



National AIDS Control Organisation



सत्यमेव जयते  
Ministry of  
Health and Family Welfare



## Technical Report

# HIV Sentinel Surveillance Plus 2021 Antenatal Clinic Attendees

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#### **Suggested citation**

National AIDS Control Organisation. ANC HSS Plus 2021: Technical Report. New Delhi: NACO, Ministry of Health and Family Welfare, Government of India; 2022

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## Technical Report

# HIV Sentinel Surveillance Plus 2021 Antenatal Clinic Attendees

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

GoI/NACO/Surveillance Epidemiology/ANC HSS Plus 2021: Technical Report /29092022





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## Foreword

Robust surveillance is the foundation stone of a successful public health response. Recognising the role of Surveillance as fundamental to informed decision-making by providing scientific and actionable evidence, WHO and UNAIDS have focussed on HIV surveillance since the inception of the global AIDS response.

In India, HIV sero-surveillance was one of the key components of initial responses to the growing HIV pandemic. The search for HIV infection in India was initiated in 1985 with the launch of sero-surveillance. Since then, the HIV surveillance system under the National AIDS and STD Control Programme (NACP) has evolved into one of the world's largest, fully sustainable HIV surveillance systems. In 2021, HIV Sentinel Surveillance was implemented across eight population groups comprising pregnant women, inmates in central prisons, single male migrants, long-distance truckers, female sex workers, men who have sex with men, hijra/transgender people, and injecting drug users. Bio-behavioural data were collected from almost 5 lakh respondents and biospecimens were tested for biomarkers of HIV, Syphilis, Hepatitis B and Hepatitis C.

This report presents the findings of the 2021 round of surveillance among pregnant women. The surveillance was conducted at 856 sites spread across 659 districts in 35 States/Union Territories of India. The report provides evidence not only on the magnitude and direction of the HIV/AIDS epidemic, but also details the respondent's profile. The report also provides evidence of the HIV-Hepatitis B and HIV-Hepatitis C co-infection. This report has once again corroborated the continued low HIV prevalence among pregnant women at 0.22% with a declining trend nationally, but with a considerable degree of geographical heterogeneity. There is a declining trend in the erstwhile high-prevalence southern States while the epidemic status in the north-eastern region continues to be challenging.

With the launch of NACP Phase-V, the country continues its journey towards ending the HIV/AIDS epidemic as a public health threat by 2030. In this context, the publication of the report from the 2021 round is extremely timely. I am confident that the epidemiological evidence presented in this report will be used by all Stakeholders to further strengthen the national AIDS response at the most granular level.

(V. Hekali Zhimomi)

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## Preface

Biennial HIV Sentinal Surveillance (HSS) has been fundamental to monitoring the magnitude and direction of the HIV epidemic at the most granular level in the country since 1998. Fully funded by the Government of India, the 17<sup>th</sup> round of the HSS was implemented in 2021 among eight population groups and collected around 5 lakh bio-behavioural samples across the country.

The current technical report presents the findings from the HSS 2021 round among pregnant women in four chapters describing the context, methodology, findings and implications for the National AIDS and STD Control Programme (NACP). As per the report, the observed HIV prevalence among pregnant women was 0.22% (95% CI: 0.21-0.24) Nationally. HIV prevalence of 1% or more was noted at 44 sites spread across 41 districts of the country. The highest HIV prevalence was noted in the State of Nagaland, followed by Mizoram and Meghalaya. Pregnant women with spouses working as truck drivers/helpers also had a higher prevalence. HIV prevalence was also higher among pregnant women with migrant spouse vis-à-vis pregnant women with a non-migrant spouse.

For the first time, in 2021, biomarkers for Hepatitis B and Hepatitis C were integrated into HSS. Among the HIV-positive pregnant women, the sero-positivity for syphilis was 1.84% (95% CI: 0.81-2.88). The sero-prevalence for HBV and HCV among the HIV-positive respondents was 1.06% (95% CI:0.33-1.79) and 1.28% (95% CI:0.45-2.12) respectively.

The implementation of one of the world's largest surveillance systems is the result of a very robust institutional mechanism under NACP. The system currently engages nine government public health institutes (AIIMS-New Delhi, AIIMS-Bhubaneswar, VMMC and SH-New Delhi, ICMR-NIMS-New Delhi, ICMR-NARI-Pune, ICMR-NIE-Chennai, ICMR-NICED-Kolkata, PGIMER-Chandigarh and RIMS-Imphal) under the able guidance of Dr. Chinmoyee Das (HoD, SI-Surveillance & Epidemiology, National AIDS Control Organisation, MoHFW, GoI). Project Directors of the State AIDS Control Societies provide leadership to the implementation with the help of the HSS nodal person, State surveillance team members, laboratories network and site team adhering to the highest possible quality standards in a time-bound manner.

This technical report is extremely timely in providing the data for the first year of NACP Phase-V. I am confident that the epidemiological data provided here will be used by policymakers and programme managers to make informed decisions fast-tracking the national AIDS response towards the attainment of the 2030 end goal.

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## Message

HIV epidemic response in India is guided by data from several sources, among which HIV Sentinel Surveillance (HSS) is one of the most important sources. The HIV epidemic pattern is monitored through HSS among various population groups in the country. Over the past three decades, HSS in India has evolved significantly. The 17<sup>th</sup> round of HSS conducted from February to June 2021, was one of the most comprehensive and largest rounds in terms of sample collected and biomarkers tested. HSS was conducted among all eight typologies simultaneously in the 17<sup>th</sup> round, and was done at 1450 sites in 720 districts with collection of more than 5 lakh samples. This round also witnessed the addition of Hepatitis B and C as additional biomarkers along with the existing HIV and Syphilis testing with coordination with the National Viral Hepatitis Surveillance Programme.

The 17<sup>th</sup> round of HSS was conducted during the extraordinary situation due to the COVID-19 pandemic. Despite this it was implemented in a successful manner with the collective efforts from NACO, Ministry of Health and Family Welfare, National Institutes, Regional Institutes, State AIDS Control Societies, Sentinel sites and a network of HSS testing laboratories. I would like to acknowledge the contribution of the NACO team, which has been ably led by Dr. Chinmoyee Das and Dr. Pradeep Kumar, the ICMR NIMS team under the leadership of Dr. V.V. Rao and Dr. Damodar Sahu and guided by the technical expertise of Dr. D. C. S. Reddy, Dr. Arvind Pandey and Dr. Shashi Kant.

With each round our efforts are continuous for generating the quality surveillance data which is comparable with the previous rounds and is used by policy makers and programme managers. The interpretation of data from 17<sup>th</sup> round of HSS plus and its documentation in the form of technical brief will guide the programme in planning services and allocating resources. The findings from the data will be of utmost importance in achieving the future goals of programme.

I congratulate all the stakeholders for successful and timely publication of this technical report.

[Sanjay K. Rai]





## Message

This latest 17<sup>th</sup> round of HIV Sentinel Surveillance (HSS) among Ante-natal Clinic (ANC) attendees was concluded as part of periodic HIV Sentinel Surveillance activities to make the most up to date information available on the trend of the HIV epidemic and related morbidities among pregnant women using high standard scientific methods and processes.

The 2021 HSS was implemented in 856 sites spread across 659 districts in 35 States/Union Territories (UTs) of India – and collecting for the first time around 339 thousand samples which were tested for 4 major conditions: HIV, Syphilis, Hepatitis B and Hepatitis C. This is a very ambitious initiative to expand and put more diseases under surveillance systems and was achieved by leveraging the robust and evolving HSS network in place under NACP since 1998, It is certain that the measurement of the additional biomarkers (HBV and C) will increase the public health benefits for the people of India in terms of their prevention and control.

On behalf of UNAIDS, I commend this commitment of India, to have the latest and comprehensive data made available to inform programme planning. Let me also, congratulate the National AIDS Control Organisation (NACO) who lead and coordinate these efforts under the Ministry of Health and Family Welfare, working closely with the science-based national institutional network for surveillance activities including the All India Institute of Medical Sciences (AIIMS), PGIMER, ICMR-NARI, ICMR-NIE, ICMR-NICED, and RIMS. I also must commend the State AIDS Control Societies and their Surveillance Teams, and the impressive network of laboratories under NACP. Their endeavour to complete the 17<sup>th</sup> HSS round during the COVID-19 pandemic period and without compromising on quality is particularly appreciated.

The 2021 HSS report highlights the continual diversity in the epidemic and socio-demographic characteristics at the regional level, and among States / Union Territories (UT), and calls for the need for tailored responses to be formulated and implemented based on populations and local needs. Evidence is provided on the level and trend of HIV and Syphilis at national and State/UT level and the current level of HCV and HBV. I encourage all partners to use this publication and guide their support to the national response to HIV, Syphilis, HBV, and HCV.

UNAIDS is pleased to continue its support for the AIDS response efforts in India to strengthen critical evidence generating initiatives by NACO, with the Technical Working Group and Technical Resource Group on HIV Surveillance and Epidemiology, to comprehensively inform public health in general and the AIDS response specifically. We welcome the collaboration and support extended also by WHO, CDC, and our civil society partners as well for AIDS response.

David Bridger  
UNAIDS Country Director for India





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## Acknowledgement

The 17<sup>th</sup> round of HIV Sentinel Surveillance among Ante-Natal Clinic (ANC) attendees was implemented in 2021 by National AIDS Control Organization, Ministry of Health and Family Welfare, Government of India. Various stakeholders joined their hands together and played their role for completion of this activity. NACO acknowledges contributions made by various stakeholders towards timely and successful implementation.

The 17<sup>th</sup> round of HSS was a round of many firsts. For HSS among ANC attendees, testing of the biospecimen for the biomarkers of Hepatitis B Virus (HBV), and Hepatitis C Virus (HCV) was integrated. Besides, behavioural questions pertaining to the HBV and HCV were also added. The Technical Resource Group for 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 integration of Surveillance of Hepatitis B & Hepatitis C 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 in prison settings.

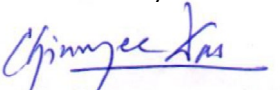
Technical Working Group (S&E), under the Chairpersonship of Dr. DCS Reddy (Former HoD, Department of Community Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh, India), and Co-Chairpersonship of Dr. Shobini Rajan (DDG, NACO) was instrumental in reviewing and recommending the method and findings of the 2021 round. Prof. Arvind Pandey (Former Director, NIMS-ICMR, New Delhi) and Dr. Shashi Kant (Professor and Head, Centre for Community Medicine, AIIMS, New Delhi) provided their continuous guidance and inputs 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 & release of this document is duly acknowledged. Programmatic context for the exercise was provided by Ms Nidhi Kesarwani (Director, NACO), Dr. Anoop Kumar Puri (DDG, NACO), Dr. Uday Bhanu Das (DDG, NACO), Dr. Shobini Rajan (DDG, NACO), Dr. Bhawani Singh (DD, NACO), Dr. Sai Prasad Bhavsar (DD, NACO), and Dr. Bhawna Rao (DD, NACO). We place on record our sincere thanks to experts and NACO's programme divisions for insights, guidance, and support towards successful implementation of the 17<sup>th</sup> round of HSS among ANC attendees.

Dr. Pradeep Kumar (NACO) anchored the implementation of the 17<sup>th</sup> round of HSS among ANC attendees and developed this technical report with support from Dr. Arvind Kumar (Former Associate Consultant, Surveillance & Epidemiology, NACO) and Dr. Subrata Biswas (ICMR-NICED, Kolkata). During the process, HIV Surveillance team at AIIMS, New Delhi (Dr. Sanjay Rai, Dr. Shreya Jha, Dr. Priyanka Kardam, ICMR-NICED Mr Nishakar Thakur), ICMR-NARI, Pune (Dr. Sheela Godbole, Dr. Garima Meena, Ms Jyoti Gaikwad, Ms Samiksha Wadekar, Mr Praphulla Lakare), ICMR-NIE, Chennai (Dr. A. Elangovan, Dr. Santhakumar Aridoss), ICMR-NICED, Kolkata (Dr. Shanta Dutta, Dr. Subrata Biswas), PGIMER, Chandigarh (Dr. P.V.M. Lakshmi, Dr. Chandrakanta) and RIMS, Imphal (Dr. H. Sanayaima Devi, Dr. Manihar Singh, Mr Rishikesh) shared field experiences, critically reviewed the documents and tools towards their finalization and led the field training and supervision. The M&E team at SACS under the leadership of their Project Directors coordinated with all stakeholders ensuring successful implementation. NACO acknowledges the contribution of each of the stakeholders towards successful implementation of the 17<sup>th</sup> round of HSS among ANC attendees and publication of this technical report.

The publication of the technical report was supported by Dr. Melissa Nyendak (CDC India) and Dr. David Bridger (UNAIDS India). Dr. Upma Sharma (CDC India) and Ms Nalini Chandra (UNAIDS India) coordinated printing of this report. We thank CDC India and 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 ANC HSS site personnel for timely completion of this activity while adhering to best possible quality standards. NACO sincerely thanks all the field personnel engaged in this activity for their contribution in implementing the 17<sup>th</sup> round of HSS among ANC attendees.

  
(Dr. Chinmoyee Das)



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# Abbreviations

<b>AIIMS</b>	All India Institute of Medical Sciences, New Delhi
<b>ANC</b>	Antenatal Clinic Attendees
<b>ANM</b>	Auxiliary Nurse Midwife
<b>DAPCU</b>	District AIDS Prevention and Control Units
<b>FSW</b>	Female Sex Workers
<b>Govt</b>	Government
<b>HBsAg</b>	Hepatitis B surface antigen
<b>HBV</b>	Hepatitis B Virus
<b>HCV</b>	Hepatitis C Virus
<b>HSS</b>	HIV Sentinel Surveillance
<b>H/TG people</b>	Hijra/Transgender people
<b>ICMR</b>	Indian Council of Medical Research
<b>IDU</b>	Injecting Drug Users
<b>ILC</b>	Inter-laboratory comparison
<b>MSM</b>	Men who have sex with Men
<b>NACO</b>	National AIDS Control Organisation
<b>NACP</b>	National AIDS and STD Control Programme
<b>NARI</b>	National AIDS Research Institute, Pune
<b>NICED</b>	National Institute of Cholera and Enteric Diseases, Kolkata
<b>NIE</b>	National Institute of Epidemiology, Chennai
<b>NIMS</b>	National Institute of Medical Statistics, New Delhi
<b>PGIMER</b>	Post Graduate Institute of Medical Education and Research, Chandigarh
<b>Pvt</b>	Private
<b>RIMS</b>	Regional Institute of Medical Sciences, Imphal
<b>RPR</b>	Rapid Plasma Reagin test
<b>S&amp;E</b>	Surveillance and Epidemiology

<b>SACS</b>	State AIDS Control Societies
<b>SIMS</b>	Strategic Information Management System
<b>SRL</b>	State Reference Laboratories
<b>TRG</b>	Technical Resource Group
<b>TWG</b>	Technical Working Group
<b>UNAIDS</b>	Joint United Nations Programme on HIV/AIDS
<b>UT</b>	Union Territory
<b>WHO</b>	World Health Organization



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# Executive Summary

HIV sero-surveillance, initiated in 1985, has evolved over the years as one of the most fundamental strategic information functions, facilitating evidence-based decision-making under the National AIDS and STD Control Programme (NACP) of the Government of India. In 2021, the 17<sup>th</sup> round of HIV Sentinel Surveillance (HSS) was implemented across the following eight population groups: pregnant women, single male migrants, long distance truckers, prisoners, female sex workers, men who have sex with men, hijra/transgender people and injecting drug users. Almost 5 lakh bio-behavioural samples were collected. For the first time, in the 17<sup>th</sup> round, biomarkers for Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV) were integrated in HSS.

Among pregnant women, HSS 2021 was implemented at 856 sites spread across 659 districts in 35 States/Union Territories (UTs) of India. Overall, around 3.39 lakh bio-behavioural samples were collected. Majority of the respondents, i.e., around 80%, were in age group of 20–29 years while around 7% were 15–19 years old. Most (around 90%) were literate with two-fifth (38%) of the respondents reportedly having more than 10 years of education. Almost two-third (65.6%) of the total respondents reported rural areas as their area of residence. Around 5% of total respondents reported their spouse/partner residing alone in another place/town for work for a period longer than six months in the past one year. The demographic and social profiles of the respondents differed significantly by States/UTs.

Nationally, among the pregnant women, the observed HIV prevalence was 0.22% (95% CI: 0.21–0.24). The prevalence was higher among the older respondents and among those who were either illiterate or were only primary literate. Pregnant women with spouses working as truck driver/helper also had higher prevalence. HIV prevalence was also higher among pregnant women with migrant spouse vis-à-vis pregnant women with non-migrant spouse.

HIV prevalence of 1% or more was noted at 44 sites spread across 41 districts of the country which is the lowest since 2003. Highest HIV prevalence was noted in the State of Nagaland [1.61%, (95% CI:1.25–1.98)] followed by Mizoram [1.13%, (95% CI:0.79–1.47)], Meghalaya [0.58%, (95% CI:0.36–0.8)], Delhi [0.41%, (95% CI:0.21–0.61)], Chandigarh [0.38%, (95% CI:0–0.8)], Tripura [0.38%, (95% CI:0.13–0.62)], Andhra Pradesh [0.37%, (95% CI:0.27–0.47)] and Manipur [0.33%, (95% CI:0.19–0.46)].

HIV prevalence continues to have a declining trend nationally. The HIV prevalence trend in the southern (Andhra Pradesh, Karnataka, Kerala, Puducherry, Tamil Nadu, Telangana) and western (Maharashtra, Dadra and Nagar Haveli and Daman and Diu, Goa, and Gujarat) regions is also declining – akin to the national trend. However, the HIV prevalence trend among pregnant women appears to be rising in the north-eastern (Arunachal Pradesh, Assam, Manipur, Nagaland, Mizoram, Meghalaya, Sikkim, Tripura) region.

As for the central (Chhattisgarh, Madhya Pradesh, Uttar Pradesh), eastern (Andaman & Nicobar Islands, Bihar, Jharkhand, Odisha, West Bengal) and northern region (Chandigarh, Delhi, Haryana, Himachal Pradesh, Jammu and Kashmir and Ladakh, Punjab, Rajasthan, Uttarakhand), HIV prevalence was at a much lower level than the national average in 2002–05. HIV prevalence in these regions have declined but appears to have a relatively lower decline than the southern and western region.

Among pregnant women, Syphilis sero-positivity was 0.10% (95% CI: 0.09–0.11). In terms of co-infections, the prevalence of HIV-Syphilis among pregnant women was 0.004% (95% CI:

0.002–0.006) while the sero-prevalence of HIV-HBV was 0.002%. (95% CI: 0.001–0.004). The sero-prevalence of HIV-HCV among pregnant women was 0.003% (95% CI:0.001–0.005).

Among the HIV-positive respondents, the sero-positivity for Syphilis was 1.84% (95% CI: 0.81–2.88). The sero-prevalence for HBV and HCV among the HIV-positive respondents was at 1.06% (95% CI:0.33–1.79) and 1.28 (95% CI:0.45–2.12) respectively.

