Plus 2021, in Meghalaya, less than 75% of the sample size was achieved, so findings should be interpreted with caution.

Annexure 1C: State/UT-wise Sero-prevalence of HIV among IDUs, HSS 2003–2021 (in %)

State	2003	2004	2005	2006	2007	2008–09	2010–11	2017	2021
A&N Islands	–	–	–	–	–	–	–	–	–
Andhra Pradesh	–	–	–	–	3.71	6.90	3.05	0.00	1.32
Arunachal Pradesh	–	–	–	0.00	0.00	0.23	0.24	0.00	1.60
Assam	5.56	4.48	7.86	2.86	2.14	3.64	1.46	0.69	11.24
Bihar	–	–	–	0.20	0.60	5.47	4.54	0.70	2.86
Chandigarh	–	4.80	9.20	17.60	8.64	13.60	7.20	3.60	2.80
Chhattisgarh	–	–	–	–	–	–	0.42	10.77	7.20
DD & DNH	–	–	–	–	–	–	–	–	–
Daman & Diu	–	–	–	–	–	–	–	–	–
Delhi	14.40	17.60	22.80	10.00	10.10	18.60	18.27	16.21	15.87
Goa	–	–	–	–	–	–	–	–	0.00
Gujarat	–	–	–	–	–	–	1.60	1.20	2.00
Haryana	–	–	–	0.00	0.80	2.00	0.80	–	9.24
Himachal Pradesh	–	–	–	–	–	0.65	4.89	1.60	4.40
J&K and Ladakh	0.00	0.00	0.00	2.50	–	0.00	0.00	0.00	0.50
Jharkhand	–	–	–	0.40	–	1.65	2.02	0.42	–
Karnataka	2.80	0.00	–	3.60	2.00	2.00	0.00	0.40	0.00
Kerala	–	2.58	5.19	9.57	7.85	3.04	4.95	0.41	0.40
Madhya Pradesh	–	–	–	–	–	–	5.13	5.33	2.96
Maharashtra	22.89	29.20	12.80	20.40	24.40	20.00	14.17	–	18.41
Manipur	24.47	21.00	24.10	19.80	17.90	28.65	12.89	7.66	8.84
Meghalaya	0.00	0.00	0.00	3.33	4.17	–	6.44	1.62	11.48
Mizoram	6.40	6.80	4.80	3.05	7.53	5.28	12.01	19.81	32.08
Nagaland	8.43	3.22	4.51	2.39	1.91	3.17	2.21	1.15	2.53
Odisha	–	–	–	10.40	7.33	7.20	7.16	3.40	1.90
Puducherry	–	–	–	–	–	–	–	–	–
Punjab	–	–	–	13.80	13.79	26.36	21.10	12.09	19.57
Rajasthan	–	–	–	–	–	–	–	–	–
Sikkim	–	–	0.48	0.20	0.47	1.45	0.00	0.00	0.20
Tamil Nadu	63.81	39.92	18.00	24.20	16.80	9.48	–	–	–
Telangana	–	–	–	–	–	–	–	0.80	0.40
Tripura	–	–	10.92	0.00	0.00	0.42	0.45	8.55	18.00
Uttar Pradesh	–	–	–	4.63	1.29	2.46	2.03	4.53	5.45
Uttarakhand	–	–	–	–	–	–	4.33	8.98	9.77
West Bengal	2.61	3.83	7.41	4.64	7.76	6.90	2.72	10.76	7.40
India	**13.15**	**11.16**	**10.16**	**6.92**	**7.23**	**9.19**	**7.14**	**6.26**	**9.03**

*Please note: During HSS Plus 2021, in Karnataka, less than 75% of the sample size was achieved, so findings should be interpreted with caution.

