Impact of COVID-19 on community-based HIV screening in Maharashtra

Prayas (Health Group)

Impact of COVID-19 on Community-Based HIV Screening in Maharashtra

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Prayas (Health Group)

About Prayas

Prayas (Initiatives in Health, Energy, Learning, and Parenthood) is a non-governmental, non-profit organization based in Pune, India. Prayas is registered as a SIRO (Scientific and Industrial Research Organization) with the Scientific and Industrial Research Department, Ministry of Science and Technology, Government of India. Prayas Health Group (PHG) focuses on issues of public health importance such as HIV/AIDS and Sexual and Reproductive Health and Rights, health impacts of household air pollution and climate change. PHG is actively involved in socio-behavioral and epidemiological research, awareness building, programmatic interventions, and provision of clinical and counseling services, especially to persons living with HIV and youth.

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Summary

Introduction and rationale

HIV/AIDS has remained a public health concern for over four decades in India. The Targeted Intervention (TI) programs (in urban areas) and Link Worker Scheme programs (LWS) (in rural areas) are among the key prevention initiatives under the national program on HIV. These programs focus on Female Sex workers (FSWs), Men who have sex with Men (MSM), Trans Genders (TGs), Injecting Drug Users (IDUs), Truckers, and Migrant population. Community-Based Screening (CBS) for HIV was adopted in these programs from 2016-17 onwards to reach the unreached or hard-to-reach populations and achieve the first target of 95-95-95, i.e., 95% of people living with HIV know about their status. This strategy was adapted to bridge the testing gaps despite the wide availability of Integrated Counselling and Testing Centers (ICTCs). The COVID-19 pandemic challenged the progress toward achieving the HIV targets. During the pandemic, the 'new norms' presented unique challenges for HIV programs and potentially impacted all the services, including CBS for HIV. Maharashtra has been one of the worst affected states for COVID-19 and HIV. The present study was undertaken to understand how the pandemic impacted HIV services in Maharashtra and how programs dealt with it. The insights provided by this study will be helpful in planning strategies to cope with future disease outbreaks and natural disasters.

Study Objectives

1. To understand how the CBS outcomes (coverage of the target population, screening yield) in Maharashtra were impacted by the COVID-19 pandemic
2. To understand how the COVID-19 situation has compounded the challenges in reaching out to the unreached populations through CBS

Study Methodology

A mixed-methods evaluation study was employed. Qualitative data were collected from 30 TI organizations across ten districts and LWS data from four districts. In-depth qualitative interviews (n=54) were conducted with program officials and staff of TI/LWS organizations and focus group discussions (n=13) were conducted with peers and outreach workers from the organizations. Adequate representation of the organizations catering to different typologies was ensured. Secondary quantitative data of the TI and LWS programs from April 2018 to May 2021 were analyzed. To understand the COVID-19 impact, a reference period was established in quantitative analysis. April 2020 to March 2021 was considered 'COVID-19 year', and one previous year (April 2019 to March 2020) was considered a 'Pre-COVID-19' year. Data was analyzed in MS Excel and R statistical software using descriptive statistics. The study was approved by the Prayas Institutional Ethics Committee for Research and the Maharashtra State AIDS Control Society (MSACS) research review committee.

Study Results

In this report, we use the term 'Community' when referring to the key high-risk groups (FSW, MSM, TG, and IDU) and bridge populations (migrants and truckers) reached out through TI/LWS program.

The qualitative data revealed several challenges posed by restrictions during the lockdown and un-lockdown phases. During the first lockdown, the livelihood of the community members was severely impacted, raising serious survival concerns for many. The program focused more on distributing essentials (ration kits, ready-to-eat food, grocery, masks, sanitizers, soaps, and nutrition support) to the community and Anti-retroviral Treatment (ART) for People Living with HIV (PLHIV) during this period. As things opened up post-lockdown, the outreach activities and HIV testing gained momentum in a challenging situation. Physical outreach was difficult amidst COVID-19 fears, frequent announcements of containment zones, and closure of public transport. During un-lockdown phases, the usual physical sites (hot spots) were not functioning as they used to be before Covid-19, due to issues such as – the migration of some community members to native places and their slow return; the community shifting to online communication modes for getting partners or clients; some members moving to new sites at remote places, community avoiding visiting sites due to pandemic related restrictions, etc.