HSS 2021 corroborates the HIV prevalence trend among pregnant women which continues to be low with a declining trend nationally. However, there is no place for complacency as 41 districts across country had at least one site with HIV prevalence of  $\geq 1\%$ . Select States in the north-eastern region had much higher HIV prevalence than the national average with a rising trend. States in the north-eastern States also had higher sero-positivity of Syphilis, HBV, and HCV.

HSS 2021 among pregnant women provides data on the level and trend of HIV among pregnant women as in previous rounds. For the first time, the report also provides data on the current level of sero-prevalence of HBV and HCV among the pregnant women. While the in-depth analysis of data will further enhance the insights into the epidemic of HIV, Syphilis, HBV and HCV, the current report provides critical evidence for shared actions aimed at providing holistic and comprehensive care as reflected under NACP Phase-V.



Chapter 1

# Introduction

## 1.1 Background

India's response to the HIV/AIDS pandemic started as early as in 1985 in the form of initiation of sero-surveillance. As sero-surveillance was expanded, HIV presence was detected in various parts of country. Given the context, the first phase of the National AIDS and STD Control Programme (NACP) was launched in 1992 to combat the spread of HIV infection, and decrease morbidity, mortality, and impact of HIV/AIDS in the country. Since then, the four phases of effective implementation of the programme have been completed in the country. Currently, the fifth phase of NACP is under implementation for a period of five years (from 1st April 2021 to 31st March 2026) with a total outlay of Rs. 15,471.94 crore.

HIV sero-surveillance, launched in 1985, gradually evolved into HIV Sentinel Surveillance (HSS) under NACP. HSS was first launched in 1994 and then formalized into the annual surveillance system in 1998. The system gradually evolved into one of the largest and most comprehensive HIV surveillance systems providing evidences on the level and trends of HIV, Syphilis and related behaviours informing the national programme for suitable actions. The specific objectives of the HSS are mentioned below:

1. To provide the latest information on the level and trend of the HIV epidemic among the surveillance population;
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; and
4. To contribute to estimation and projection of HIV epidemic at national, State and district level.

The 2021 round was a round of many firsts. The round concurrently covered eight population groups collecting bio-behavioural data from almost 5 lakh<sup>1</sup> respondents. In addition to HIV, the biological specimens were also tested for Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV). The behavioural data collection domains were expanded to include a section on awareness and service uptake pertaining to HBV and HCV. Considering the fact that the design and implementation of 2021 round coincided with COVID-19 pandemic, the successful completion of the round is noteworthy.

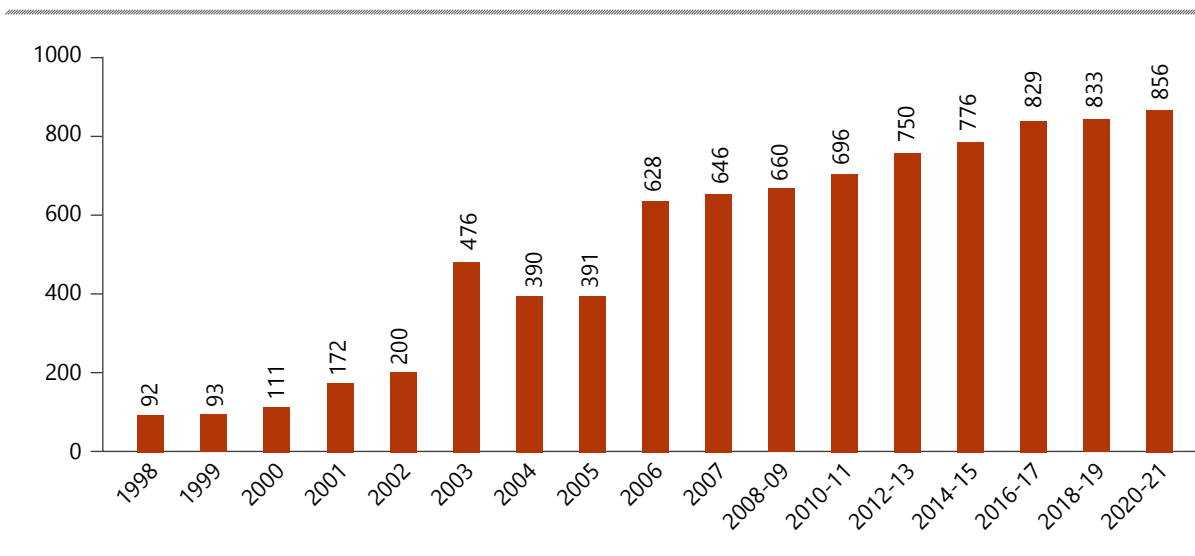
This report presents the findings from HSS 2021 round (17<sup>th</sup> round of HSS) among pregnant women. The round was implemented at 856 sites spread across 659 districts in 35 States/ Union Territories (UTs) of India<sup>2</sup>. The network of sites is the highest number ever, since the inception of HSS under NACP (Figure 1.1), enabling even greater geographic and population representation.

Uttar Pradesh had the highest number of ANC HSS sites (85) in 2021 followed by Tamil Nadu (82), Maharashtra (76), Karnataka (62) and Madhya Pradesh (51). Erstwhile high HIV prevalence States of Tamil Nadu, Karnataka, Andhra Pradesh, and Telangana accounted for almost 25% of the total sites in 2021 (Figure 1.2).

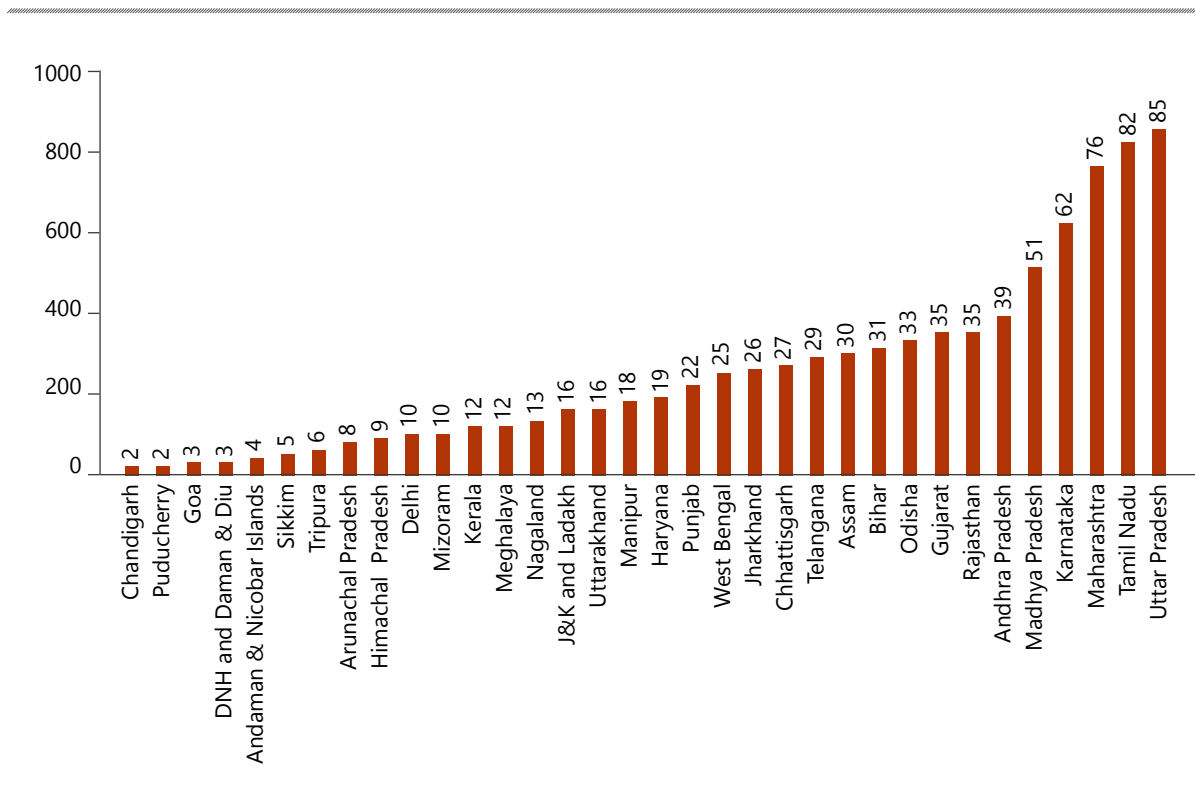
<sup>1</sup> 1 lakh= 100,000

<sup>2</sup> No surveillance sites in UT of Lakshadweep.

**Figure 1.1:** Expansion of ANC HSS sites in India, 1998–2021



**Figure 1.2:** State/UT-wise ANC HSS sites 2021<sup>3</sup>



<sup>3</sup> DNH and Daman & Diu refers to UT of Dadra and Nagar Haveli and Daman & Diu; J&K and Ladakh refers to UTs of Jammu & Kashmir and Ladakh.



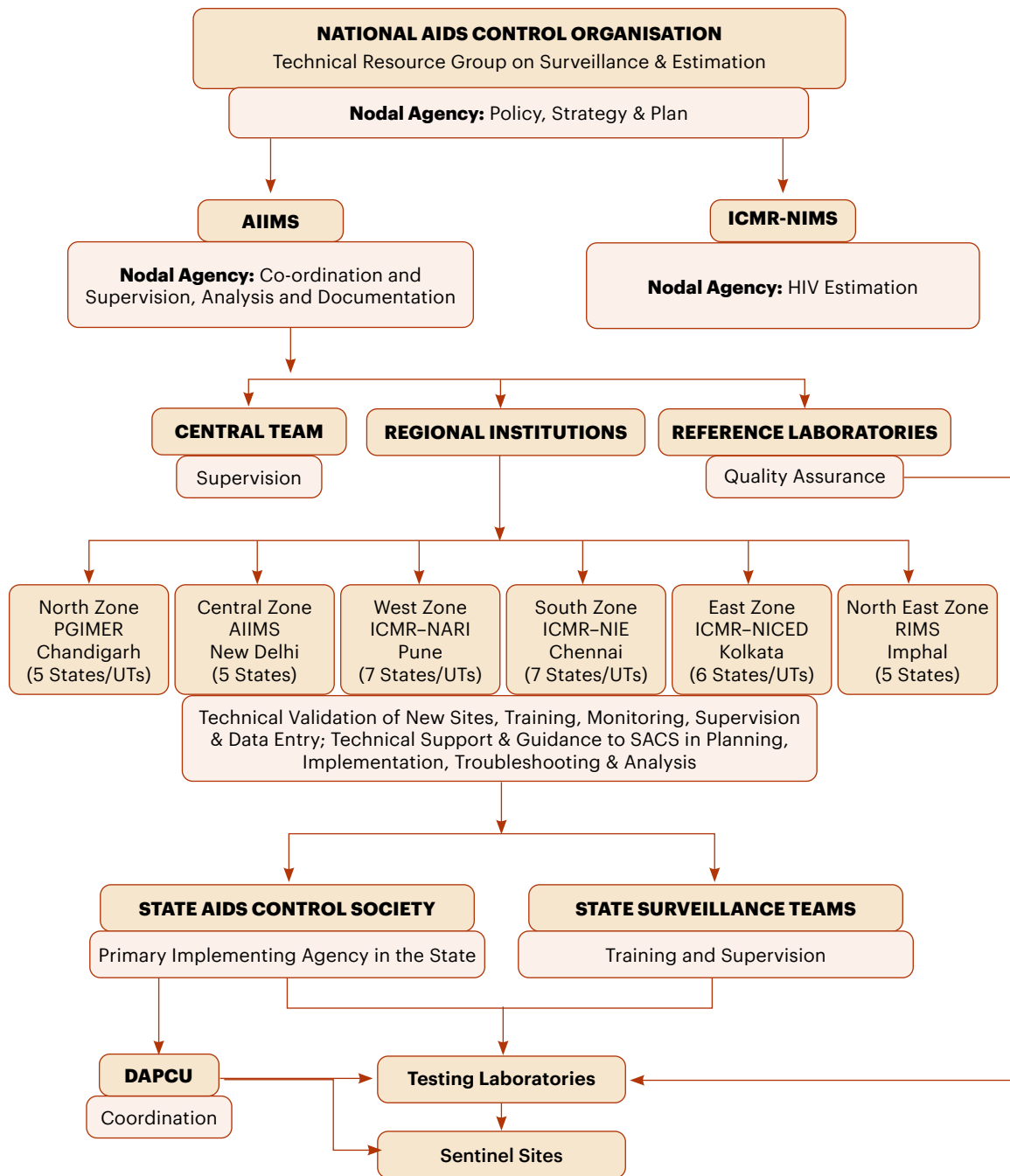
## 1.2 Implementation Structure

HIV Surveillance & Epidemiology (S&E) under NACP is designed, implemented, and monitored through robust institutional arrangements at national, regional, State and district-levels (Figure 1.3). 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 multidisciplinary independent and institutional experts, steer the S&E 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) lead HSS implementation by providing technical support to the implementation through training and supportive supervision. The institutes ensure high quality of implementation by providing reference materials by way of operational manuals, wall charts and data collection tools. The institutes also support the analysis and dissemination with HIV burden estimations report as one of the final outcomes under each cycle of HSS.

State AIDS Control Societies (SACS) in State/UTs are the primary agency responsible for the implementation of HSS activities. Under the leadership of SACS, District AIDS Prevention and Control Units (DAPCUs) coordinates the implementation of HSS activities. Laboratory support to surveillance is provided by a network of testing and reference laboratories. The reference laboratories provide external quality assurance by repeat testing of all positive blood specimens and 2–5% of the negative specimens collected during surveillance for a given biomarker.

**Figure 1.3:** HSS implementation framework under NACP





Chapter 2

# Methodology

The methodology for the 17<sup>th</sup> round of HSS among ANC clinic attendees remained the same as that of earlier rounds. However, there were certain additions like incorporation of Hepatitis in this round.

Therefore, a section on Hepatitis, having 13 questions in total, was added in the behavioural questionnaire. The biospecimen collected was tested for HBV and HCV as additional biomarkers. Key elements of the HSS methodology have been presented in the section below.

## 2.1 Case Definition

### Inclusion criteria:

- i. Pregnant woman of aged 15–49 years, and
- ii. Attending the antenatal clinic for the first time during the current round of surveillance.

### Exclusion criteria:

- i. Pregnant women not in age group of 15–49 years, or
- ii. Any pregnant woman attending the antenatal clinic for the second or more time during the current round of surveillance.

## 2.2 Sample Size and Sampling Duration

The sample size at each of the ANC HSS site was 400 to be achieved during the surveillance period of 3 months<sup>4</sup>. However, the data collection period was extended at some sites, on case-to-case basis, after reviewing the reasons for any delay and feasibility of achieving the desired sample size within a reasonable extended period.

## 2.3 Sampling Methodology

Following the method used in previous rounds, consecutive sampling was adopted for recruiting ANC clinic attendees for HSS. After start of the surveillance, all individuals attending the sentinel site facility (ANC clinic), who were eligible for inclusion in surveillance as per the defined criteria, were recruited in the order of attendance at the clinic.

## 2.4 Questionnaire

HSS 2021 among pregnant women collected data on sociodemographic characteristics, migration history and service uptake through a brief paper-based bilingual questionnaire (Annexure 1). The questionnaire had a total of 26 questions under three sections.

The first section had nine questions pertaining to age, literacy, occupation (self and spouse), residence location, pregnancy order and trimester, ANC service uptake history and spouse migration history in the last one year.

The second section had four questions pertaining to HIV/AIDS-related testing and treatment services uptake. The third section had 13 questions on viral Hepatitis. This included questions on Hepatitis in general, followed by questions on Hepatitis B and Hepatitis C specifically.

<sup>4</sup> National Institute of Health & Family Welfare and National AIDS Control Organisation (2011). Annual HIV Sentinel Surveillance: Country Report 2008–09.

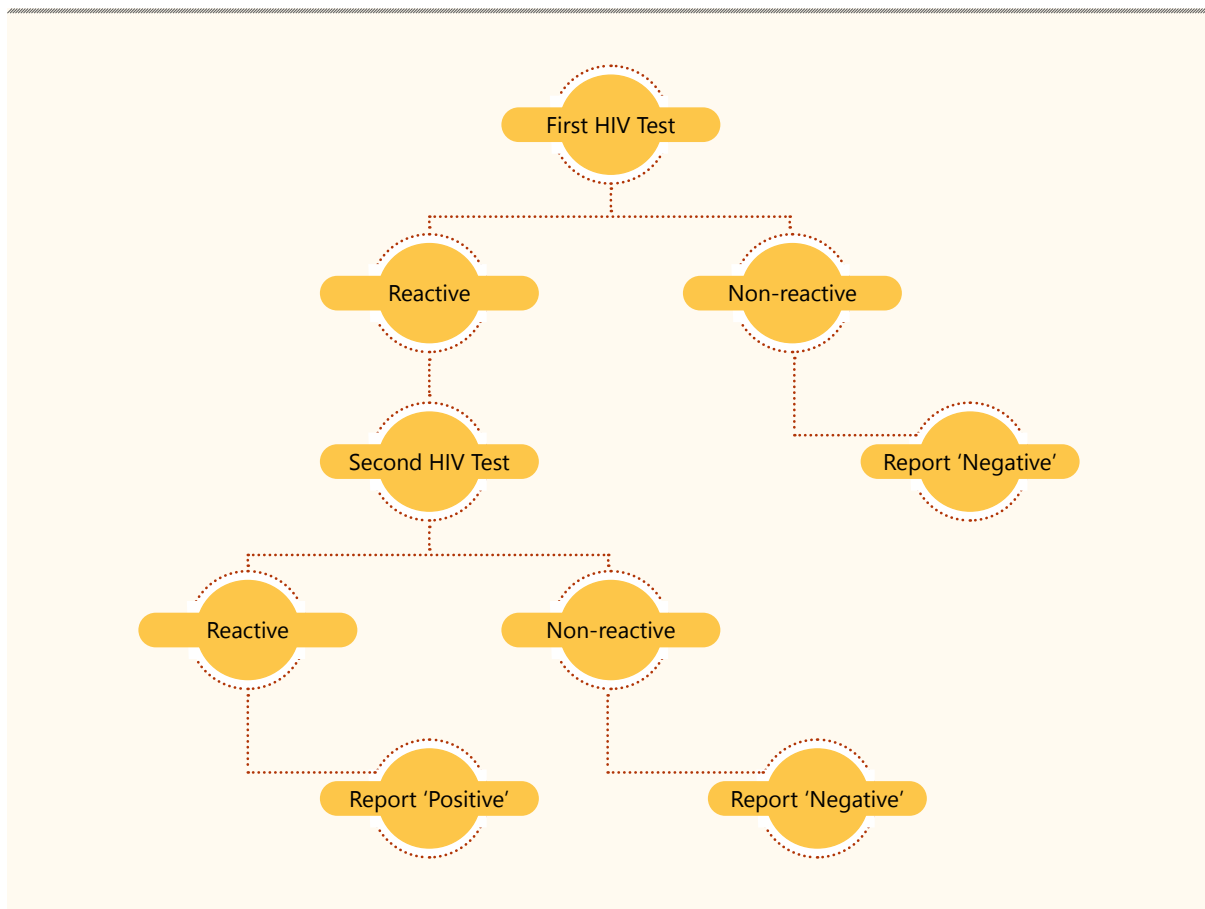
## 2.5 Blood Specimen Collection Methods and Testing Approach

During ANC HSS 2021, as in the 2017 and 2019 round, linked anonymous testing (LAT) was followed where a portion of linked blood specimen collected for routine ANC services, was used for surveillance purposes. No personal identifiers were recorded either on the surveillance serum specimen or the data form; no informed consent was taken. However, the ANC clinic attendees were informed of the purposes of surveillance. While no personal identifier was obtained under HSS, provisions were made to allow linking of HSS test results to the ANC clinic records through codes to facilitate provision of care, support, and treatment services to those in need.