Annexure 1D: State/UT-wise Sero-prevalence of HIV among Hijra/Transgender (TG) persons, HSS 2003–2021 (in %)

State	Hijra/TG					
	2006	2007	2009	2011	2017	2021
A&N Islands	–	–	–	–	–	–
Andhra Pradesh	–	–	–	–	4.24	4.61
Arunachal Pradesh	–	–	–	–	–	–
Assam	–	–	–	–	–	–
Bihar	–	–	–	–	–	–
Chandigarh	–	–	–	–	–	–
Chhattisgarh	–	–	–	–	–	6.00
DD & DNH	–	–	–	–	–	–
Delhi	–	–	–	–	5.53	3.60
Goa	–	–	–	–	–	–
Gujarat	–	–	–	–	2.40	3.60
Haryana	–	–	–	–	–	–
Himachal Pradesh	–	–	–	–	–	–
J&K and Ladakh	–	–	–	–	–	–
Jharkhand	–	–	–	–	–	–
Karnataka	–	–	–	–	2.60	3.20
Kerala	–	–	–	–	0.16	0.56
Madhya Pradesh	–	–	–	–	–	–
Maharashtra	29.60	42.21	16.40	18.80	5.20	6.00
Manipur	–	–	–	–	–	–
Meghalaya	–	–	–	–	–	–
Mizoram	–	–	–	–	–	–
Nagaland	–	–	–	–	–	–
Odisha	–	–	–	–	1.79	1.49
Puducherry	–	–	–	–	–	–
Punjab	–	–	–	–	–	–
Rajasthan	–	–	–	–	2.80	3.60
Sikkim	–	–	–	–	–	–
Tamil Nadu	–	–	–	3.82	0.40	4.80
Telangana					6.47	4.00
Tripura	–	–	–	–	–	–
Uttar Pradesh	–	–	–	–	–	3.60
Uttarakhand	–	–	–	–	–	–
West Bengal	–	–	–	–	7.28	9.15
India	**29.60**	**42.21**	**16.40**	**8.82**	**3.14**	**3.78**

Annexure 1E: State/UT-wise Sero-prevalence of HIV among Single Male Migrants (SMMs), HSS 2003–2021 (in %)

State	SMM						
	2005	2006	2007	2009	2011	2017	2021
A&N Islands	–	–	–	–	–	–	–
Andhra Pradesh	–	–	–	–	–	0.40	0.93
Arunachal Pradesh	–	–	–	–	–	–	–
Assam	–	–	–	–	–	0.00	3.21
Bihar	–	–	–	–	–	–	–
Chandigarh	–	–	–	–	–	–	0.40
Chhattisgarh	–	–	–	–	–	0.00	1.20
DD & DNH	–	–	–	–	–	–	–
Delhi	–	–	–	–	–	0.77	0.75
Goa	–	–	–	–	–	–	–
Gujarat	–	–	–	1.80	0.67	0.13	0.13
Haryana	–	–	–	–	1.33	–	–
Himachal Pradesh	–	–	0.00	0.00	0.00	0.00	0.00
J&K and Ladakh	–	–	–	–	–	–	–
Jharkhand	–	–	–	–	–	–	–
Karnataka	–	–	–	–	0.00	0.60	0.20
Kerala	–	–	–	–	0.00	0.00	0.00
Madhya Pradesh	–	–	–	–	–	0.40	0.78
Maharashtra	–	2.40	1.60	3.00	1.07	0.53	0.13
Manipur	–	–	–	–	–	–	–
Meghalaya	–	–	–	–	–	–	–
Mizoram	–	–	–	0.80	1.22	–	4.80
Nagaland	–	–	–	–	–	–	–
Odisha	–	1.44	–	3.60	3.20	1.60	1.60
Puducherry	–	–	–	–	–	–	0.00
Punjab	–	–	–	–	1.20	0.40	3.01
Rajasthan	–	–	–	–	–	0.80	0.39
Sikkim	–	–	–	–	–	–	–
Tamil Nadu	–	–	–	–	0.80	0.20	0.00
Telangana						2.37	0.80
Tripura	–	–	–	–	–	–	–
Uttar Pradesh	–	–	–	–	–	1.00	0.67
Uttarakhand	–	–	–	–	–	–	–
West Bengal	–	–	9.27	2.42	1.61	0.80	3.20
India	**0.00**	**1.60**	**3.61**	**2.17**	**0.99**	**0.51**	**0.89**

Annexure 1F: State/UT-wise Sero-prevalence of HIV among Long Distance Truckers (LDTs), HSS 2003–2021 (in %)