Many ICTCs and staff were delegated COVID-19 duties throughout the pandemic period. It made ICTC testing (facility-based or ICTC camps) challenging, especially in urban areas. Organizations implementing TI/LWS program were instructed to provide services while abiding by the respective district-level regulations. Most TI organizations across all districts increased the proportion of CBS testing (among total HIV testing), relative to what they

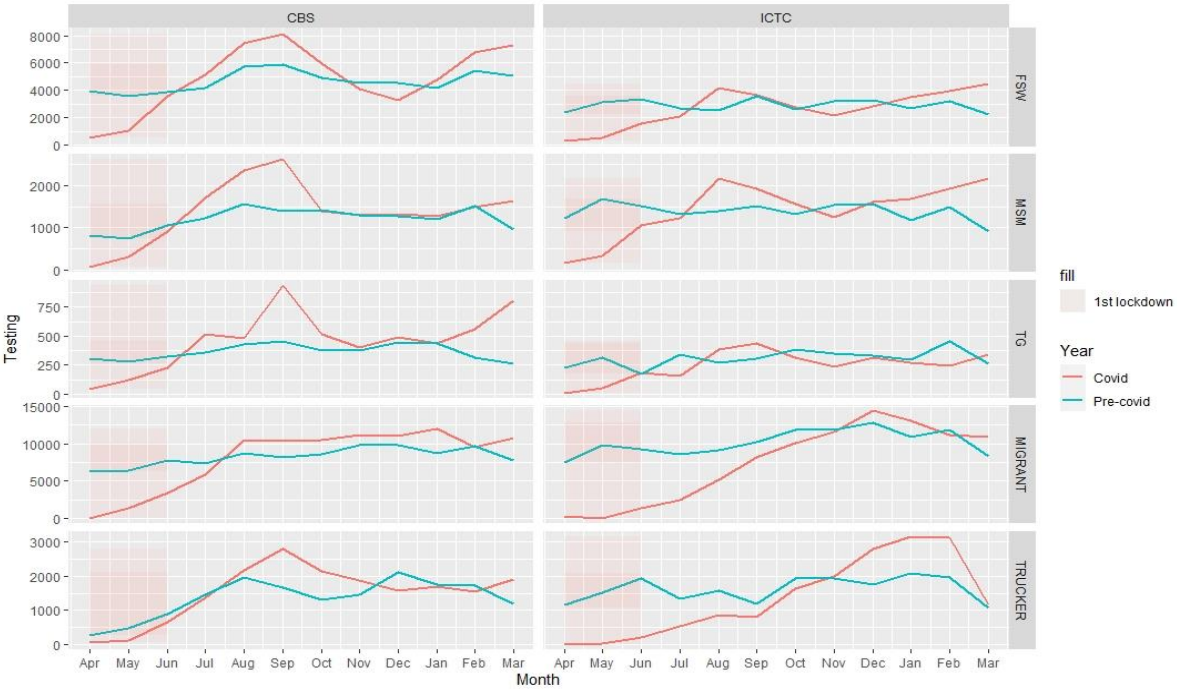
used previously. During the early phases of un-lockdown, organizations catering to FSWs, MSMs, TGs, and IDUs focused on completing due lists. During the pre-COVID-19 period, CBS testing was mainly conducted through camps (ranging from 2-40 people). However, during the pandemic, there were many logistical difficulties in conducting HIV testing through camps - due to restrictions on social gatherings, containment zones, and villages denying entry to outsiders. Therefore, each camp accommodated a small number of community members at a time. Emphasis on one-on-one testing was increased. Additionally, communities were also reluctant to visit the health facilities or health staff for HIV testing due to fear of contracting COVID-19. Some feared that under the pretext of HIV, they would be mandatorily tested for COVID-19 and would be quarantined. This meant multiple visits for fewer tests and more counseling efforts. Some of the field-level innovations that helped in reaching out and testing uptake were - integrating HIV testing with food/ration distribution, COVID-19 awareness, vaccination, and using networks of peers and stakeholders (e.g. *guru, maushi, paanwala*) for reaching already registered community members. Peers played a central role in reaching out to communities within their residential areas and through telephonic/social media networks.

The quantitative data analysis shows that HIV testing in the TI program could be sustained during the pandemic year (2020-21) at levels similar to pre-COVID-19 year (2019-20) among typologies such as FSW, MSM, TG, and trucker. However, migrant and IDU programs showed a decline of 16% and 44%, respectively. A substantial reduction in new registrations was observed among TG and IDU. HIV positivity rates were observed to be lower compared to the previous year which (and declined testing for some typologies) resulted in a decline in the number of HIV positives detected. The reduction was highest in migrant program (51%), followed by trucker (49%), FSW (27%),

MSM (25%), and TG (22%), respectively, compared to the previous year. For the LWS program, HIV testing was sustained among MSM, TG, trucker, and the decline was observed among FSW (27%) and migrant (20%). In the LWS program, the number of HIV positives detected declined among FSW, MSM, IDU, migrant, and trucker and increased for TG. However, these numbers are too small to do any comparative assessment.