The biospecimen collected during 17<sup>th</sup> round of HSS among pregnant women were tested for four diseases: HIV, Syphilis, HBV, and HCV. The testing was done at 114 State Reference Laboratories (SRL) established under NACP across the country. In exceptional scenarios, depending upon the local need, non-SRL laboratories were used in HSS 2021.

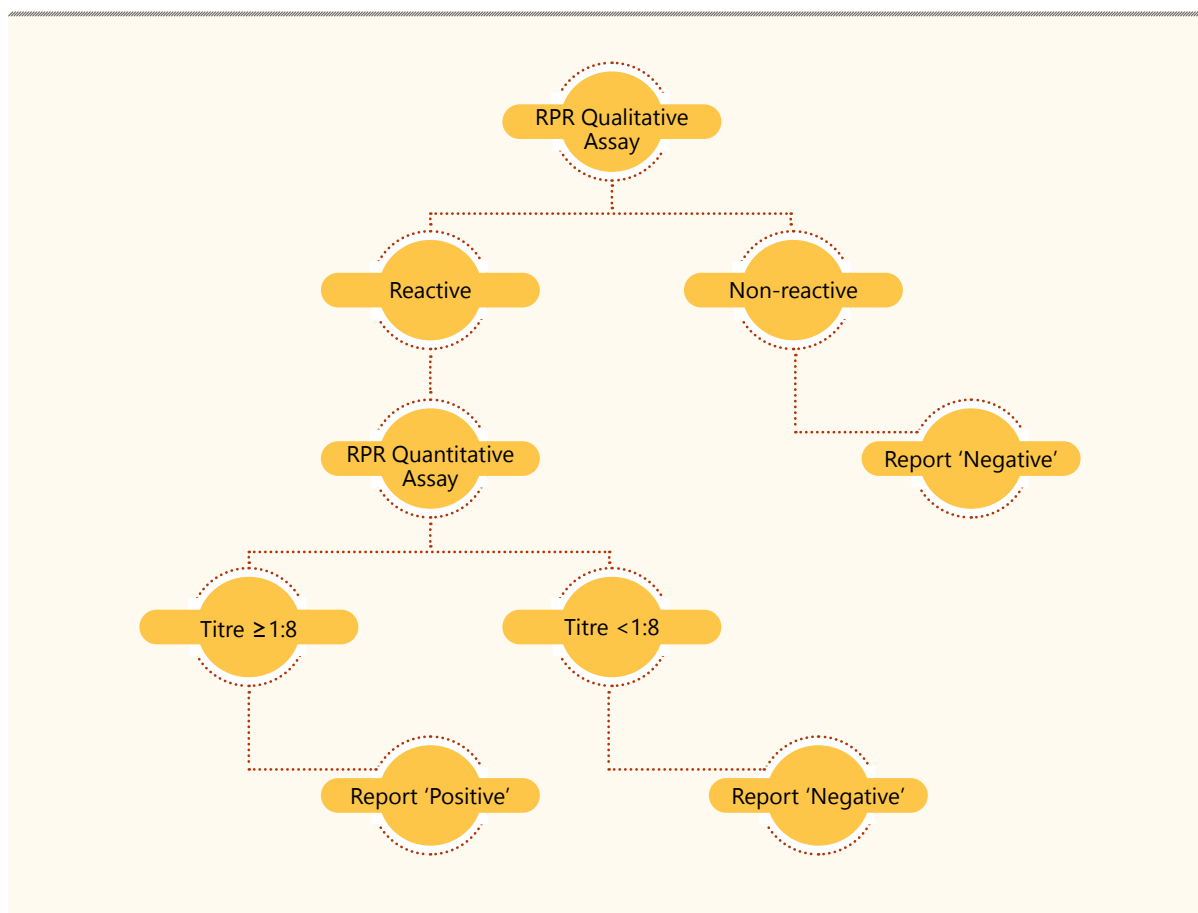
For HIV, the two-test strategy was adopted, as done in the earlier rounds. The first test is of high sensitivity and the second one is of high specificity and confirmatory in nature. The second test was done only if the first test was found to be reactive. A sample was declared as positive only when both the test results were reactive.

Figure 2.1: Testing protocol for HIV



For Syphilis, non-Treponemal test i.e., Rapid Plasma Reagin test (RPR) was performed. Similar to the HIV testing protocol, a two-test strategy was used. The first test was qualitative, and the second test was quantitative; the second test was done only when first test was reactive. A sample was declared positive for Syphilis only when the titre during second test result was  $\geq 1:8$ .

**Figure 2.2:** Testing protocol for Syphilis



For HBV, a one test strategy was followed. Serum samples were tested for Hepatitis B surface antigen (HBsAg) using rapid test kits. If the test result was reactive, the sample was reported as HBV positive.

For HCV also, a one test strategy was followed. The samples were tested for anti-hepatitis C virus (HCV) antibodies using rapid test kits. If the test result was reactive, the sample was reported as HCV positive.

## 2.6 Inter-laboratory Comparison (ILC)

ILC is a key component of quality assurance mechanism under HSS. Under ILC, all positive specimens for any of the biomarkers (HIV, HBV, HCV and Syphilis) and 5% of negative specimens are transported to the mapped reference laboratory. At the reference laboratory, all positive specimens are to be tested for the biomarkers for which it has been reported as positive. The negative samples (not reported positive for any of the four biomarkers) is tested for all four biomarkers following the same testing protocols.

Table 2.1 presents the results of ILC among pregnant women for four biomarkers in HSS 2021. For RPR and HCV, among the total positive samples which were subjected to ILC by reference laboratory, less than 90% had concordant results.

**Table 2.1:** ILC results among pregnant women, HSS 2021

Biomarkers	Positive Samples		Negative Samples	
	Subjected to ILC (Number)	Concordant Results (Percentage)	Subjected to ILC (Number)	Concordant Results (Percentage)
HIV	660	98.03%	17,296	99.98%
RPR	299	88.96%	17,182	99.77%
HBV	2167	97.60%	17,059	99.86%
HCV	820	71.60%	17,253	99.96%

There were 12 testing laboratories which had discordant results for samples which were positive for RPR. For HCV, there were 14 such laboratories. For a given biomarker, if the discordant results were more than 10% for a given testing laboratory in ILC, the test results for all the sites associated with that laboratory were considered as invalid for the biomarker concerned.

## 2.7 Data Management

Data collection in ANC HSS 2021 was carried out through paper-based tools. While data recording was done by the counsellor/nurse/ANM, all data forms were checked for completeness and accuracy in the field by the site in-charge on a daily basis before signing the data forms. These forms were also checked by the field supervisors during their field monitoring and supportive visits. The data forms were then transported to regional institutes periodically where they were first checked for completeness and accuracy and then entered in to the HSS module of Strategic Information Management System (SIMS).

Laboratory results were shared separately by laboratories periodically in a standard format with RIs who in turn entered them into SIMS. The SIMS did the linking of laboratory results with the data forms using the unique sample IDs assigned.



Chapter 3

# Findings

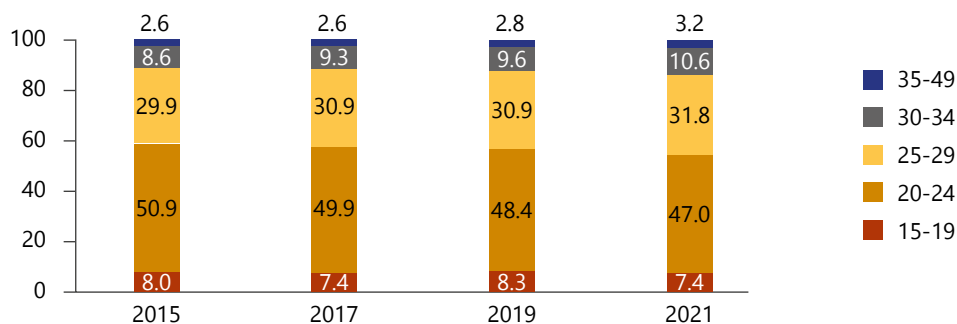


This section presents key findings from the 2021 round of sentinel surveillance among the antenatal clinic attendees. Initially, the respondents' demographic profile has been presented including background, current pregnancy characteristics and respondents' spouse/partner migration. The service uptake for HIV testing and treatment services has been presented next followed by the prevalence/sero-positivity of all four biomarkers among pregnant women to provide the big picture perspective. Further, the level and trend of HIV prevalence nationally and by State/UTs are given, and finally, the correlation between respondent's background characteristics and HIV prevalence/ Syphilis sero-positivity has been presented.

### 3.1 Background Characteristics

Overall, a total of 3,38,890 complete valid data forms were received from 856 pregnant women HSS sites in the 2021 round of surveillance.<sup>5</sup> The mean age of the pregnant women was 24.58 years (SD 4.26) (Table 3.1). Majority, around 80%, were in the age group of 20–29 years while around 7% were 15–19 years old. A small proportion (3%) were 35 years or older (Figure 3.1). Though this pattern is broadly like the pattern seen in previous rounds, the respondents being recruited in HSS are gradually getting older. In 2015, almost 41% of the respondents were of the age 25 years or older. In comparison, in 2021, almost 46% of the pregnant women recruited in HSS were 25 years or older

**Figure 3.1:** Distribution (in %) of pregnant women by age group, ANC HSS 2015, 2017, 2019 and 2021



State/UT-wise, the mean age of the pregnant women was highest in Sikkim (28.06 years) followed by Mizoram (27.79 years), Jammu & Kashmir and Ladakh (27.23 years) and Manipur (27.13 years). Andaman & Nicobar Islands, Goa, Arunachal Pradesh, Kerala, Chandigarh, and Meghalaya were other States/UTs where the mean age of respondents was more than 26 years. The respondents were youngest in West Bengal (23.02 years) followed by Andhra Pradesh (23.08 years), Telangana (23.44 years), Tripura (23.49 years), Bihar (23.76 years), Jharkhand (23.78 years), and Maharashtra (23.91 years).

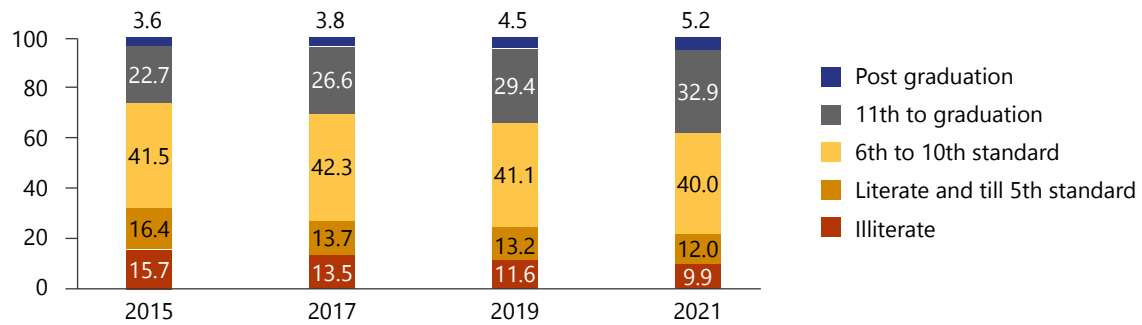
<sup>5</sup> Valid data forms were those who had age mentioned as per the eligibility criteria along with results for at least one of the biomarkers documented.

**Table 3.1:** Age profile of pregnant women by State/UTs, HSS 2021

State/UT	N	Mean Age (In Years)	Respondents' distribution (in %) by age group				
			15-19	20-24	25-29	30-34	35-49
Andaman & Nicobar Islands	1,553	26.51	5.15	33.10	34.90	19.96	6.89
Andhra Pradesh	15,400	23.08	8.87	62.42	23.31	4.30	1.11
Arunachal Pradesh	2,976	26.38	9.34	28.33	34.21	19.56	8.57
Assam	11,544	24.35	14.56	40.82	29.44	11.30	3.88
Bihar	12,299	23.76	7.52	50.99	31.81	7.52	2.16
Chandigarh	800	26.28	2.25	35.63	39.13	18.38	4.63
Chhattisgarh	10,635	24.63	5.35	47.85	33.94	10.63	2.22
Dadra & Nagar Haveli and Daman & Diu	1200	25.08	7.00	41.33	36.75	11.58	3.33
Delhi	3,920	25.20	4.77	43.06	35.56	13.70	2.91
Goa	1,200	26.46	4.75	33.58	36.00	18.42	7.25
Gujarat	13,921	24.66	4.26	48.67	33.22	11.03	2.82
Haryana	7,604	24.27	7.22	50.95	31.21	8.52	2.10
Himachal Pradesh	3,600	25.88	4.25	36.94	39.97	14.92	3.92
Jammu & Kashmir	6,193	27.23	3.65	28.31	36.46	21.46	10.12
Jharkhand	10,340	23.78	12.41	48.95	27.29	8.86	2.50
Karnataka	24,705	24.24	7.42	50.36	31.03	9.15	2.04
Kerala	4,800	26.34	5.58	35.56	33.85	18.21	6.79
Madhya Pradesh	20,436	24.05	4.96	54.43	31.30	7.88	1.42
Maharashtra	30,379	23.91	9.06	52.97	27.52	8.62	1.83
Manipur	7,023	27.13	7.32	28.73	31.33	19.56	13.06
Meghalaya	4,668	26.18	10.15	33.65	29.37	17.16	9.66
Mizoram	3,718	27.79	7.83	24.88	28.51	24.15	14.63
Nagaland	4,647	26.97	7.23	28.96	32.21	20.55	11.04
Odisha	13,200	24.86	7.08	44.16	32.95	12.21	3.59
Puducherry	800	25.51	4.25	37.75	42.25	13.38	2.38
Punjab	8,829	25.31	4.62	40.74	38.18	13.43	3.02
Rajasthan	13,998	24.71	3.34	46.98	36.78	10.66	2.24
Sikkim	1,979	28.06	5.56	22.23	31.08	27.99	13.14
Tamil Nadu	32,714	24.49	8.87	47.24	31.75	9.83	2.30
Telangana	11,200	23.44	6.20	60.83	28.04	4.09	0.85
Tripura	2,400	23.49	27.29	34.46	24.33	11.54	2.38
Uttar Pradesh	33,870	24.71	2.57	48.00	37.61	9.57	2.26
Uttarakhand	6,388	24.99	3.35	46.84	37.88	9.46	2.47
West Bengal	9,951	23.02	23.89	42.96	23.60	7.86	1.70
India	3,38,890	24.58	7.44	47.00	31.80	10.58	3.18

Almost 90% of the respondents were literate (Figure 3.2). Around two-fifth (38%) had more than 10 years of education by 2021. In comparison, in 2015, around 84% of the respondent were literate while around one-fourth (26%) reported education of 11th standard or higher (Table 3.2).

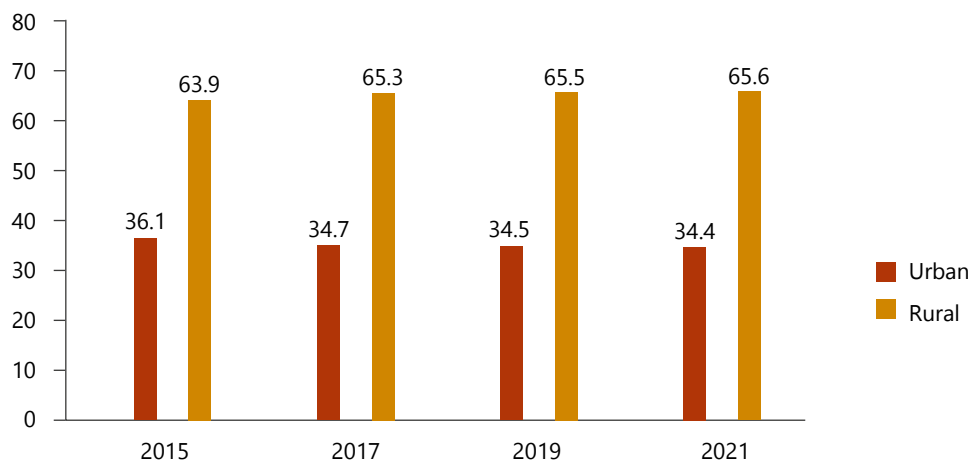
**Figure 3.2:** Distribution (in %) of pregnant women by education, ANC HSS 2015, 2017, 2019 and 2021



In Puducherry, Kerala, Tamil Nadu, Andaman & Nicobar Islands, and Mizoram, the literacy among pregnant women was almost universal with 98% or more reporting to be literate. Illiteracy among respondents was highest in Jammu & Kashmir (23.30%). Bihar, Gujarat Rajasthan, and Uttar Pradesh were other States with higher illiteracy (16.80% to 19.51%).

Almost two-third (65.6%) of the total respondents in HSS 2021 reported to reside in rural areas. In 2015, a similar level (64%) reported to have their residence in rural areas also (Figure 3.3).