State	LDT					
	2006	2007	2009	2011	2017	2021
A&N Islands	–	–	–	–	–	–
Andhra Pradesh	–	–	–	3.20	0.40	0.60
Arunachal Pradesh	–	–	–	–	–	–
Assam	–	–	–	–	2.80	2.12
Bihar	–	–	–	–	–	–
Chandigarh	–	–	–	–	–	–
Chhattisgarh	–	–	–	–	0.41	2.00
DD & DNH	–	–	–	–	–	–
Delhi	–	–	–	–	0.00	0.80
Goa	–	–	–	–	–	–
Gujarat	–	–	–	3.09	0.60	0.30
Haryana	–	–	–	–	–	–
Himachal Pradesh	–	0.40	–	–	–	–
J&K and Ladakh	–	–	–	–	–	–
Jharkhand	–	–	–	1.20	1.86	0.00
Karnataka	–	–	–	3.20	2.00	1.20
Kerala	2.40	3.60	0.80	0.00	0.00	1.20
Madhya Pradesh	–	–	–	2.47	0.00	0.00
Maharashtra	–	–	–	1.61	1.40	0.40
Manipur	–	–	–	–	–	–
Meghalaya	–	–	–	–	–	–
Mizoram	–	–	–	–	–	–
Nagaland	–	–	–	–	1.21	1.20
Odisha	2.73	–	–	–	0.80	2.00
Puducherry	–	–	–	–	–	–
Punjab	1.07	–	–	–	0.40	2.33
Rajasthan	–	–	–	–	0.40	0.00
Sikkim	–	–	–	–	–	–
Tamil Nadu	–	–	–	2.01	1.00	0.60
Telangana	–	–	–	–	0.80	0.80
Tripura	–	–	–	–	–	–
Uttar Pradesh	–	–	–	–	0.40	0.70
Uttarakhand	–	–	–	–	–	2.10
West Bengal	2.72	2.72	1.75	3.71	1.20	2.01
India	**2.37**	**2.87**	**1.57**	**2.59**	**0.86**	**1.00**

Annexure 2: Composition of NACO's Sub-group (HIV Burden Estimation)

T/11020/1/2021/Surveillance & Epidemiology
Government of India
Ministry of Health and Family Welfare
National AIDS Control Organization

6th & 9th Floor, Chanderlok Building,
36, Janpath, New Delhi, 110001
Dated 15.12.2021

OFFICE ORDER

Subject: Sub-Group (HIV Burden Estimation) of NACO's Technical Working Group (Surveillance & Epidemiology) under National AIDS Control Programme

1. NACO's Surveillance & Epidemiology (S&E) functions have evolved significantly into an ambitious framework for Integrated and Enhanced Surveillance & Epidemiology (IESE) of HIV, STIs and related co-morbidities under the National AIDS Control Programme to anchor the national AIDS response towards the attainment of 2030 SDG 3.3 of ending AIDS as a public health threat. The IESE framework is guided through a robust institutional mechanism under the guidance of NACO's Technical Resource Group (TRG) and Technical Working Group (TWG) (Surveillance and Epidemiology).
2. Consequent to framing up of IESE framework, it has been decided to constitute Sub-Group (HIV Burden Estimation) of NACO's Technical Working Group (Surveillance & Epidemiology) under National AIDS Control Programme. The composition and ToR of the Sub-Group on HIV Burden Estimation are as below:

Particulars	Details
Chair	Dr Arvind Pandey, National Chair (Medical Statistics), ICMR and Former Director, ICMR-NIMS, New Delhi
Co-Chairs	1. Director, ICMR-NIMS, New Delhi 2. HoD, Strategic Information (S&E), NACO
Member Secretary	Senior-most consultant NACO's Strategic Information (S&E) division
Ex-officio institutional member	1. All focal persons of National and Regional institutes (Surveillance & Epidemiology) under NACP 2. All DDs/ADGs, NACO
Technical Experts	1. Dr Shashi Kant, Professor and Head, Centre for Community Medicine, AIIMS, New Delhi 2. Dr S K Singh, Professor, Department of Mathematical Demography & Statistics, IIPS, Mumbai 3. Dr D K Shukla, Former Director I/C, National Institute of Medical Statistics, New Delhi 4. Dr Bilali Camara, Medical Epidemiologist 5. Mr Taoufik Bakkali, HIV Disease Burden Expert
Special Invitees	1. Subject Experts/ UNAIDS/WHO/ Community Experts/ State AIDS Control Societies/Other Partner Agencies (As per the approval of the Chair): Up to 6 per meeting
ToR	1. The Sub-Group of TWG will meet at least once a year. 2. The Sub-Group will a. Review and recommend the method, results, and policy implications