**Figure 3.3:** Distribution (in %) of pregnant women by place of residence, ANC HSS 2015, 2017, 2019 and 2021



**Table 3.2:** Education profile of pregnant women by State/UTs, HSS 2021

State/UT	N	Respondents' distribution (in %) by education group				
		Illiterate	Literate and till 5th standard	6th to 10th standard	11th to graduation	Post-Graduation
Andaman & Nicobar Islands	1,548	1.10	3.55	27.33	52.78	15.25
Andhra Pradesh	15,378	9.55	14.47	38.33	33.60	4.06
Arunachal Pradesh	2,965	9.38	9.24	35.08	43.10	3.20
Assam	11,531	9.44	11.62	52.65	25.08	1.21
Bihar	12,282	19.51	22.51	35.19	21.87	0.92
Chandigarh	799	9.14	9.14	27.41	43.05	11.26
Chhattisgarh	10,604	7.62	13.04	42.95	30.39	6.00
Dadra & Nagar Haveli and Daman & Diu	1,200	6.25	8.67	46.58	35.00	3.50
Delhi	3,915	11.49	12.21	32.77	38.19	5.34
Goa	1,199	6.67	6.01	53.04	32.19	2.09
Gujarat	13,900	16.80	15.44	49.86	14.70	3.20
Haryana	7,585	11.76	14.48	37.13	31.67	4.97
Himachal Pradesh	3,598	2.83	3.64	21.93	57.00	14.59
Jammu & Kashmir	6,181	23.30	12.25	37.89	20.76	5.81
Jharkhand	10,297	10.48	17.50	39.82	28.43	3.78
Karnataka	24,681	7.89	8.35	46.65	33.56	3.55
Kerala	4,797	0.33	1.08	16.91	74.92	6.75
Madhya Pradesh	20,390	11.22	17.26	44.64	21.32	5.56
Maharashtra	30,351	4.95	7.08	45.10	39.79	3.08
Manipur	6,986	5.97	9.93	49.21	32.19	2.69
Meghalaya	4,657	9.06	16.58	50.31	21.69	2.36
Mizoram	3,705	2.02	7.64	51.82	32.71	5.80
Nagaland	4,627	10.27	17.94	51.44	16.90	3.46
Odisha	13,186	9.47	14.17	51.46	23.23	1.68
Puducherry	800	0.13	0.88	25.00	62.00	12.00
Punjab	8,813	11.52	15.48	39.66	27.97	5.38
Rajasthan	13,979	18.33	19.25	33.69	20.77	7.95
Sikkim	1,976	2.63	11.29	38.21	37.35	10.53
Tamil Nadu	32,692	1.48	3.01	30.89	52.64	11.99
Telangana	11,193	10.35	8.16	33.51	42.64	5.33
Tripura	2,395	2.51	8.68	61.46	25.30	2.05
Uttar Pradesh	33,816	18.30	14.52	29.73	31.53	5.92
Uttarakhand	6,361	5.74	9.01	27.48	47.60	10.17
West Bengal	9,925	5.95	16.52	50.66	25.00	1.86
India	3,38,312	9.89	11.95	39.98	32.93	5.25

At the State/UT level, in Chandigarh and Delhi, more than 95% of the respondent were from urban areas (Table 3.3). Fifty-nine percentage of respondents in Mizoram reported to be residing in urban areas. In Himachal Pradesh, more than 90% of the pregnant women were from rural areas followed by Meghalaya (87%), Manipur (86%), Jammu & Kashmir and Ladakh (84%), and Tripura (83%).

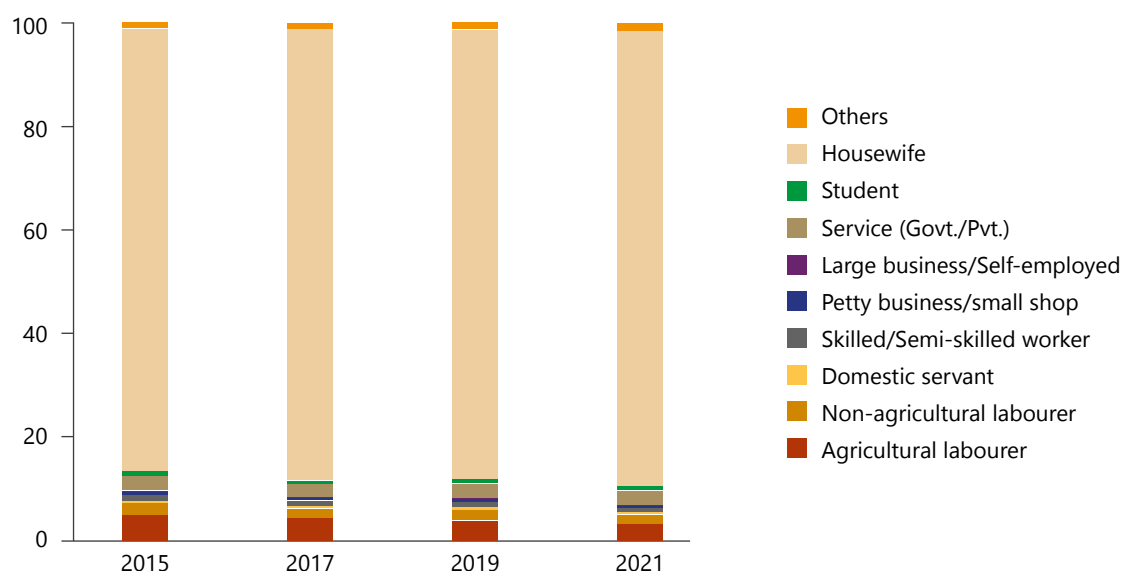
**Table 3.3:** Residence profile of pregnant women, ANC HSS 2021

State/UT	N	Respondents' distribution (in %) by place of residence	
		Rural	Urban
Andaman & Nicobar Islands	1,552	65.5	34.5
Andhra Pradesh	15,361	71.1	28.9
Arunachal Pradesh	2,969	57.3	42.7
Assam	11,538	82.6	17.4
Bihar	12,279	80.0	20.0
Chandigarh	800	1.4	98.6
Chhattisgarh	10,617	62.7	37.3
Daman & Diu	1,199	58.5	41.5
Delhi	3,916	3.8	96.2
Goa	1,199	65.3	34.7
Gujarat	13,910	56.1	43.9
Haryana	7,599	59.1	40.9
Himachal Pradesh	3,599	91.4	8.6
Jammu & Kashmir	6,188	83.7	16.3
Jharkhand	10,317	65.3	34.7
Karnataka	24,635	63.9	36.1
Kerala	4,793	74.9	25.1
Madhya Pradesh	20,421	57.9	42.1
Maharashtra	30,151	49.9	50.1
Manipur	7,017	85.9	14.1
Meghalaya	4,657	87.4	12.6
Mizoram	3,710	41.2	58.8
Nagaland	4,639	51.7	48.3
Odisha	13,097	75.7	24.3
Puducherry	800	67.4	32.6
Punjab	8,797	61.1	38.9
Rajasthan	13,987	55.4	44.6
Sikkim	1,978	61.5	38.5
Tamil Nadu	32,403	73.4	26.6
Telangana	11,181	72.2	27.8
Tripura	2,386	83.1	16.9
Uttar Pradesh	33,803	66.9	33.1
Uttarakhand	6,377	63.6	36.4
West Bengal	9,883	73.6	26.4
India	3,37,758	65.6	34.4

Like in previous rounds, the pregnant women recruited in HSS 2021 were predominantly housewives with more than 85% of them reporting so. All other occupations were reported by less than 4% of respondents.

On the occupation profile, most of the States/UTs have a similar pattern as that of the national level mentioned above. In 26 States/UTs, at least 80% of the respondents reported to be housewives. However, in the north-eastern States of Arunachal Pradesh and Sikkim, only around two-third reported to be housewives. In Sikkim, one-fourth of the respondents reported to be in service (Government/Private) followed by that in Arunachal Pradesh (14%). In Mizoram, Nagaland, and Meghalaya, 7–10% of the respondents reported to be in service. In Kerala, and Chandigarh, 9% of respondents reported to be in service (Table 3.4).

**Figure 3.4:** Distribution (in %) of pregnant women by her occupation, ANC HSS 2015, 2017, 2019 and 2021



Spouse occupation of the respondents continue to be diverse with national patterns similar to the previous rounds. Almost one-third (33%) of respondents reported their spouse's occupation as labourers: agricultural or non-agricultural. Another 20% had spouse in service (Government/Private). A small proportion (2%) reported their spouses working as truck driver/helper while another 7% were local transport workers (auto/taxi driver, hand cart pullers/rickshaw pullers). The diverse pattern in occupation of spouse was also noted at the State/UT level (Table 3.5).

**Figure 3.5:** Distribution (in %) of pregnant women by spouse occupation, ANC HSS 2015, 2017, 2019 and 2021

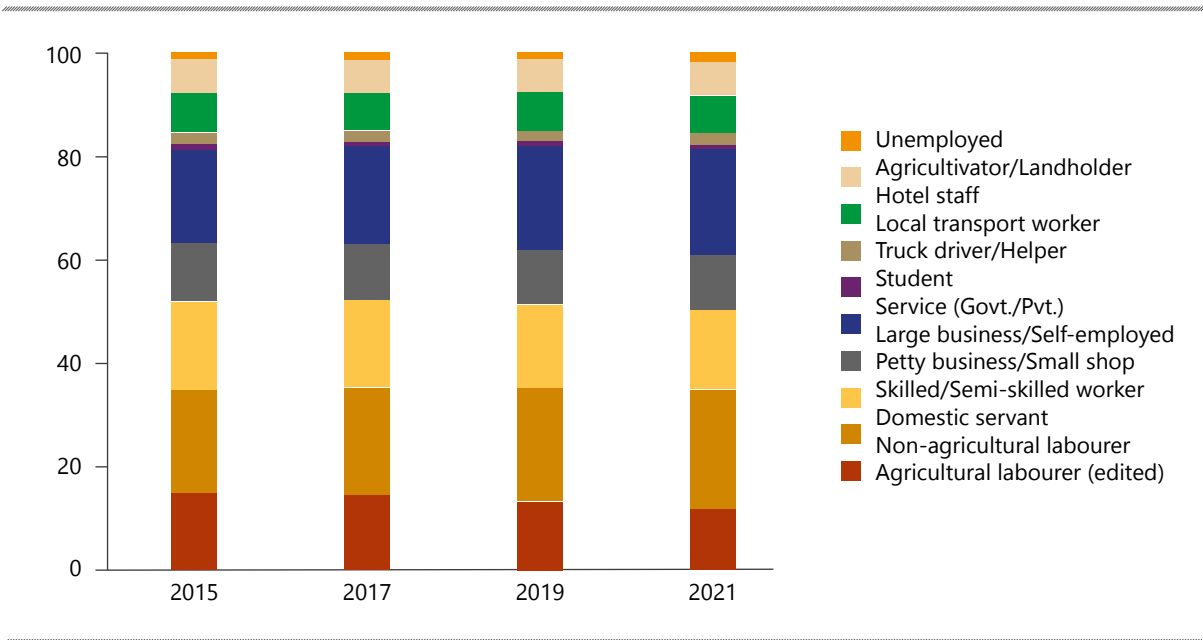




Table 3.4: Occupation profile of pregnant women, ANC HSS 2021

State/UT	N	Respondents' distribution (in %) by occupation									
		Agricultural Labourer	Housewife	Non-Agricultural Labourer	Domestic Servant	Skilled/Semi-skilled worker	Petty business/small shop	Large Business/Self-employed	Service (Govt./Pvt.)	Student	Others
A&N Islands	1,553	.3	87.3	0.0	.1	.8	.8	.1	9.5	1.0	.3
An P	15,381	8.7	74.1	5.4	.3	1.5	.8	.6	3.3	.6	4.7
Ar P	2,968	5.9	64.6	.7	.2	.8	1.7	.9	14.5	3.5	7.2
Assam	11,537	.9	95.1	.1	.0	.1	.2	.5	2.3	.3	.5
Bihar	12,277	1.3	94.9	.7	.4	.3	.2	.0	.7	1.4	.1
Chandigarh	800	0.0	88.3	.3	1.1	.4	.3	.3	9.0	.5	0.0
Chhattisgarh	10,615	9.6	79.8	3.1	.6	.7	.4	.1	2.8	.4	2.5
Daman & Diu	1,200	4.0	87.7	.4	.2	3.4	.4	0.0	3.4	.4	.1
Delhi	3,917	.0	94.3	.5	.6	1.4	.5	.3	2.2	.1	.2
Goa	1,200	.2	88.0	.3	1.2	1.2	1.0	.2	7.4	.2	.5
Gujarat	13,913	8.3	81.2	5.3	.5	1.0	.4	.1	1.9	.3	1.1
Haryana	7,598	.8	92.8	1.5	.3	.3	.4	.1	1.7	1.4	.6
HP	3,597	.9	92.8	.5	.1	.7	.1	0.0	4.2	.5	.4
J&K	6,191	.3	88.3	.5	.1	.8	.4	.5	4.1	1.7	3.3
Jharkhand	10,327	.5	90.6	.7	.1	.3	1.5	.0	1.9	1.2	3.3
Karnataka	24,689	6.3	85.3	2.6	1.9	.7	.4	.1	2.0	.3	.4
Kerala	4,793	0.0	78.9	.3	1.7	.3	.3	.1	8.9	3.2	6.3
Madhya Pradesh	20,427	5.5	84.6	4.3	.3	.6	.5	.1	1.4	.5	2.2
Maharashtra	30,362	6.1	86.1	1.1	.2	.4	.3	.1	2.2	.4	3.0
Manipur	7,015	4.0	84.1	.3	.0	2.5	1.1	.4	4.0	.8	2.9
Meghalaya	4,659	2.8	76.1	4.1	.8	.7	2.4	.3	7.5	2.6	2.7
Mizoram	3,714	2.6	74.5	2.8	.1	2.5	2.8	.5	10.1	1.2	2.9
Nagaland	4,641	3.2	78.6	1.5	.2	.0	2.8	2.2	8.1	.2	3.2
Odisha	13,196	1.5	94.3	1.0	.1	.3	.2	.1	2.3	.2	.1
Puducherry	800	0.0	91.5	.9	.3	.1	0.0	.1	6.6	.5	0.0
Punjab	8,794	.2	95.0	1.1	.1	.2	.4	.0	2.4	.2	.3
Rajasthan	13,987	1.4	92.4	.6	.1	.5	.2	.1	1.2	2.3	1.4
Sikkim	1,978	.3	66.1	.1	0.0	.4	2.0	.7	27.6	.5	2.4
Tamil Nadu	32,683	.9	93.5	1.0	.1	.4	.1	.0	2.7	.8	.5
Telangana	11,192	8.5	73.6	5.1	.1	3.6	.4	.1	2.0	.9	5.7
Tripura	2,395	.1	97.4	.6	.1	.1	.1	.0	1.0	.4	.2
Uttar Pradesh	33,815	.8	94.3	.6	.2	.7	.4	.1	1.2	1.0	.7
Uttarakhand	6,372	1.6	95.0	.3	.2	.2	.2	0.0	1.8	.2	.5
West Bengal	9,944	.5	93.6	.7	.6	1.4	.4	.2	1.1	1.1	.4
India	3,38,530	3.4	87.7	1.8	.4	.8	.5	.2	2.7	.8	1.7

An, P= Andhra Pradesh; Ar, P= Arunachal Pradesh; J&K= Jammu & Kashmir; A&N= Andaman & Nicobar



**Table 3.5:** Spouse occupation, ANC HSS 2021

State/UT	N	Respondents distribution (in %) by occupation												
		Agricultural Labourer	Local Transport Worker	Hotel staff	Agricultural cultivator/landholder	Unemployed	Non-Agricultural Labourer	Domestic Servant	Skilled/Semi-skilled worker	Petty business/small shop	Large Business/Self-employed	Service (Govt./Pvt.)	Student	Truck Driver/Helper
A&N Islands	1,545	1.7	7.6	.9	4.1	5.1	11.8	.2	10.9	6.0	3.2	46.5	.3	1.7
An P	15,367	20.3	7.3	.8	3.4	.5	19.2	.2	17.4	4.6	3.5	20.5	.2	2.1
Ar-P	2,964	7.0	3.8	.1	11.0	15.0	2.7	.6	6.2	11.5	6.7	31.9	2.5	1.1
Assam	11,528	10.7	8.5	.5	8.4	1.0	15.0	.5	17.7	20.2	3.1	12.5	.2	1.6
Bihar	12,278	9.3	6.2	1.0	3.1	1.3	25.2	.6	21.3	11.0	3.3	13.0	2.9	1.7
Chandigarh	800	.4	5.4	2.1	.5	1.3	14.6	1.0	9.9	6.0	5.0	53.1	.1	.6
Chhattisgarh	10,607	21.5	4.1	.6	8.8	.6	18.2	.5	15.1	10.2	2.2	16.2	.3	1.6
Daman & Diu	1,197	2.2	3.5	1.3	.1	.4	14.4	.2	38.0	9.5	1.1	28.2	0.0	1.2
Delhi	3,915	.6	9.1	1.8	.2	1.8	12.6	.5	13.3	11.5	3.7	43.3	.4	1.3
Goa	1,200	.5	8.9	5.3	.3	2.7	18.3	.7	20.8	9.6	1.8	29.0	0.0	2.3
Gujarat	13,904	14.1	6.1	.3	6.2	.4	28.0	.3	12.8	8.6	1.7	19.3	.4	1.9
Haryana	7,595	6.6	5.2	.5	3.7	4.4	24.2	.9	9.4	10.0	2.4	28.3	1.9	2.4
HP	3,597	9.6	4.0	1.6	7.3	2.3	7.3	.4	14.5	6.4	2.3	41.8	.4	2.1
J&K	6,176	8.5	5.7	.7	6.5	1.3	17.9	.4	14.7	14.0	8.2	19.1	.9	1.9
Jharkhand	10,307	7.0	6.3	1.1	6.6	2.0	24.1	.3	13.7	14.0	2.4	18.6	1.4	2.6
Karnataka	24,649	14.8	8.6	1.6	8.1	.1	25.9	.6	12.6	8.6	2.4	14.3	.1	2.3
Kerala	4,796	1.7	10.9	2.3	1.2	.1	26.2	.0	14.4	10.4	3.1	28.1	.0	1.4
Madhya Pradesh	20,425	15.5	4.4	.6	10.1	.8	26.2	.6	13.2	10.4	2.6	13.5	1.0	1.2
Maharashtra	30,322	13.8	6.7	1.1	8.5	.4	19.5	.3	14.3	9.3	2.2	21.5	.2	2.2
Manipur	7,010	9.8	6.7	.1	13.6	10.3	8.4	.5	15.0	8.7	4.3	17.8	1.1	3.7
Meghalaya	4,650	10.3	5.2	.0	4.8	4.0	38.0	1.2	9.2	8.5	3.1	12.6	.9	2.1
Mizoram	3,665	10.6	6.2	.1	4.6	9.5	28.3	.3	6.9	3.7	1.7	23.2	1.6	3.3
Nagaland	4,621	7.9	5.7	.2	13.2	15.4	11.1	.5	3.9	10.7	5.2	24.7	.1	1.5
Odisha	13,163	9.4	7.3	1.5	11.5	.9	19.5	.2	13.1	15.4	2.9	16.8	.1	1.5
Puducherry	800	4.0	10.3	3.3	.3	0.0	24.5	0.0	19.6	4.6	1.9	29.9	.1	1.6
Punjab	8,799	5.9	4.3	.6	3.8	.8	37.0	.3	12.5	11.6	2.1	18.6	.2	2.1
Rajasthan	13,984	9.9	4.4	1.4	3.7	1.3	22.6	.3	18.4	11.3	3.3	17.4	4.7	1.2
Sikkim	1,977	3.0	14.5	1.7	6.6	5.6	4.6	.1	5.0	8.1	5.1	44.0	.3	1.6
Tamil Nadu	32,668	10.1	8.8	2.4	1.6	.3	23.6	.6	18.5	5.2	2.1	22.3	.1	4.4
Telangana	11,172	15.6	10.4	1.0	10.5	.3	16.2	.2	11.5	7.3	2.3	21.5	.3	2.7
Tripura	2,385	6.2	10.3	.8	1.9	.6	29.4	0.0	15.3	15.3	3.6	14.5	.3	1.8
Uttar Pradesh	33,818	9.7	6.4	.8	4.9	2.7	23.2	1.1	15.9	11.4	3.7	16.7	1.8	1.8
Uttarakhand	6,376	3.7	5.9	15.6	1.1	2.3	11.3	1.5	9.9	9.6	2.3	35.1	.3	1.4
West Bengal	9,922	12.9	6.5	1.2	6.4	1.0	30.8	.1	13.8	15.4	2.2	7.5	.1	2.0
India	3,38,182	11.3	6.8	1.4	6.2	1.8	22.0	.5	14.6	10.1	2.9	19.5	.8	2.2

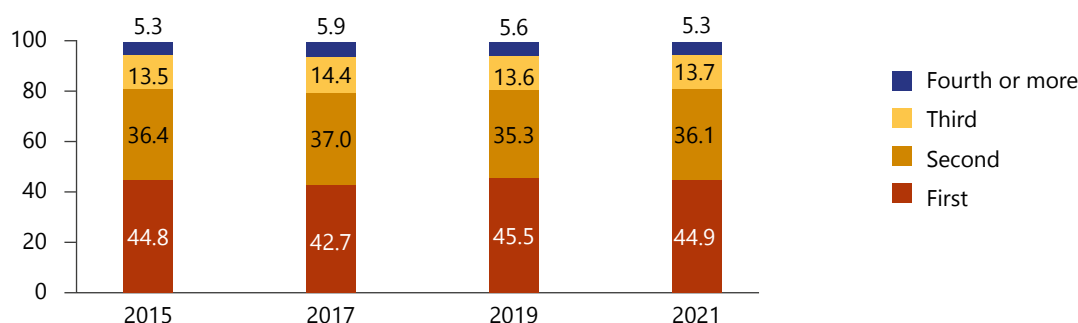
Ar P= Arunachal Pradesh; J&K= Jammu & Kashmir; A&N= Andaman & Nicobar

### 3.2 Current Pregnancy Characteristics

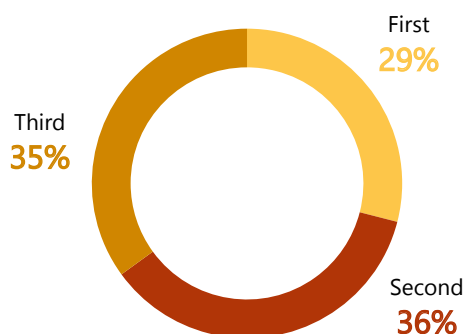
Nationally, 45% of the pregnant women in ANC HSS 2021 were primigravida while another one-third (36%) were secundigravida. Rest (19%) were pregnant for a third time or higher. This is akin to the pattern seen in previous rounds of HSS among pregnant women (Figure 3.6).

Around 29% of the respondents were in their first trimester, 36% were in the second trimester while 35% were in the third trimester (Figure 3.7). Around 56% reported that they had already received antenatal care services during their current pregnancy.

**Figure 3.6:** Distribution (in %) of pregnant women by gravidity, ANC HSS 2015, 2017, 2019 and 2021



**Figure 3.7:** Distribution (in %) of respondents by pregnancy trimester, ANC HSS 2021



In three States (Manipur, Meghalaya, and Mizoram), at least 10% of the respondents reported gravidity of four or more when recruited in ANC HSS (Table 3.6). In Meghalaya, almost two-fifth (40%) of the total respondents had a pregnancy order of three or higher followed by 37% in Mizoram, 31% in Manipur, 30% in Bihar and 27% in Nagaland. Around one-fourth of respondents in UTs of Jammu & Kashmir, Ladakh, and Daman & Diu had pregnancy order of three or higher.

**Table 3.6:** Order of current pregnancy, ANC HSS 2021

State/UT	N	Order of Current Pregnancy			
		First	Second	Third	Fourth or more
Andaman & Nicobar Islands	1549	44.67	38.22	12.33	4.78
Andhra Pradesh	15391	44.71	41.75	10.78	2.76
Arunachal Pradesh	2968	44.17	34.16	16.04	5.63
Assam	11534	50.20	37.06	10.29	2.45
Bihar	12261	33.82	35.85	20.57	9.75
Chandigarh	800	44.25	32.75	15.88	7.13
Chhattisgarh	10615	46.93	37.01	12.38	3.67
Daman & Diu	1200	35.67	37.50	19.25	7.58
Delhi	3917	42.92	37.68	14.78	4.62
Goa	1199	42.62	36.78	16.85	3.75
Gujarat	13907	38.45	37.26	16.37	7.92
Haryana	7596	44.21	35.39	13.59	6.82
Himachal Pradesh	3596	51.39	36.87	9.15	2.59
Jammu & Kashmir	6189	43.42	31.44	17.81	7.34
Jharkhand	10314	44.31	34.51	15.29	5.89
Karnataka	24685	44.92	37.65	13.97	3.46
Kerala	4800	44.73	37.33	13.13	4.81
Madhya Pradesh	20428	45.48	37.79	12.45	4.28
Maharashtra	30352	47.57	35.47	13.21	3.75
Manipur	7009	37.47	31.66	18.43	12.44
Meghalaya	4660	34.38	25.00	15.47	25.15
Mizoram	3711	35.97	27.08	18.65	18.30
Nagaland	4634	43.22	29.61	18.47	8.70
Odisha	13183	49.77	36.07	10.84	3.32
Puducherry	800	53.50	34.25	9.13	3.13
Punjab	8824	50.43	34.93	11.30	3.34
Rajasthan	13985	43.13	36.35	13.75	6.76
Sikkim	1976	54.55	35.27	7.69	2.48
Tamil Nadu	32691	47.37	38.73	10.87	3.03
Telangana	11196	44.99	39.36	12.70	2.95
Tripura	2397	59.45	32.12	6.93	1.50
Uttar Pradesh	33813	42.27	33.20	17.40	7.13
Uttarakhand	6375	44.45	38.29	13.18	4.08
West Bengal	9938	52.40	36.45	9.31	1.84
India	338493	44.89	36.14	13.70	5.28

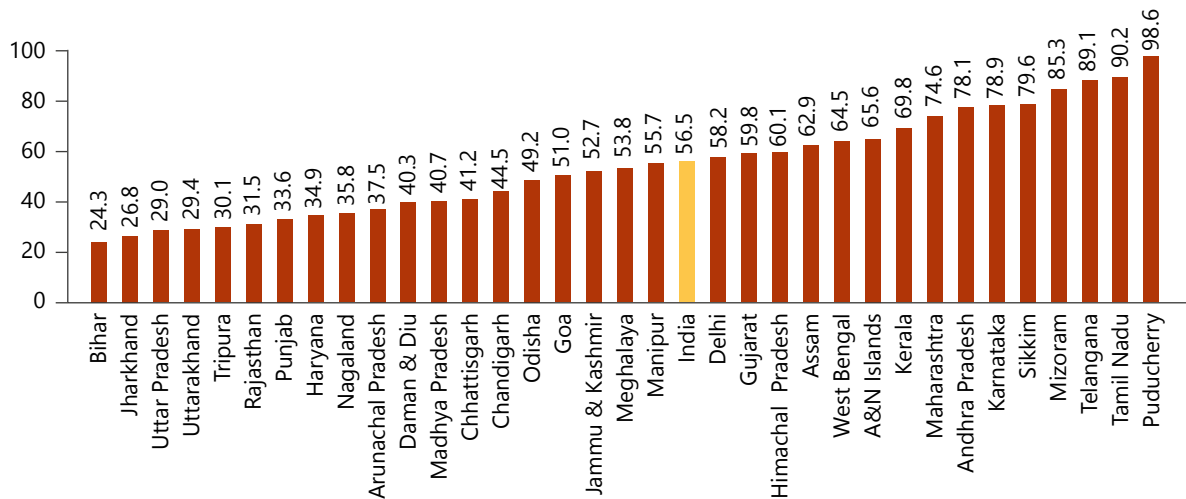
In Chandigarh, almost two-third (67%) of pregnant women were in their first trimester. Andaman & Nicobar Islands, Arunachal Pradesh, Dadra and Nagar Haveli and Daman and Diu, Himachal Pradesh, and Sikkim were other States/UTs with more than half of the respondents were in their first trimester. In Tamil Nadu and Telangana, around half of the pregnant women recruited in HSS were in the third trimester. Andhra Pradesh, Karnataka, and Puducherry were other States with at least 40% of the pregnant women in the third trimester.

**Table 3.7:** Duration of current pregnancy, ANC HSS 2021

State/UT	N	Order of Current Pregnancy		
		First	Second	Third
Andaman & Nicobar Islands	1,549	53.5	25.8	20.7
Andhra Pradesh	15,381	19.9	36.3	43.8
Arunachal Pradesh	2,967	53.4	31.1	15.5
Assam	11,534	31.7	37.6	30.7
Bihar	12,258	23.3	38.0	38.8
Chandigarh	800	66.6	20.1	13.3
Chhattisgarh	10,612	35.1	39.8	25.1
Daman & Diu	1,200	58.8	26.2	15.0
Delhi	3,916	24.1	46.6	29.4
Goa	1,200	46.1	32.4	21.5
Gujarat	13,912	33.4	34.1	32.5
Haryana	7,595	44.4	36.5	19.1
Himachal Pradesh	3,593	51.3	38.0	10.7
Jammu & Kashmir	6,189	41.7	33.2	25.1
Jharkhand	10,320	29.8	38.8	31.4
Karnataka	24,680	24.4	29.8	45.8
Kerala	4,798	43.4	26.5	30.1
Madhya Pradesh	20,420	25.1	38.9	36.0
Maharashtra	30,350	28.0	34.1	37.9
Manipur	7,010	48.6	31.6	19.8
Meghalaya	4,657	32.7	39.9	27.5
Mizoram	3,707	34.9	29.9	35.2
Nagaland	4,620	40.8	34.4	24.7
Odisha	13,170	36.8	35.5	27.7
Puducherry	800	4.1	49.6	46.3
Punjab	8,821	42.4	33.9	23.8
Rajasthan	13,981	27.7	43.1	29.2
Sikkim	1,977	55.1	26.7	18.2
Tamil Nadu	32,691	18.7	31.7	49.6
Telangana	11,190	17.3	30.9	51.9
Tripura	2,397	39.2	41.5	19.4
Uttar Pradesh	33,805	22.3	39.2	38.5
Uttarakhand	6,365	27.8	43.2	29.0
West Bengal	9,911	29.7	46.5	23.9
India	3,38,376	29.1	35.9	35.0

There was significant inter-State variation regarding receipt of antenatal care services by respondents prior to their current visit. In the States of Maharashtra, Andhra Pradesh, Karnataka, Sikkim, Mizoram, Telangana, Tamil Nadu, and Puducherry; at least three-fourth of women reported to receive prior care. In Bihar, less than one-fourth of pregnant women reported receiving the same. Jharkhand, Uttar Pradesh, Uttarakhand, and Tripura were other States where  $\leq 30\%$  of pregnant women reported receiving prior care (Figure 3.8).

**Figure 3.8:** Receipt of antenatal care services prior to their current visit, ANC HSS 2021



### 3.3 Spouse Migration Status

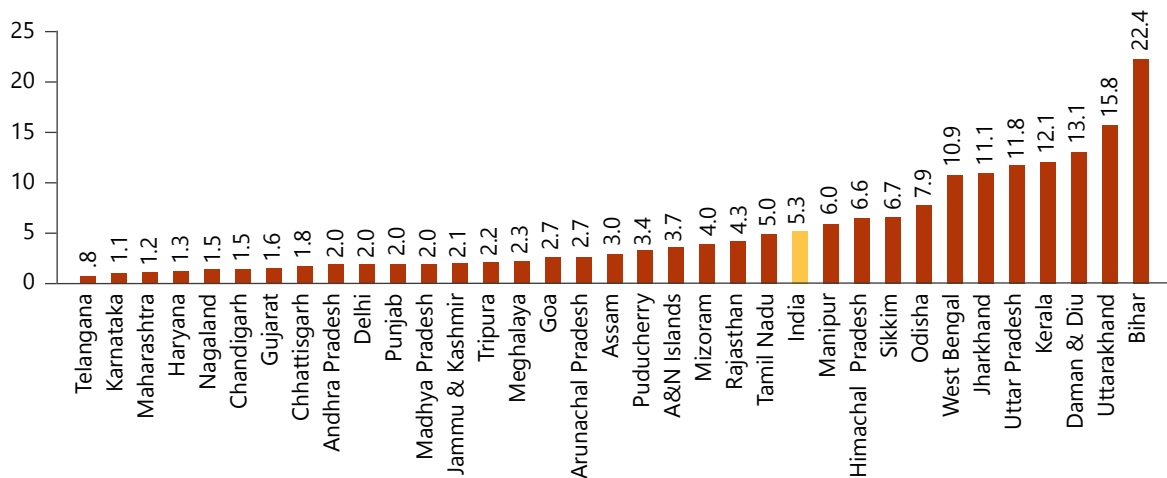
During the HSS, ANC attendees were asked if their spouse/partner resided alone in another place/town for work for a period longer than 6 months in the past one year to understand the migration status of the spouse/partner.

Overall, around 5% of the total respondents reported that their spouse/partner was residing alone in another place/town for work for a period longer than 6 months in the past one year. Out-migration was reported most in Bihar (22%) followed by 16% in Uttarakhand. Jharkhand, Kerala, Uttar Pradesh, and West Bengal were other States where out-migration of spouse for work was reported by 11–12% of respondents. In 12 States (Telangana, Karnataka, Maharashtra, Haryana, Nagaland, Chandigarh, Gujarat, Chhattisgarh, Andhra Pradesh, Delhi, Punjab, and Madhya Pradesh), out-migration of spouse/partners was reported by less than 2% of the respondents (Figure 3.9).

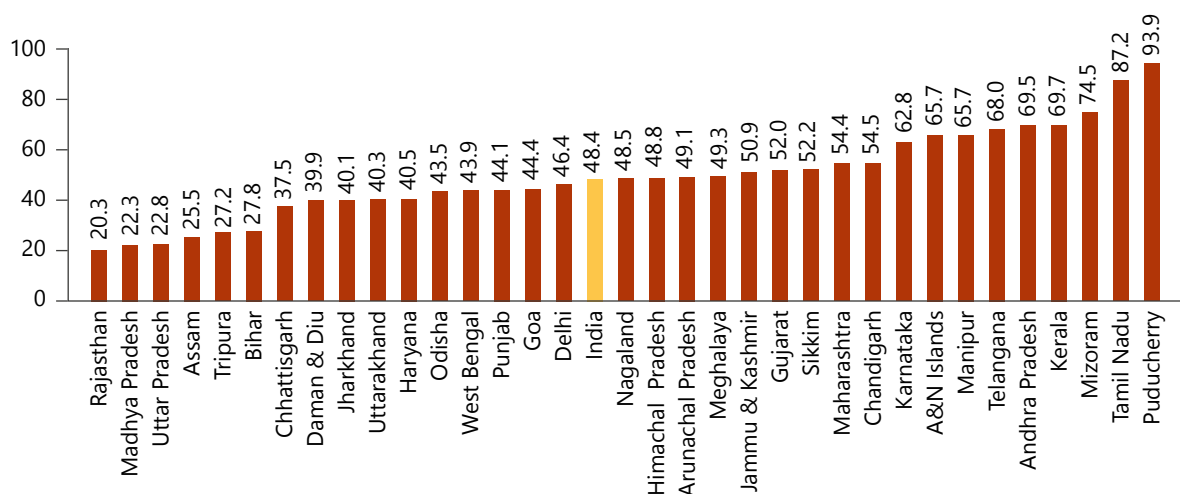
### 3.4 HIV Testing and Treatment Services Uptake

Overall, almost half of the pregnant women recruited in HSS 2021 reported that they were tested for HIV at least once in their life-time before their current visit to the clinic. In Puducherry, more than 90% of the pregnant women reported to have been tested for HIV followed by Tamil Nadu (87%), and Mizoram (75%). Manipur, Telangana, Andhra Pradesh, and Kerala were other States where at least two third of respondents reported a history of HIV test. In Assam, Uttar Pradesh, Madhya Pradesh, and Rajasthan, one-fourth or less of the pregnant women reported HIV testing services uptake (Figure 3.10).

**Figure 3.9:** Spouse migration history, ANC HSS 2021

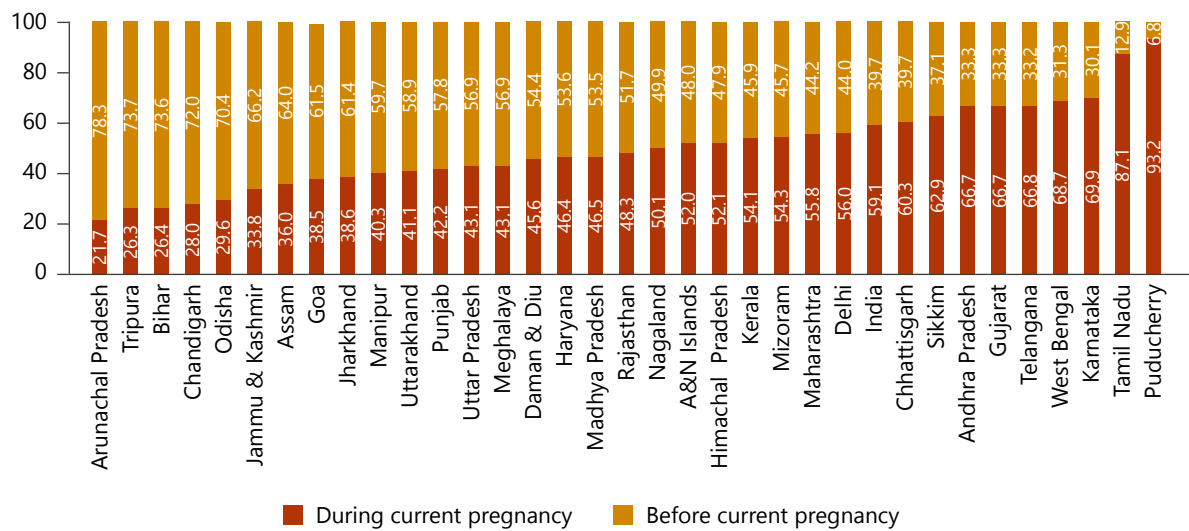


**Figure 3.10:** Testing for HIV before current visit, ANC HSS 2021



Pregnant women, who reported a history of HIV testing, were asked about the timing of their last HIV testing. The responses were captured as ‘tested during current pregnancy’ or ‘tested before current pregnancy’. More than 90% of the respondents in Puducherry reported HIV testing during current pregnancy followed by those in Tamil Nadu (87%). Andhra Pradesh, Gujarat, Telangana, West Bengal, and Karnataka were other States where at least two-thirds of the respondents reported HIV testing during their current pregnancy. In States/UTs of Arunachal Pradesh, Tripura, Bihar, Chandigarh, Odisha, and Jammu & Kashmir; at least two-third of pregnant women reported that they were last tested for HIV prior to the current pregnancy (Figure 3.11).

**Figure 3.11:** Timing of last test among pregnant women who were ever tested for HIV, ANC HSS 2021



Among respondents who tested positive for HIV in HSS 2021, almost two thirds (67%) reported to have been tested for HIV at least once. Overall, two-fifth of the respondents who tested positive for HIV were taking antiretroviral medications/HIV tablets.

### 3.5 Levels of HIV, Syphilis, and Related Co-infections

Among the pregnant women, nationally, the observed HIV prevalence was 0.22% (95% CI: 0.21–0.24) and Syphilis sero-positivity was 0.10% (95% CI: 0.09–0.11). Table 3.8 depicts the sero-prevalence of HIV and sero-positivity for Syphilis at national level.