Particulars	Details
	of the HIV burden estimation activities under NACO's IESE framework, b. Any other work on HIV burden estimations as per the approval of competent authority. 3. The quorum for the meeting of the Sub-Group shall be complete when a. The meeting is presided by either the Chair or one of the Co-Chairs as per approval of the Chair, and b. The meeting is attended by at-least one third of its total nominated member (Ex-officio institutional member/ Technical Experts). 4. The expenditure for the functioning of the Sub-Group will be regulated in accordance with the instructions issued from time to time. The coordination of the functioning will be done by the senior most consultant (S&E) in NACO. 5. The recommendations of the sub-group will be presented/circulated to the NACO's TWG Surveillance and Epidemiology for their review and recommendation for the next steps. 6. NACO will duly acknowledge the Sub-Group of TWG in all publications (operational manuals, technical/policy briefs, reports, scientific papers) emanating from the activities carried out under the guidance of the Sub-Group concerned. 7. The members/special invitees may acquire knowledge and information during Sub-Group meetings which is not available within the public domain otherwise. All such knowledge and information which may be acquired being member of Sub-Group shall be regarded as strictly confidential and shall not be directly and indirectly disclosed to any person until and unless the knowledge appears in the public domain through NACO's authorized publications/dissemination/releases. 8. The Sub-Group of TWG will be re-constituted periodically as per the approval of the competent authority.

This issues with the approval of the Additional Secretary & Director General (NACO), Government of India

Chinmoyee Das 13/3/2024

(Dr Chinmoyee Das)
Assistant Director General-Strategic Information

To
1. Dr Arvind Pandey, National Chair (Medical Statistics), ICMR
2. Dr M. Vishnu Vardhana Rao, ICMR-NIMS
3. All members of HIV Burden Estimation Sub-Group as per list enclosed
4. Dr Pradeep Kumar, PO (Surveillance & Epidemiology), NACO

Copy To
1. Sr. PPS to Addl. Secretary & DG (NACO)
2. PPS to Director (NACO)
3. Dr Sanjay Mehendale, Chair, NACO's TRG (S&E) under National AIDS Control Programme
4. Dr DCS Reddy, Chair, NACO's Technical Working Group (S&E) under National AIDS Control Programme
5. Dr Shobini Rajan, Co-Chair, NACO's TWG (S&E) under National AIDS Control Programme
6. All HoDs & DDs, NACO

Annexure 3: Composition of NACO's Technical Working Group (Surveillance & Epidemiology)

File Number: T-11020/01/2021-NACO (Surveillance & Epidemiology)
National AIDS Control Organization
Ministry of Health & Family Welfare
Govt of India

6th and 9th Floor, Chanderlok Building,
36, Janpath, New Delhi, 110001
Dated 26th July 2021

OFFICE ORDER

Subject: Technical Working Group (TWG) on Surveillance & Epidemiology (S&E) under NACP

***

I. NACO's S&E functions have evolved significantly into an ambitious framework for integrated and enhanced Surveillance & Epidemiology of HIV, STIs and related co-morbidities under the National AIDS Control Programme to anchor the national AIDS response towards the attainment of 2030 SDG 3.3 of ending AIDS as a public health threat.

II. Consequent to the evolution of NACO's S&E functions necessitating the need to include new experts, it has been decided to reconstitute the TWG. The composition and ToR of the reconstituted TWG are as below:

Particulars	Details
Chair	Dr DCS Reddy (Former HoD, Department of Community Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh)
Co-Chair	Dr Shobini Rajan, CMO-SAG, NACO, GoI
Member Secretary	Senior-most consultant in SI (Surveillance and Epidemiology) division: Ex-officio member secretary
Ex-officio institutional member	1. Director, ICMR-NIMS New Delhi & All focal persons of national and regional institutes of Surveillance & Epidemiology 2. Nominee of Director (NCDC) engaged with viral hepatitis surveillance 3. Micro-biology lab in-charge, Apex Regional STI Centre, VMMC & Safdarjung Hospital, New Delhi/representatives 4. HoD, Dept of Community Medicine, Zoram Medical College, Govt of Mizoram/representatives 5. All Deputy Directors, NACO