**Table 3.8:** Magnitude of HIV and Syphilis among pregnant women, HSS 2021

Biomarker	Total Sample Tested <sup>6</sup>	Sero-prevalence/Sero-positivity (In %) with 95% Confidence Interval
HIV	3,38,890	0.22 (0.21–0.24)
RPR (Syphilis)	3,09,467	0.10 (0.09–0.11)

In terms of co-morbidities/co-infections, the prevalence of HIV-Syphilis among pregnant women was 0.004% (95% CI: 0.002–0.006) while the sero-prevalence of HIV-HBV was 0.002%. (95% CI: 0.001–0.004). The sero-prevalence of HIV-HCV among pregnant women was 0.003% (95% CI:0.001–0.005).

Among the HIV-positive respondents, the sero-positivity for Syphilis was 1.84% (95% CI: 0.81–2.88). The sero-prevalence for HBV and HCV among the HIV-positive respondents was 1.06% (95% CI:0.33–1.79) and 1.28 (95% CI:0.45–2.12), respectively.

Highest HIV prevalence was noted in State of Nagaland [1.61%, (1.25–1.98)] followed by Mizoram [1.13%, (0.79–1.47)], Meghalaya [0.58%, (0.36–0.8)], Delhi [0.41%, (0.21–0.61)], Chandigarh [0.38%, (0–0.8)], Tripura [0.38%, (0.13–0.62)], Andhra Pradesh [0.37%, (0.27–

<sup>6</sup> The test results from 74 sites for RPR (Syphilis) and 63 sites for HCV were not included in this analysis because of the quality issues.

0.47)] and Manipur [0.33%, (0.19–0.46)] (Table 3.9). HIV prevalence of 1% or more was noted at 44 sites spread across 41 districts of the country which is the lowest since 2003 (Figure 3.12). In Nagaland, seven districts had at least one site reporting HIV prevalence of 1% or more followed by five in Mizoram, three each in Manipur and Meghalaya and two in Tripura (Table 3.10).

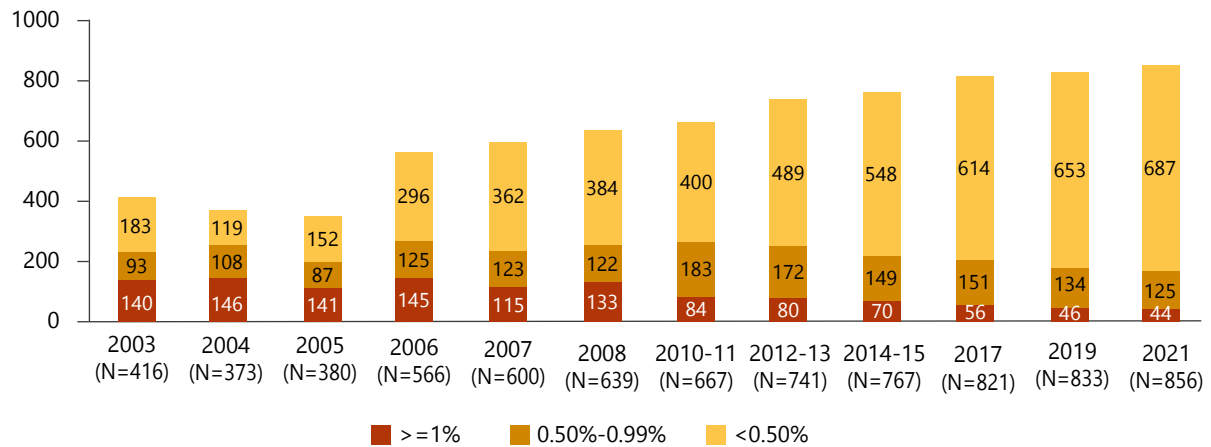
**Table 3.9:** State/UT-wise sero-prevalence (%)/sero-positivity (%) of HIV and Syphilis, HSS 2021

State/UT	HIV		Syphilis	
	N	Sero-prevalence	N	Sero-positivity
Andaman & Nicobar Islands	1,553	0.06 (0–0.19)	1,553	0 (0–0)
Andhra Pradesh	15,400	0.37 (0.27–0.47)	15,400	0.02 (0–0.04)
Arunachal Pradesh	2,976	0 (0–0)	2,976	0 (0–0)
Assam	11,544	0.11 (0.05–0.17)	11,544	0.01 (0–0.03)
Bihar	12,299	0.24 (0.15–0.32)	12,299	0 (0–0)
Chandigarh	800	0.38 (0–0.8)	-	-
Chhattisgarh	10,635	0.17 (0.09–0.25)	10,635	0.36 (0.24–0.47)
Dadra & Nagar Haveli	400	0.25 (0–0.74)	400	0 (0–0)
Daman & Diu	800	0 (0–0)	800	0 (0–0)
Delhi	3,920	0.41 (0.21–0.61)	-	-
Goa	1,200	0.25 (0–0.53)	1,200	0 (0–0)
Gujarat	13,921	0.27 (0.19–0.36)	8,721	0.13 (0.05–0.2)
Haryana	7,604	0.11 (0.03–0.18)	7,604	0.01 (0–0.04)
Himachal Pradesh	3,600	0.06 (0–0.13)	3,600	0.06 (0–0.13)
Jammu & Kashmir	6,193	0.02 (0–0.05)	6,193	0 (0–0)
Jharkhand	10,340	0.13 (0.06–0.19)	10,340	0.1 (0.04–0.16)
Karnataka	24,705	0.29 (0.22–0.36)	15,200	0.01 (0–0.02)
Kerala	4,800	0.04 (0–0.1)	4,800	0 (0–0)
Madhya Pradesh	20,436	0.09 (0.05–0.13)	20,436	0.22 (0.15–0.28)
Maharashtra	30,379	0.25 (0.2–0.31)	23,179	0.03 (0.01–0.05)
Manipur	7,023	0.33 (0.19–0.46)	7,023	0.23 (0.12–0.34)
Meghalaya	4,668	0.58 (0.36–0.8)	4,668	0.77 (0.52–1.02)
Mizoram	3,718	1.13 (0.79–1.47)	3,718	0.35 (0.16–0.54)
Nagaland	4,647	1.61 (1.25–1.98)	4,647	0.71 (0.47–0.95)
Odisha	13,200	0.21 (0.13–0.29)	13,200	0.1 (0.04–0.15)
Puducherry	800	0 (0–0)	800	0.13 (0–0.37)
Punjab	8,829	0.18 (0.09–0.27)	8,829	0.08 (0.02–0.14)
Rajasthan	13,998	0.14 (0.07–0.2)	11,200	0.03 (0–0.06)
Sikkim	1,979	0.05 (0–0.15)	1,979	0.25 (0.03–0.47)
Tamil Nadu	32,714	0.17 (0.13–0.22)	32,714	0.09 (0.06–0.12)
Telangana	11,200	0.16 (0.09–0.23)	11,200	0.13 (0.06–0.19)
Tripura	2,400	0.38 (0.13–0.62)	2,400	0.13 (0–0.27)
Uttar Pradesh	33,870	0.17 (0.13–0.22)	33,870	0.02 (0.01–0.04)
Uttarakhand	6,388	0.05 (0–0.1)	6,388	0 (0–0)
West Bengal	9,951	0.08 (0.02–0.14)	9,951	0.03 (0–0.06)
India	3,38,890	0.22 (0.21–0.24)	3,09,467	0.10 (0.09–0.11)



Syphilis sero-positivity was highest in Meghalaya [0.77%, (0.52–1.02)] followed by Nagaland [0.71%, (0.47–0.95)]. Chhattisgarh, Mizoram, and Sikkim were other States with Syphilis sero-positivity in the range of 0.25% to 0.36%. Twenty sites across nine States recorded Syphilis sero-positivity of 1% or more including seven sites in Chhattisgarh and four sites in Meghalaya.

**Figure 3.12:** Year-wise distribution of valid sites in different HIV prevalence (%) categories among ANC clinic attendees, HSS 2003–2021



**Table 3.10:** Districts with at least one site having HIV prevalence of 1% or more, HSS 2021

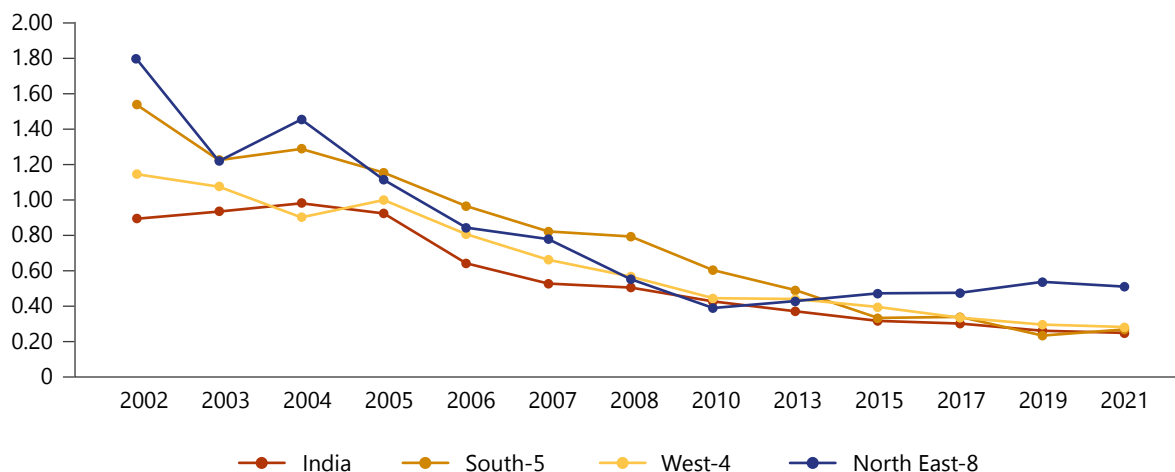
State	Districts with at least one site having HIV prevalence of 1% or more	Name of Districts
Andhra Pradesh	3	East Godavari, Prakasam, West Godavari
Chhattisgarh	1	Bilaspur
Delhi	2	Shahadra, West Delhi
Gujarat	2	Patan, Sabarkantha
Haryana	1	Kurukshetra
Karnataka	4	Bagalkot, Belgaum, Bellary, Dakshina Kannada
Maharashtra	1	Pune
Manipur	3	Bishnupur, Senapati, Ukhrul
Meghalaya	3	East Jaintia Hills, East Khasi Hills, West Jaintia Hills
Mizoram	5	Aizawl, Champhai, Lunglei, Mamit, Serchhip
Nagaland	7	Dimapur, Kiphire, Kohima, Mokokchung, Noklak, Peren, Phek
Odisha	1	Ganjam
Rajasthan	2	Bharatpur, Kota
Tamil Nadu	2	Tiruppur, Viluppuram
Tripura	2	North Tripura, West Tripura
Uttar Pradesh	2	Azamgarh, Varanasi

### 3.6 HIV Prevalence Trend

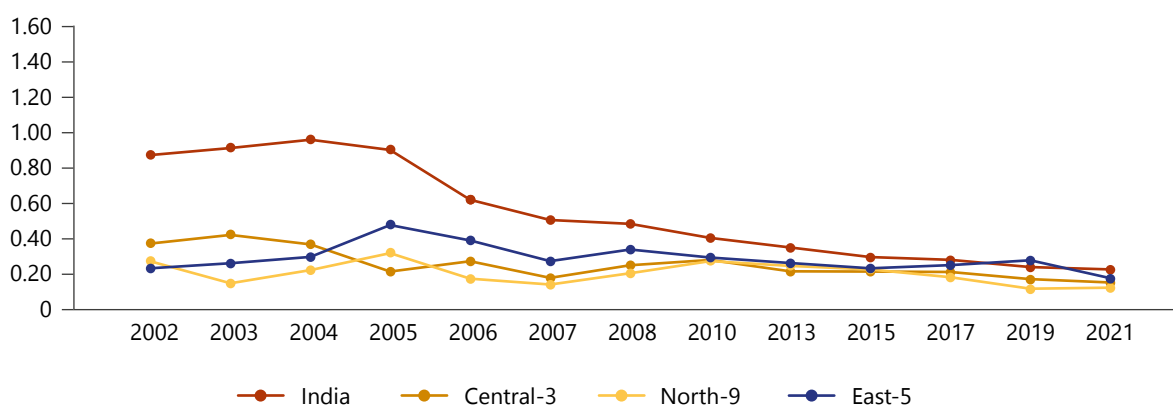
Since 2002, there are 841 sites with at least 3 data points till 2021 round of HSS among pregnant women. The section below presents the HIV prevalence trend since 2002 at national, regional and State level based on the data from these sites.

Figure 3.13 and 3.14 below presents the national and regional trend. As evident, HIV prevalence continues to have a declining trend nationally. The HIV prevalence trend in the southern (Andhra Pradesh, Karnataka, Kerala, Puducherry, Tamil Nadu, Telangana) and western (Maharashtra, Dadra and Nagar Haveli and Daman and Diu, Goa, and Gujarat) regions is also declining like the national trend. However, the HIV prevalence trend among pregnant women appears to be rising in the north-eastern (Arunachal Pradesh, Assam, Manipur, Nagaland, Mizoram, Meghalaya, Sikkim, Tripura) region.

**Figure 3.13:** HIV prevalence trend among pregnant women, national and regional (southern, western, and north-eastern region), HSS 2002–2021



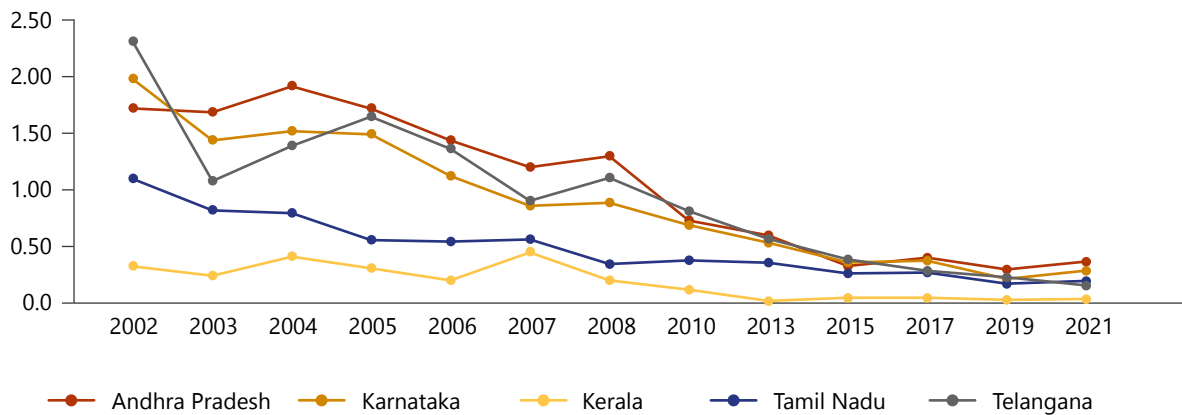
**Figure 3.14:** HIV prevalence trend among pregnant women, national and regional (central, northern and eastern), HSS 2002–2021



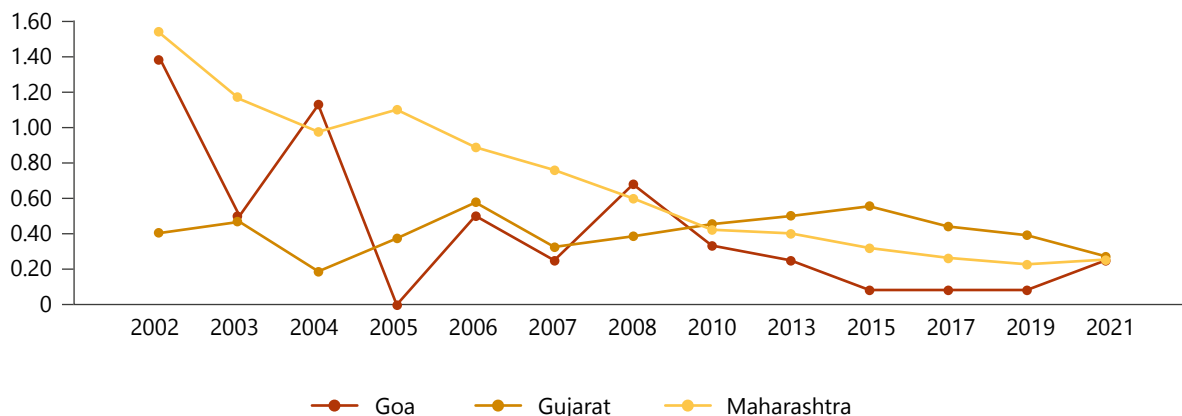
HIV prevalence in the central (Chhattisgarh, Madhya Pradesh, Uttar Pradesh), eastern (Andaman & Nicobar Islands, Bihar, Jharkhand, Odisha, West Bengal) and northern region (Chandigarh, Delhi, Haryana, Himachal Pradesh, Jammu and Kashmir and Ladakh, Punjab, Rajasthan, Uttarakhand) was at a much lower level than the national averages in 2002–05. HIV prevalence in these regions have declined but appears to have a relatively lower decline than the southern and western region.

State -wise, the ANC prevalence has continued to decline in all States of southern and western region (Figure 3.15 and 3.16). In the central region, HIV prevalence has been declining in Chhattisgarh, and Madhya Pradesh, with relatively stable trend in Uttar Pradesh (Figure 3.17). Among the northern States, the HIV prevalence trend is declining in the recent past in Punjab, Rajasthan, and Uttarakhand while a stable trend is noted in Haryana (Figure 3.18). Among the eastern States, a declining trend is noted in Jharkhand, and West Bengal, while a stable trend is noted in Bihar, and Odisha (Figure 3.19). Among the north-eastern States, while HIV prevalence trend continues to be declining in Manipur, a rising trend is noted in Meghalaya, Mizoram, Nagaland, and Tripura (Figure 3.20).