Experts	1. Prof. Arvind Pandey, National Chair (Medical Statistics), ICMR and Former Director: ICMR - National Institute of Medical Statistics, New Delhi 2. Dr Shashi Kant, Professor and Head, Centre for Community Medicine, AIIMS, New Delhi 3. Dr S K Singh, Professor, Department of Mathematical Demography & Statistics, IIPS, Mumbai 4. Dr Aarti Tewari, Microbiologist, NCDC, New Delhi 5. Dr JVDS Prasad, Prof. of STD/DVL, Osmania Medical College, Hyderabad 6. Dr Venkateshan Chakrapani, Community Expert 7. Ms Shruta Rawat, Community Expert 8. Dr Brogen Singh Akoijam, Professor, Community Medicine RIMS-Imphal & Expert (Epidemiology) 9. Dr Vezokholu Theyo, Public Health Specialist, Nagaland
Special Invitees	Technical Experts/ UN/bilateral organizations/ Community Experts/ State AIDS Control Societies/Others: As per the approval of the Chair and Co-Chair (Up to 6 per meeting)

Terms of Reference (ToR)

1. Review and recommend the detailed design, operational manuals, tools, results, and policy implications of the activities of integrated and enhanced Surveillance and Epidemiology of HIV, STIs and related co-morbidities under the National AIDS Control Programme in view of the evolving programme needs and the global recommendations. This will include, but not limited to, following areas:
    a. The existing activities of various bio-behavioural surveillance survey, epidemiological investigations into the level, trend and drivers of the HIV/AIDS epidemic and related risk behaviours, in-depth analysis of epidemiological data, HRG size estimations, epidemic profile, district prioritization/categorization etc,
    b. HIV, STI and related Co-morbidities burden estimations (2020 and onward rounds)
    c. Newer activities of programme data-based surveillance & epidemiology, surveillance blood specimen repository, national/state/district level HIV burden estimations (programme-data based or any other suitable modelling techniques), stigma surveillance, mortality surveillance, incidence, and viral load surveillance etc.
2. Any other areas pertaining to the Surveillance & Epidemiology under NACP
3. Periodic review and recommendation on the action plans of national and regional institutes under SI-Surveillance & Epidemiology division of NACO including the project team structures, TA/DA norms, training norms, financial norms etc.
4. The working group will meet at least once in six months. The expenditure for the functioning of this Technical Working Group will be regulated in accordance with the instructions issued from time to time.
5. The recommendations of this working group will be presented/circulated to the TRG (Surveillance and Epidemiology) for their ratification/approval.

6. NACO will duly acknowledge the Technical Working Group in all publications (operational manuals, technical/policy briefs, reports, scientific papers) emanating from the activities carried out under the guidance of the TRG.

7. The members/special invitees may acquire knowledge and information during TWG meeting which is not available within the public domain otherwise. All such knowledge and information which may be acquired being TWG members shall be regarded as strictly confidential and shall not be directly and indirectly disclosed to any person until and unless the knowledge appears in the public domain through NACO's authorized publications/dissemination/releases.

III. The TWG will be reconstituted periodically as per the approval of the competent authority.

This issue with the approval of Additional Secretary & Director General (NACO), Government of India.

Chinmoyee Das
26/7/2021

(Dr Chinmoyee Das)
DD-SI Division

To

1. Dr DCS Reddy (Former HoD, Department of Community Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh)
2. All members of TWG (Surveillance & Epidemiology) mentioned above

Copy to

1. Sr. PPS to Additional Secretary & Director General, NACO
2. PS to Director (NK), NACO
3. All HoDs, NACO

Annexure 4: Composition of NACO's Technical Resource Group (Surveillance & Epidemiology)

T-11020/02/2015-NACO (Surveillance)/Part-2
National AIDS Control Organization
Ministry of Health & Family Welfare
Govt of India

6th and 9th Floor, Chanderlok Building,
36, Janpath, New Delhi, 110001
Dated 4th April 2022

OFFICE ORDER

Subject: Technical Resource Group (TRG) on Surveillance & Epidemiology (S&E) under NACP

***

1. NACO's S&E functions have evolved significantly into an ambitious framework for integrated and enhanced Surveillance & Epidemiology of HIV, STIs and related co-morbidities under the National AIDS Control Programme to anchor the national AIDS response towards the attainment of 2030 SDG 3.3 of ending AIDS as a public health threat.
2. Consequent to the evolution of NACO's S&E functions, changes in positions and non-availability of some members and the need to include members from other related institutions, it has been decided to reconstitute the TRG. The composition and ToR of the reconstituted TRG is as below:

Particulars	Details
Chair	Additional Secretary and Director General, NACO
Co-Chair	Dr Sanjay Mehendale (Former Additional Director General, ICMR and Director, Research, PD Hinduja Hospital and Medical Research Centre, Mumbai, India)
Member Secretary	HoD-Surveillance & Epidemiology (SI)
Ex-officio institutional member	1. Joint Secretary (JS), NACO as Ex-officio institutional member. In case the position of JS (NACO) is vacant, then officer at the level of Director/Deputy Secretary as nominated by AS&DG (NACO) till the position of JS (NACO) is filled up. 2. Nominee of DGHS I. From Directorate II. From Hospital (Central Government) 3. Nominee of Director, NCDC engaged with viral hepatitis 4. Country Director, WHO India/Representatives 5. Dr Peter Ghys, Director, Strategic Information and Evaluation, UNAIDS, Geneva/ Representatives 6. Country Director, UNAIDS India /Representatives 7. Head-Division of Epidemiology & Communicable Diseases, ICMR/Representatives 8. Focal Person, Apex Regional STI Centre, VMMC & Safdarjung Hospital, New Delhi 9. Focal Person, National Institutes (S&E, NACO) (AIIMS-New Delhi and ICMR-NIMS-New Delhi) 10. Focal Person-Apex Lab (Surveillance & Epidemiology), ICMR-NARI-Pune 11. Director, IIPS, Mumbai/Representatives 12. Programme Director, CoE, Maulana Azad Medical College, New Delhi 13. Programme Director, pCoE, Kalawati Saran Children's Hospital & Lady Hardinge Medical College, Delhi 14. All Heads of NACO's Programme divisions

Technical Experts	1. Dr DCS Reddy, Former HoD, Dept of Community Medicine, Banaras Hindu University, Lucknow and Ex-NPO, WHO 2. Prof. Arvind Pandey, National Chair (Medical Statistics), ICMR and Former Director: ICMR - National Institute of Medical Statistics, New Delhi 3. Dr Shashi Kant, Professor and Head, Centre for Community Medicine, AIIMS, New Delhi 4. Dr Rajesh Kumar, Ex-Head, School of Public Health, PGIMER, Chandigarh 5. Dr Raman Gangakhedkar, Former Head-Division of Epidemiology & Communicable Diseases, ICMR 6. Dr Bilali Camara, Senior Medical Epidemiologist 7. Dr Sanjay Dixit, Dept of Community Medicine, MGM Medical College, Indore 8. Dr D K Shukla, Former Director I/C, National Institute of Medical Statistics, New Delhi 9. Dr Sheela V Godbole, Scientist F and HoD-Epidemiology, ICMR-NARI-Pune 10. Dr PVM Lakshmi, Community Medicine and School of Public Health, PGIMER-Chandigarh 11. Mr Taoufik Bakkali, Former SI Advisor, UNAIDS India 12. Dr John Stover, Vice President, Avenir Health, and member, UNAIDS HIV Estimation Reference group 13. Mr Ashok R Kavi, Community expert 14. Mx Abhina Aher, Community expert 15. Shri Manoj Pardesi, Community expert 16. Dr Seema Sood, Professor, Dept. of Microbiology, AIIMS-New Delhi 17. Dr R S Gupta, Public Health expert & Former DDG, NACO 18. Dr Kuldeep Singh Sachdeva, HIV-TB expert & Former DDG, NACO 19. Dr Nandini K. Kumar, Bioethics expert
Special Invitees	Technical Experts/ UN/bilateral organizations/ Community Experts/ State AIDS Control Societies/Others (As per the approval of the Member Secretary): Up to 6 per meeting