**Figure 3.15:** State-wise (southern region) trends in ANC HIV prevalence based on consistent sites<sup>7</sup>



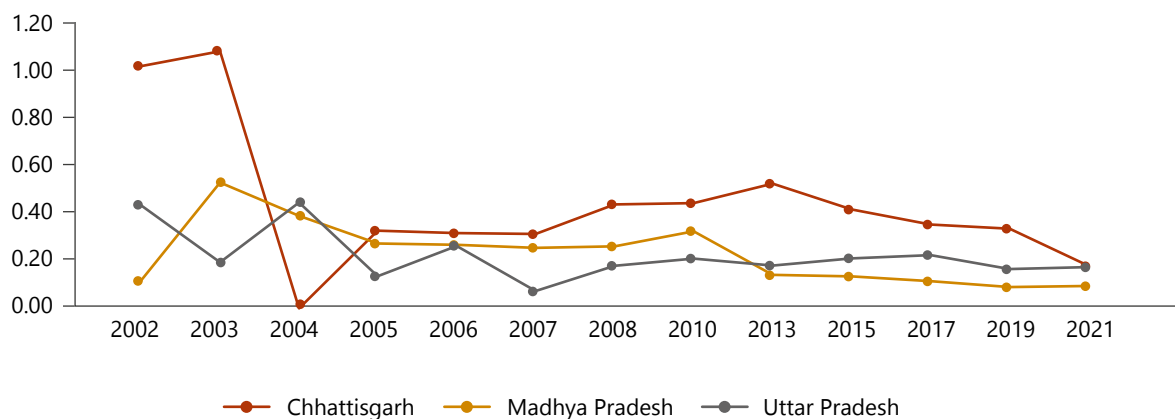
**Figure 3.16:** State-wise (western region) trends in ANC HIV prevalence based on consistent sites<sup>8</sup>



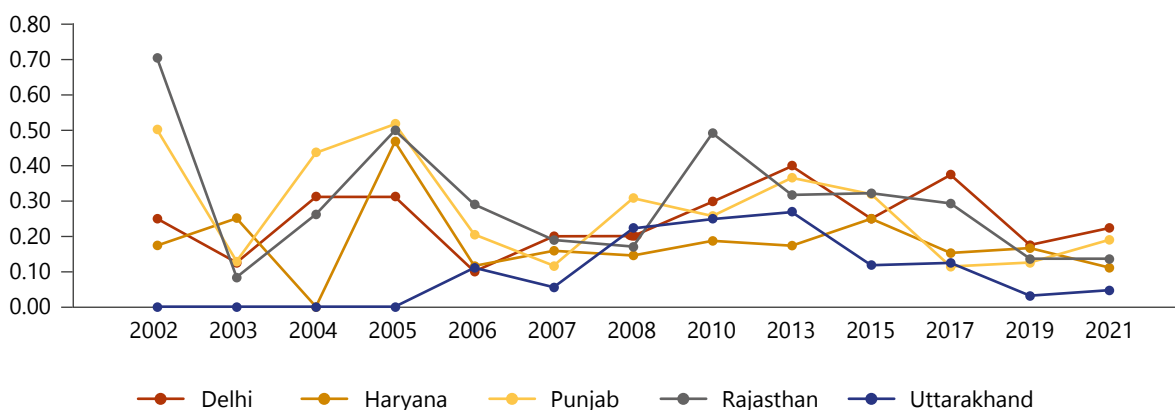
<sup>7</sup> 3-yr moving averages based on consistent sites; Andhra Pradesh-26, Karnataka-54, Kerala-6, Tamil Nadu-63, Telangana-18

<sup>8</sup> 3-yr moving averages based on consistent sites; Maharashtra-72, Goa-2, Gujarat-23

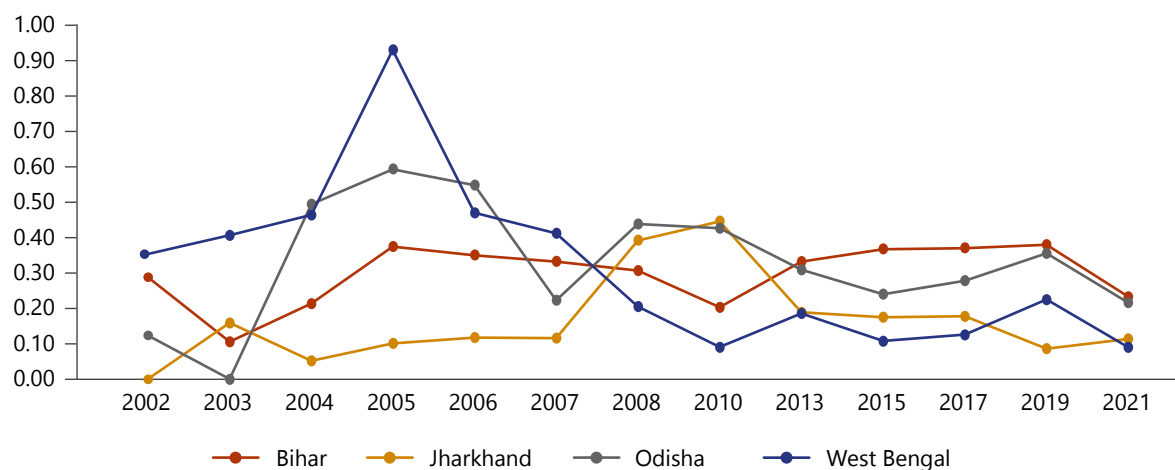
**Figure 3.17:** State-wise (central region) trends in ANC HIV prevalence based on consistent sites<sup>9</sup>



**Figure 3.18:** State-wise (northern region) trends in ANC HIV prevalence based on consistent sites<sup>10</sup>



**Figure 3.19:** State-wise (eastern region) trends in ANC HIV prevalence based on consistent sites<sup>11</sup>

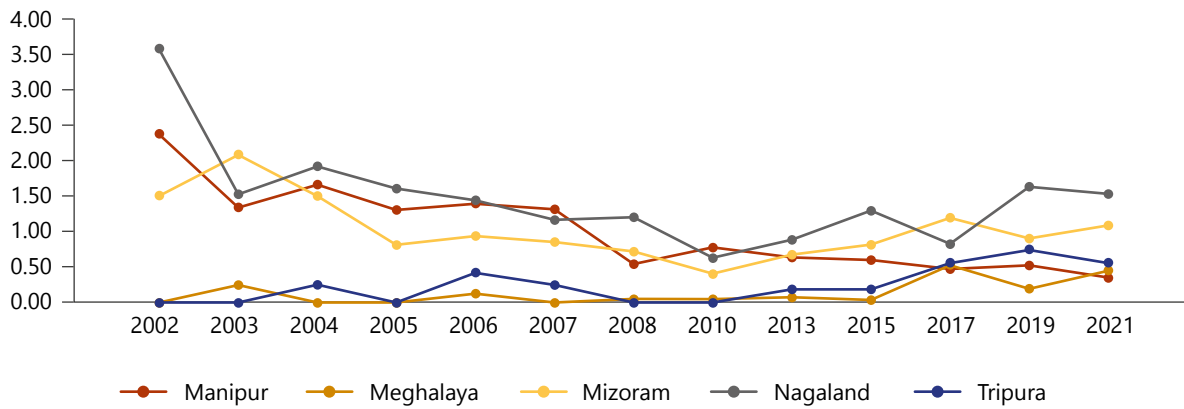


<sup>9</sup> 3-yr moving averages based on consistent sites; Chhattisgarh-14, Madhya Pradesh-36, Uttar Pradesh-39

<sup>10</sup> 3-yr moving averages based on consistent sites; Delhi-5, Haryana-11, Himachal Pradesh-6, Jammu and Kashmir-9, Punjab-11, Rajasthan-24, Uttarakhand-9

<sup>11</sup> 3-yr moving averages based on consistent sites; Bihar-21, Jharkhand-13, Odisha-23, West Bengal-11

**Figure 3.20:** State-wise (north-eastern region) trends in ANC HIV prevalence based on consistent sites<sup>12</sup>

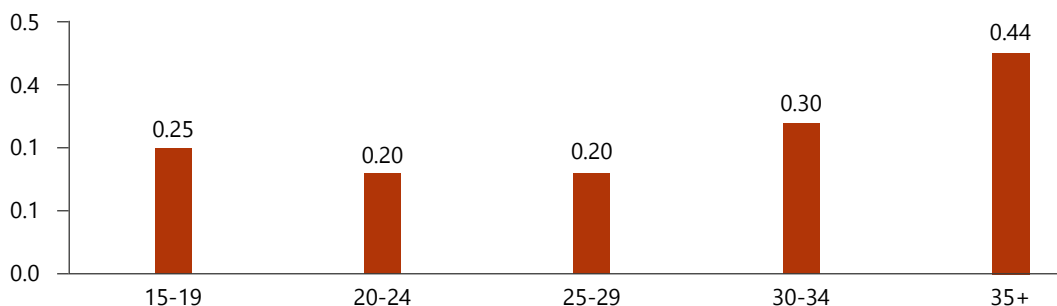


### 3.7 HIV Prevalence by Respondent's Characteristics

Table 3.11 presents the HIV prevalence by pregnant women's characteristics at national level in HSS 2021. In general, HIV prevalence among pregnant women has been increasing with age. HIV prevalence among the 35+ years age group is almost twice the prevalence reported among the 20–29 years old (Figure 3.21). HIV prevalence was inversely associated with education: the prevalence decreased as education level increased (Figure 3.22). Higher HIV prevalence was noted among the illiterate and those who were educated up to the 10th standard while contrarily, the lowest prevalence was noted among those with post graduate education (0.14%). HIV prevalence was at 0.25% among pregnant women belonging to urban areas in comparison to 0.21% among those who belonged to rural areas (Figure 3.23).

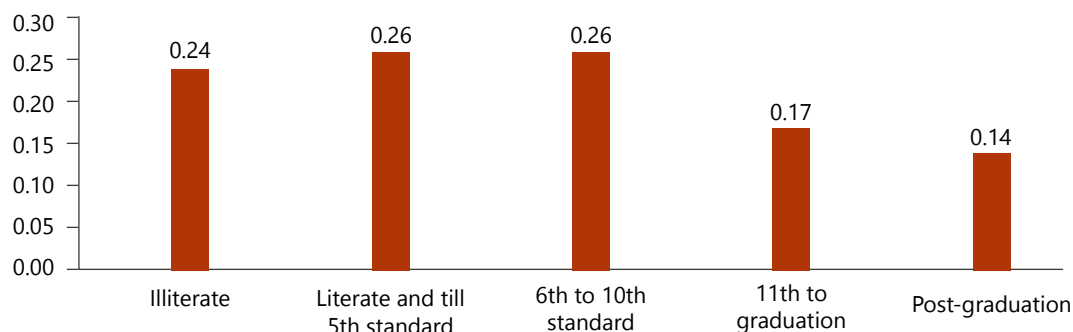
HIV prevalence was highest at 0.61% among those who reported that their spouse's occupation was as truck driver/helper followed by 0.32% prevalence among ANC women who reported that their spouse was unemployed/working as a hotel staff. HIV prevalence was 0.30% among respondents whose spouse was a migrant worker in comparison to 0.22% prevalence among those who reported that their spouse didn't migrate on account of work (Figure 3.24).

**Figure 3.21:** HIV prevalence by age group, ANC HSS 2021

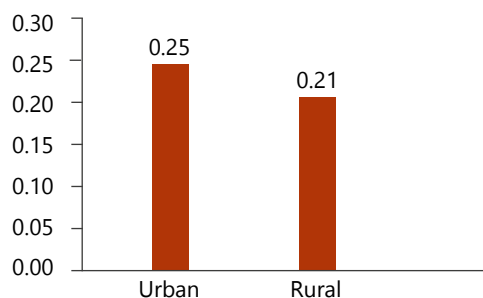


<sup>12</sup> 3-yr moving averages based on consistent sites; Arunachal Pradesh-5, Assam-10, Manipur-14, Nagaland-15, Mizoram-4, Meghalaya-4, Sikkim-2, Tripura-2

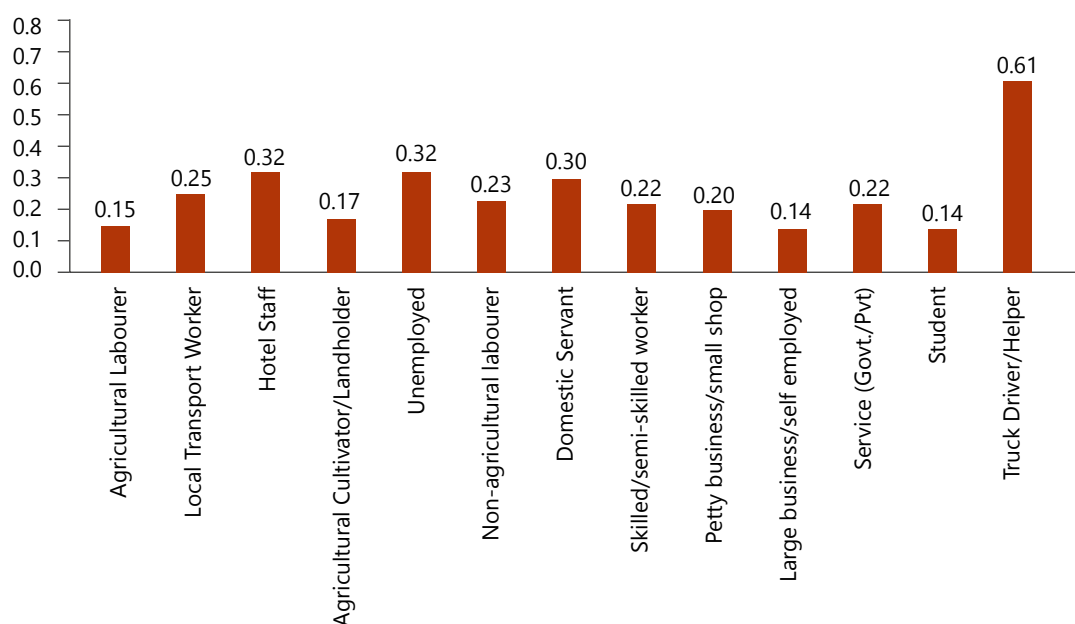
**Figure 3.22:** HIV prevalence by education, ANC HSS 2021



**Figure 3.23:** HIV prevalence by place of residence, ANC HSS 2021



**Figure 3.24:** HIV prevalence by occupation of spouse of pregnant women, ANC HSS 2021



**Table 3.11:** HIV prevalence by background characteristics of antenatal clinic attendees, HSS 2021

Background characteristics	Disaggregation	Distribution		HIV-positive
		Frequency*	%	%
Age	15–19	25,199	7.4	0.25
	20–24	1,59,291	47.0	0.20
	25–29	1,07,783	31.8	0.20
	30–34	35,847	10.6	0.30
	35+	10,770	3.2	0.44
Residence	Urban	1,16,120	34.4	0.25
	Rural	2,21,638	65.6	0.21
Education	Illiterate	33,451	9.89	0.24
	Literate and till 5th standard	40,443	11.95	0.26
	6th to 10th standard	1,35,269	39.98	0.26
	11th to Graduation	1,11,393	32.93	0.17
	Post-Graduation	17,756	5.25	0.14
Respondent Occupation	Agricultural labourer	11,434	3.4	0.15
	Non-agricultural labourer	6,060	1.8	0.36
	Domestic Servant	1,276	0.4	0.47
	Skilled/semi-skilled worker	2,557	0.8	0.23
	Petty business/small shop	1,716	0.5	0.58
	Large business/self-employed	608	0.2	0.16
	Service (Govt./Pvt.)	9,296	2.7	0.18
	Student	2,763	0.8	0.14
	Housewife	2,97,054	87.7	0.22
	Others	5,766	1.7	0.21
Spouse Occupation	Unemployed	5,921	1.8	0.32
	Agricultural labourer	38,324	11.3	0.15
	Non-agricultural labourer	74,474	22.0	0.23
	Agricultural cultivator/landholder	20,988	6.2	0.17
	Hotel staff	4,634	1.4	0.32
	Domestic Servant	1,667	0.5	0.30
	Skilled/semi-skilled worker	49,381	14.6	0.22
	Petty business/small shop	34,024	10.1	0.20
Migrant Spouse	Yes	18,017	5.3	0.30
	No	3,18,859	94.7	0.22

\* Total may not add up to 3,38,890 because of missing/not applicable response



Chapter 4

# Discussion



The 17<sup>th</sup> round of HIV Sentinel Surveillance among antenatal care clinic attendees was implemented at 856 sites spread across 659 districts in the country. The round was not only the largest in terms of sites covered and samples collected but was also the first round to integrate questions and biomarkers for Hepatitis B Virus and Hepatitis C virus. This was a significant development as integration offers comprehensive understanding of these diseases geographically and thus enhances the ability of national programmes to operate more efficiently and effectively.

The findings indicate that the prevalence for HIV, Hepatitis C and Syphilis is low nationally among pregnant women while the sero-prevalence for Hepatitis B was relatively higher. However, some States are disproportionately affected than the rest.

As evident from HSS 2021, HIV prevalence trend among pregnant women continues to be low with a declining trend nationally and in most of the States/UTs. In the 2021 round, out of 856 sites, only 44 sites (around 5% of the total sites) had shown sero-prevalence of 1% or higher. In comparison, there were 141 sites (out of 380 sites) in 2005, 84 sites (out of 667 sites) in 2010, and 70 sites (out of 767 sites) in 2015 where sero-prevalence of 1% or more was recorded.

The declining trend, as noted nationally, is also reflected among the erstwhile high HIV prevalence States of Andhra Pradesh, Maharashtra, Karnataka, Tamil Nadu, and Telangana. Except for Andhra Pradesh, all these States have shown a HIV prevalence rate similar to, or lower than, the national average among pregnant women. Still, 10 districts in these States have at least one ANC site with sero-prevalence of 1% or more indicating that there is no place of complacency.

However, magnitude and directions of HIV epidemic in select States of the north-eastern region continue to emphasize the need for sustained and intensified actions. Out of 41 districts having at least one ANC site with HIV sero-prevalence of 1% or more, 20 are in the north-eastern States. State/UT-wise, HIV prevalence of more than 1% among pregnant women was noted only in Nagaland and Mizoram. Meghalaya had the third highest HIV prevalence among pregnant women. Tripura, another north-eastern States, is ranked fifth. All these four States have a rising prevalence among pregnant women.

Meghalaya, Nagaland, Mizoram, and Sikkim also have higher sero-positivity of Syphilis than the national average. Mizoram is also the top-ranking State in terms of sero-prevalence of HBV and HCV. The high burden of HIV, Syphilis, HCV, and HBV in the north-eastern region is noteworthy. Since these diseases share common modes of transmission and determinants, the integrated approach across the prevention, diagnosis, treatment, and care continuum reflected in NACP Phase-V is a critical step offering holistic and comprehensive package of services.

HSS 2021 documented lower prevalence of co-morbidities in general. However, prevalence of Syphilis, and Hepatitis C infections among HIV infected pregnant women was relatively higher. This HSS 2021 corroborates the need for regular screening for Syphilis and HCV infection among HIV infected patients as a part of the client centric services under NACP.

The report for the HSS 2021 among pregnant women provides data on the level and trend of HIV among pregnant women as in previous rounds. For the first time, the report also provides data among the current level of sero-prevalence of HBV and HCV among the pregnant women. While in-depth analysis of data will further enhance the insights into the epidemic of HIV, Syphilis and related co-morbidities, the current report provides critical evidence for shared actions providing holistic and comprehensive care as reflected under NACP Phase-V.