Terms of Reference

1. The TRG will meet at least once a year.
2. The quorum for the meeting of the TRG shall be complete when
   a. The meeting is presided by either the Chair or the Co-Chair, and
   b. The meeting is attended by at-least one third of its total nominated member
3. The TRG will
   a. Provide strategic guidance to the integrated and enhanced Surveillance and Epidemiology of HIV, STIs and related co-morbidities under National AIDS Control Programme, and
   b. Review and recommend the design and results of the activities of Surveillance and Epidemiology (including estimations) as recommended by Technical Working Group-Surveillance & Epidemiology through presentation/circulation.
   c. Any other work as per the guidance of competent authority.
4. The expenditure for the functioning of the TRG will be regulated in accordance with the instructions issued from time to time. The coordination of the functioning will be done by the senior most consultant (S&E) in NACO.
5. NACO will duly acknowledge the Technical Resource Group in all publications (operational manuals, technical/policy briefs, reports, scientific papers) emanating from the activities carried out under the guidance of the TRG.

6. The members/special invitees may acquire knowledge and information during TRG meetings which is not available within the public domain otherwise. All such knowledge and information which may be acquired being TRG members shall be regarded as strictly confidential and shall not be directly and indirectly disclosed to any person until and unless the knowledge appears in the public domain through NACO's authorized publications/dissemination/releases.

3. The TRG will be reconstituted periodically as per the approval of the competent authority.

This issues with the approval of Addl. Secretary & DG, NACO, Government of India.

Chinmoyee Das 04/4/22
(Dr Chinmoyee Das)
HoD-Strategic Information

To

1. Dr Sanjay Mehendale (Former Additional Director General, ICMR and Director, Research, PD Hinduja Hospital and Medical Research Centre, Mumbai, India
2. All members of TRG (Surveillance & Epidemiology)

Copy to

1. Sr. PPS to Additional secretary & Director General, NACO
2. PPS to Director (NK), NACO
3. All HoDs, NACO

Annexure 5: List of Laboratories

Sl. No.	Designated DBS Testing Lab	State/UT
1	All India Institute of Medical Sciences (AIIMS), New Delhi	Jharkhand
2	Maulana Azad Medical College (MAMC), New Delhi	Uttaranchal
		Bihar
		Madhya Pradesh
3	National Institute of Communicable Diseases (NICD), New Delhi	J&K and Ladakh
		Delhi
4	Lady Hardinge Medical College (LHMC), New Delhi	Uttar Pradesh
5	Post-Graduate Institute of Medical Education and Research (PGIMER), Chandigarh	Himachal Pradesh
		Punjab
		Chandigarh
		Haryana
6	National Institute of Mental Health and Neuro-Sciences (NIMHANS), Bangalore, Karnataka	Karnataka
7	School of Tropical Medicine (STM), Kolkata, West Bengal	West Bengal
		Sikkim
8	Institute of Preventive Medicine (IPM), Hyderabad, Andhra Pradesh	Odisha
9	Gandhi Medical College, Hyderabad, Telangana	Andhra Pradesh
		Telangana
10	National Institute of Cholera and Enteric Diseases (NICED), Kolkata, West Bengal	Chhattisgarh
		Meghalaya
		Mizoram
		Tripura
11	Regional Institute of Medical Sciences (RIMS), Imphal, Manipur	Arunachal Pradesh
		Assam
		Manipur
12	Christian Medical College (CMC), Vellore, Tamil Nadu	Kerala
		Puducherry
13	Tamil Nadu Dir. MGR Medical University (TNMGR), Chennai, Tamil Nadu	Tamil Nadu
14	Madras Medical College (MMC), Chennai, Tamil Nadu	Tamil Nadu
15	Seth GS Medical College & King Edward Memorial Hospital (KEM), Mumbai	Maharashtra
16	Lokmanya Tilak Municipal General Hospital & Medical College (SION), Mumbai	Rajasthan
		Goa
17	Grant Medical College & Sir JJ Group of Hospitals (JJ), Mumbai	Gujarat
18	National AIDS Research Institute (NARI), Pune	Apex Laboratory

Report printing was supported by UNAIDS India using the Grant or Cooperative Agreement Number GH002328 funded by the Centers for Disease Control and Prevention.

National AIDS Control Organisation

सत्यमेव जयते
Ministry of
Health and Family Welfare

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ALL INDIA INSTITUTE OF MEDICAL SCIENCES
शरीरमाद्यं खलु धर्मसाधनम्