Annexure 1

# Data Form for Antenatal Clinic (ANC) Attendees

National AIDS Control Programme | All India Institute of Medical Sciences  
Ministry of Health & Family Welfare, Govt of India

**HSS 2021: DATA FORM FOR ANTENATAL CLINIC ATTENDEES (ANC)**

[Please fill the site details in the box below OR Paste the sticker with site details/Stamp the site details in the empty box]/कृपया सेंटिनल साइट की जानकारी यहाँ लिखें/छापें/चिपकाएं

State / राज्य: _____ District / ज़िला: _____	
Site / Sub-site Name / साइट / सबसाइट का नाम: _____	
(Site Code) (साइट कोड)	(SSN) (Sample No) (सब-साइट नंबर)
(Date DD/MM/YY) (दिनांक- DD/MM/YY)	(सेंपल नंबर)
<input type="text"/>	<input type="text"/>

**Section 1: Background Characteristic / भाग 1: पृष्ठभूमि का विवरण**

1. How old are you?/आप कितने साल के हैं? (record age in completed years)/(आयु पूर्ण वर्षों में)

--	--

2. What is your Literacy Status?/साक्षरता का स्तर

1. Illiterate/निरक्षर
2. Literate and till 5<sup>th</sup> Standard/साक्षर और पाँचवी कक्षा तक
3. 6<sup>th</sup> to 10<sup>th</sup> Standard/छठी कक्षा से दसवीं कक्षा तक
4. 11<sup>th</sup> to graduation/ग्यारहवी कक्षा से स्नातक तक
5. Post- Graduation/स्नातकोत्तर

3. What is the order of your current pregnancy? आपके वर्तमान गर्भ का क्रम क्या है?

- |                    |  |
|--------------------|--|
| 1. First/पहली बार  | 2. Second/दूसरी बार                    |
| 3. Third/तीसरी बार | 4. Fourth or More/चौथी या उस से ज्यादा |

4. What is the duration of current pregnancy? /आपके वर्तमान गर्भ का समय क्या है?

- |                                 |                                  |
|---------------------------------|----------------------------------|
| 1. First Trimester/पहली तिमाही  | 2. Second Trimester/दूसरी तिमाही |
| 3. Third Trimester/तीसरी तिमाही |                                  |

5. Did you receive Antenatal care services from any healthcare facility (including this one) during your current pregnancy before today?/क्या आपने वर्तमान गर्भावस्था के दौरान पहले कभी भी प्रसवपूर्व जाँच किसी अस्पताल से, इस एक सहित, कराया है?

- |            |            |
|------------|------------|
| 1. Yes/हाँ | 2. No/नहीं |
|------------|------------|

**CONFIDENTIAL: ONLY FOR THE USE OF HSS SITE PERSONNEL / गोपनीय: केवल एच.एस.एस. साइट कर्मचारी के उपयोग के लिए**

6. What is your Current Place of Residence?/आपका वर्तमान निवास स्थान क्या है?

1. Urban (Municipal Corporation/Council/Cantonment)/शहरी (नगरनिगम/परिषद्/छावनी)
2. Rural/ग्रामीण

7. What is your Current primary Occupation?/आपका वर्तमान में मुख्य व्यवसाय क्या है?

1. Agricultural Labourer/कृषि श्रमिक
2. Non-Agricultural Labourer/ गैर कृषि श्रमिक
3. Domestic Servant/ घरेलू नौकर
4. Skilled/Semi-skilled worker/कुशल/ अर्ध कुशल श्रमिक
5. Petty business/small shop/लघु उद्योग/छोटी दुकान
6. Large Business/Self-employed/बड़ा व्यापार/स्वरोजगार
7. Service (Govt./Pvt.)/कर्मचारी (सरकारी/निजी)
8. Student/ छात्र
9. Truck Driver/Helper/ट्रक चालक/सहायक
10. Auto/taxi driver/ऑटो/टैक्सी चालक
11. Hand cart pullers/rickshaw pullers/ठेले वाले/रिक्शे वाले
12. Hotel staff/होटल कर्मचारी
13. Agricultural cultivator/landholder/ कृषक/जमींदार
14. Housewife/गृहिणी
15. Unemployed/बेरोज़गार

8. What is your spouse/partner's current primary Occupation?/आपके पति/साथी का वर्तमान में मुख्य व्यवसाय क्या है?

1. Agricultural Labourer/कृषि श्रमिक
2. Non-Agricultural Labourer/गैर कृषि श्रमिक
3. Domestic Servant/घरेलू नौकर
4. Skilled/Semi-skilled worker /कुशल/ अर्ध कुशल श्रमिक
5. Petty business/small shop/लघु उद्योग/छोटी दुकान
6. Large Business/Self-employed/ बड़ा व्यापार/स्वरोजगार
7. Service (Govt./Pvt.)/कर्मचारी (सरकारी/निजी)
8. Student/ छात्र
9. Truck Driver/Helper/ट्रक चालक/सहायक
10. Auto/taxi driver /ऑटो/टैक्सी चालक
11. Hand cart pullers/rickshaw pullers/ ठेले वाले/रिक्शे वाले
12. Hotel staff/होटल कर्मचारी
13. Agricultural cultivator/landholder/कृषक/जमींदार
15. Unemployed/बेरोज़गार
99. No Response/कोई उत्तर नहीं

9. Did your spouse/partner reside alone in another place/town away from you for work for a period longer than 6 months in past one year?/पिछले एक साल में क्या आपके पति/ साथी काम के लिये आप से दूर 6 महीनों से ज्यादा किसी दूसरे स्थान/टाउन में अकेले रहे हैं?



1. Yes/हाँ 2. No/नहीं

99. No Response/कोई उत्तर नहीं

**Section 2: HIV/AIDS related testing & treatment services uptake/ भाग-2 एच.आई.वी. एड्स**

**सम्बंधित जाँच और इलाज सेवाओं का इस्तेमाल**

10. Have you ever been tested for HIV prior to this ANC visit?/ क्या आपने आज की प्रसवपूर्व जांच पड़ताल विजिट से पहले कभी एच.आई.वी. की जांच करायी है?

1. Yes/हाँ  
2. No/नहीं

99. Don't know/No response/पता नहीं/कोई उत्तर नहीं

**Note: If respondent has reported "Yes" in question number '10', then ask the questions '11-13' as per instructions provided. If the respondent has never been tested for HIV (i.e option '2' or '99' encircled in question '10'), then skip the questions '11-13' and go to the question '14' please.**

**नोट: यदि प्रतिभागी ने प्रश्न संख्या, '10' में "हाँ" बताया है, तो दिए गए निर्देशों के अनुसार प्रश्न '11-13' पूछें। यदि प्रतिभागी ने कभी भी एच.आई.वी. जांच नहीं करायी है (यानि की प्रश्न 10 में विकल्प '2' या '99' को चुना हो), तो कृपया प्रश्न '11-13' छोड़ दें और प्रश्न '14' पर जाएं।**

11. When was the last time you were tested for HIV?/आपने आखिरी बार एच.आई.वी. की जांच कब कराई थी?

1. Tested during current pregnancy/वर्तमान गर्भावस्था के दौरान  
2. Tested before current pregnancy/वर्तमान गर्भावस्था से पहले

12. What was the result of your last HIV test?/आपकी पिछली एच.आई.वी. जांच का परिणाम क्या था?

1. Positive/पॉजिटिव  
2. Negative/नेगेटिव  
3. Did not collect the test result/ जांच का परिणाम नहीं लिया  
99. No Response/कोई उत्तर नहीं

**Note: If respondent has reported "Positive" in question number '12', then ask the question '13' to the respondent. If, response in question number '12' is anything else, please skip question numbers '13' and go to the question number '14'.**

**नोट: यदि प्रतिभागी ने प्रश्न '12' का उत्तर "पॉजिटिव" दिया है तो प्रश्न '13' पूछें। यदि प्रश्न '12' का उत्तर कुछ और है तो, कृपया प्रश्न '13' को छोड़ दें और प्रश्न '14' पर जाएं।**

13. You mentioned that your last test result was positive for HIV. Are you currently taking antiretroviral medications/HIV tablets?/आपने बताया की आपके पिछली जांच का परिणाम एच.आई.वी. पॉजिटिव था| क्या आप एचआईवी की दवाएं ले रहे हैं?

1. Yes/हाँ 2. No/नहीं

Section 3: Viral Hepatitis / भाग : वायरल हेपेटाइटिस

**Statement:** Hepatitis and HIV co-infection has emerged as a critical challenge for HIV infected people. Many people living with HIV receiving antiretroviral therapy are also suffering from liver disease resulting from untreated viral hepatitis. Knowing about Hepatitis will help national programme to understand the severity of Hepatitis disease and plan the resources accordingly. And hence, we will like you to ask certain questions about Hepatitis. I would like you to note once again that confidentiality is fully maintained in this surveillance survey, and the same questions are being asked to all the participants.

**/बयान:** हेपेटाइटिस और एच.आई.वी. सह-संक्रमण, एच.आई.वी. संक्रमित लोगों के लिए एक महत्वपूर्ण चुनौती बनकर उभरा है। कई एच.आई.वी. पॉजिटिव लोग जिनका एआरटी/एच.आई.वी. का इलाज चल रहा है, उनको वायरल हेपेटाइटिस भी होता है-जिसका निदान नहीं हुआ है-और जिसके कारण लिवर की बीमारी से पीड़ित है। हेपेटाइटिस के बारे में जानने से हेपेटाइटिस बीमारी की गंभीरता को समझने और उसके अनुसार संसाधनों की योजना बनाने में राष्ट्रीय कार्यक्रम को मदद मिलेगी। और इसलिए, हम आपसे हेपेटाइटिस के सम्बन्ध में कुछ प्रश्न पूछेंगे। मैं एक बार फिर से दोहराना चाहूँगी/चाहूँगा कि यह सर्वेक्षण पूर्ण रूप से गोपनीय है, और सभी प्रतिभागियों से समान प्रश्न पूछे जा रहे हैं।

*Hepatitis in General/ हेपेटाइटिस*

14. Have you ever had jaundice in the past 1 year? क्या आपको पिछले 1 साल में कभी पीलिया हुआ है?

1. Yes/हाँ 2. No/नहीं

15. Have you heard of Hepatitis?/ क्या आपने हेपेटाइटिस के बारे में सुना है?

1. Yes/हाँ 2. No/नहीं

**Note:** If the respondent has reported "Yes" in question number '15', then ask the questions '16-26' as per instructions provided. If answer to above question '15' is "No", please skip question numbers '16' to '26' and go to the end of interview. Thank the respondents and end the interview./

**नोट:** यदि प्रश्न '15' का उत्तर "हाँ" है, तो दिए गए निर्देशों के अनुसार प्रश्न '16-26' पूछें। यदि प्रश्न '15' का उत्तर "नहीं" है, तो प्रश्न '16-26' को छोड़ दें और साक्षात्कार के अंत में जाएं। प्रतिभागी को धन्यवाद करें और साक्षात्कार समाप्त करें।

16. Are you aware of testing being offered for hepatitis in the government facilities?/क्या आपको पता है की सरकारी केंद्रों में हेपेटाइटिस की जाँच होती है?

1. Yes/हाँ 2. No/नहीं

17. Are you aware of treatment being offered for hepatitis in the government facilities?/क्या आपको पता है की सरकारी केंद्रों में हेपेटाइटिस का इलाज होता है?

1. Yes/हाँ 2. No/नहीं



***Hepatitis B/ हेपेटाइटिस बी***

Statement: Thank you very much for your response. It was very useful to understand your awareness about Hepatitis. Now I will ask some questions pertaining to Hepatitis B. Will request for your kind patience and response to these questions

बयान: आपके जवाबों के लिए बहुत-बहुत धन्यवाद। हेपेटाइटिस के बारे में आपकी जागरूकता को समझना हमारे लिए वह बहुत उपयोगी थे। अब मैं हेपेटाइटिस बी से संबंधित कुछ प्रश्न पूछूंगी/पूछूंगा। आपसे अनुरोध है की धीरज बनाये रखें और प्रश्नों का उत्तर दें।

18. Have you ever received the Hepatitis B vaccine?/क्या आपको कभी हेपेटाइटिस बी का टीका लगा है?

1. Yes/हाँ

2. No/नहीं

19. Have you ever been tested for Hepatitis B?/क्या आपकी कभी हेपेटाइटिस बी की जाँच हुई है?

1. Yes/हाँ

2. No/ नहीं

Note: If the respondent has reported "Yes" in question number '19', then ask the questions '20-22' as per instructions provided. If answer to above question '19' is "No", please skip question numbers '20' to '22' and go to the question number '23'.

नोट: यदि प्रश्न '19' का उत्तर "हाँ" है, तो दिए गए निर्देशों के अनुसार प्रश्न '20-22' पूछें। यदि प्रश्न '19' का उत्तर "नहीं" है, तो प्रश्न '20-22' को छोड़ दें और प्रश्न '23' पर जाएँ।

20. You mentioned that you have been tested for Hepatitis B. When was the last time you were tested for Hepatitis B?/ आपने बताया कि आपकी हेपेटाइटिस बी की जाँच की गयी थी। आपकी आखिरी बार हेपेटाइटिस बी की जाँच कब की गयी थी?

1. Less than or equal to 12 months ago / 12 महीने या उससे पहले

2. More than 12 months and less than three years ago / 12 महीने से ज्यादा और तीन साल से कम

3. Three years or more ago / तीन साल या उससे भी ज्यादा

21. What was the result of your last Hepatitis B test? आपके पिछली हेपेटाइटिस बी जाँच का परिणाम क्या था?

1. Positive/पॉजिटिव

2. Negative/नेगेटिव

3. Did not collect the test result /जाँच का परिणाम नहीं लिया

99. No Response/कोई उत्तर नहीं

Note: If the respondent has reported "Positive" in question number '21', then ask the question '22' to the respondent. If, response is anything else, please skip question numbers '22' and go to the question number '23'.

नोट: यदि प्रतिभागी ने प्रश्न '21' का उत्तर "पॉजिटिव" दिया है, तो प्रतिभागी से प्रश्न '22' पूछें। यदि प्रश्न '21' का अन्य कोई उत्तर दिया है तो प्रश्न '22' को छोड़ दें और प्रश्न '23' पर जाएँ।



22. You mentioned that your last test result was positive for Hepatitis B. Did you take any medicines to treat your Hepatitis B infection?/ आपने बताया कि आपकी हेपेटाइटिस बी की पिछली जाँच का परिणाम पॉजिटिव था। क्या आपने हेपेटाइटिस बी के इलाज के लिए कोई दवाई ली थी?

1. Yes/हाँ
2. No/नहीं
99. Don't know/No Response/पता नहीं/कोई प्रतिक्रिया नहीं

### ***Hepatitis C/ हेपेटाइटिस C***

**Statement:** Thanks very much for all your support so far. Now we have reached to the last segment of this interview where I will ask some questions pertaining to Hepatitis C. I would like you to state once again that confidentiality is fully maintained in this surveillance survey, and the same questions are being asked to all the participants of this group./

**बयान:** अब तक आपके सहयोग के लिए बहुत बहुत धन्यवाद। अब हम इस साक्षात्कार के अंतिम भाग में पहुंच गए हैं, जहां मैं हेपेटाइटिस सी से संबंधित कुछ प्रश्न पूछूंगा / पूछूंगी। मैं एक बार फिर से दोहराना चाहूंगी/चाहूँगा कि यह सर्वेक्षण पूर्ण रूप से गोपनीय है, और सभी प्रतिभागियों से समान प्रश्न पूछे जा रहे हैं।

23. Have you ever been tested for Hepatitis C?/ क्या आपकी कभी हेपेटाइटिस C की जाँच हुई है?

1. Yes/हाँ
2. No/नहीं

**Note:** If the respondent has reported "Yes" in question number '23', then ask the questions '24-26' as per instructions provided. If answer to above question '23' is "No", please skip question numbers '24' to '26' and go to the end of interview. Thanks the respondents and End the interview./

**नोट:** यदि प्रतिभागी ने प्रश्न '23' का उत्तर "हाँ" दिया है, तो तो दिए गए निर्देशों के अनुसार प्रतिभागी से प्रश्न '24-26' पूछें। यदि उपरोक्त प्रश्न '23' का उत्तर "नहीं" है, तो कृपया प्रश्न '24-26' छोड़ दें और साक्षात्कार के अंत में जाएं। प्रतिभागी को धन्यवाद करें और साक्षात्कार समाप्त करें।

24. You mentioned that you have been tested for Hepatitis C. When was the last time you were tested for Hepatitis C?/ आपने बताया कि आपकी हेपेटाइटिस C की जाँच की गयी थी। आपकी आखिरी बार हेपेटाइटिस C की जाँच कब की गयी थी?

1. Less than or equal to 12 months ago / 12 महीने या उससे पहले
2. More than 12 months and less than three years ago / 12 महीने से ज्यादा और तीन साल से कम
3. Three years or more ago / तीन साल या उससे भी ज्यादा

25. What was the result of your last Hepatitis C test?/आपकी पिछली हेपेटाइटिस C की जाँच का परिणाम क्या था?

1. Positive/पॉजिटिव
2. Negative/नेगेटिव
3. Did not collect the test result/जाँच का परिणाम नहीं लिया
99. No Response/ कोई उत्तर नहीं



**Note:** If the respondent has reported "Positive" in question number '25', then ask the question '26' to the respondent. If, response is anything else, please skip question number '26' and go to the end of interview. Thank the respondents and End the interview/

नोट: यदि प्रतिभागी ने प्रश्न '25' का उत्तर "पॉजिटिव" दिया है, तो प्रतिभागी से प्रश्न '26' पूछें। यदि प्रश्न '25' का अन्य कोई उत्तर दिया है तो प्रश्न '26' को छोड़ दें और साक्षात्कार समाप्त करें।

26. You mentioned that your last test result was positive for Hepatitis C. Did you take any medicine to treat your Hepatitis C infection?/आपने बताया कि आपकी हेपेटाइटिस C की आखिरी जाँच का परिणाम पॉजिटिव था। क्या आपने हेपेटाइटिस C के इलाज के लिए कोई दवाई ली थी?

1. Yes/हाँ

2. No/नहीं

99. Don't know/No Response/पता नहीं / कोई उत्तर नहीं

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गोपनीय: केवल HSS साइट कर्मचारियों के उपयोग के लिए

**CONFIDENTIAL: ONLY FOR THE USE OF HSS SITE PERSONNEL / गोपनीय: केवल एच.एस.एस.**

**साइट कर्मचारी के उपयोग के लिए**

Note: Thank the inmate for his support and cooperation and reassure him about the anonymity and confidentiality of answers. Take him to lab technician for blood specimen collection. Ensure that the sample number on data form and blood specimen vial is same. / प्रतिभागी के समर्थन और सहयोग के लिए उसका धन्यवाद करें और उत्तर की गुमनामी और गोपनीयता के बारे में उसे आश्वस्त करें। ब्लड/रक्त सैंपल संग्रह के लिए उसे लैब तकनीशियन के पास ले जाएं। सुनिश्चित करें की सैंपल नंबर डेटा फॉर्म और HSS सैंपल वाइअल / शीशी पर समान हैं।

Signature / हस्ताक्षर:

Signature/ हस्ताक्षर:

Name / नाम:

Name / नाम:

(Person who filled the form / फॉर्म भरने वाले व्यक्ति)  
प्रमुख)

(Sentinel Site in-charge/ सेंटिनल साइट



National AIDS and STD Control Programme implemented the seventeenth round of the entirely domestically funded and one of the world's most extensive HIV Sentinel Surveillance systems among antenatal clinic attendees in the year 2021 at 856 sites across 659 districts in 35 States/UTs collecting a total of around 3.39 lakh complete data forms and biological specimens. The method continues to be the consecutive sampling method following the linked-anonymous testing strategy. This technical report presents the results from the 17th round of sentinel surveillance among pregnant women.



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