The longitudinal analysis of testing data shows unique patterns of recovery across typologies. From April to June 2020, there was an acute decline in testing in both the TI and the LWS programs, due to the strict lockdown. A prompt recovery with un-lockdown was observed among FSW, MSM, and TG communities in the TI program. This was possible as community members already registered and due for testing were actively reached out during early un-lockdown phases. The recovery in migrants and truckers was comparatively gradual and coincided with the opening up of trade and businesses. In the LWS program, too, sharp uptake in testing was observed during the early phases of un-lockdown among FSW and MSM. The catch-up testing in migrant and trucker was seen during later quarters, i.e., November onwards.

Figure: Recovery of HIV testing through CBS and ICTC during pre-Covid and Covid period in TI Program



CBS played a crucial role in sustaining the testing services in TI program. Across all typologies, more CBS testing was observed during the pandemic year than the pre-COVID-19 year. As against, ICTC testing levels remained at the same level or declined. In the LWS program, CBS did not play an essential role. CBS testing remained at levels similar to the pre-COVID-19 times.

The strategic decision of the TI program to shift to CBS during the pandemic period explains many of the trends mentioned above. The qualitative data also revealed difficulties the staff faced to achieve these targets. These barriers were multi-dimensional – ranging from financial issues (delayed salary, loss of jobs of family members), transport constraints (closure of public transport, increased costs of private transport, limited travel allowance), staff's fears of contracting COVID-19 infections, a limited number of available team (due to quarantine and isolation, allocation to COVID-19

duties, turnover), etc. It was observed that beyond HIV services, the organizations voluntarily catered to diverse needs of the community during the lockdown and un- lockdowns such as arranging transport (for migrants), providing food and financial aid, conducting COVID-19 awareness, linking to social benefit schemes, and the COVID-19 care services, providing psycho-social support, arranging COVID-19 vaccination camps, etc. The study probed further to understand what helped the organizations to continue working in these difficult circumstances. It was driven by a deep-rooted long-term association and emotional attachment of organizations with the community. The peers, outreach workers (ORW), and Program Managers (PM) who had engaged and invested in the community's well-being felt themselves to be responsible for the community during these difficult times. They, therefore, owned up the responsibility of safeguarding the interests of the community. Their engagement and ownership during the COVID-19 crisis were possible because of the existing participatory, decentralized structures through which the TI and LWS programs function. The processes initiated at the organization level organically evolved into a need-based, flexible, and integrative adaptive response to a crisis.

Another incidental yet important observation from this study was how socio-economic disruptions of the pandemic had impacted HIV risks. During the lockdown and subsequent months, the clientele of sex workers reduced, adversely affecting their incomes. The need for money reduced sex workers' power to negotiate. Some reported an increase in unplanned and unprotected sex. The qualitative data also indicated some emerging at-risk profiles. The larger economic challenges pushed some new women into the sex trade. The study participants observed that young college-going women, small street vendors were engaging in transactional sex. These women did

not identify themselves with program typologies and were reluctant to avail program services.

The way forward

The findings of this study have implications for the HIV program over the near and long term.

- CBS played a crucial role in sustaining HIV testing during the pandemic. To harness its full potential in the future, robust monitoring mechanisms will be needed. We propose a few possibilities, such as-
    - Developing district/typology/location-specific criteria that will guide decision making around the extent of CBS for HIV testing required by a district/organization
    - Setting up participatory planning processes to decide the share of CBS and ICTC
    - Periodic evaluation of aggregate data on sub-typologies reached through CBS
    - Adding indicators such as first-time testers
- TI/LWS organizations and peers owned up the responsibility of safeguarding the interests of their community during the COVID-19 crisis. The response was enabled by participatory structures and processes built by HIV programs over many years. Going forward, it will be important to invest in the communities through increased engagement, encouragement, and nurturing (capacity building).
- The concerns regarding the stagnation of the TI and LWS programs have been raised in recent times before COVID-19. The pandemic has added to this challenge. More emphasis needs to be given to identifying new hot spots and new enrollments. This would require

addressing existing budgetary and Human Resource (HR) constraints. Stronger community engagement mechanisms will aid this process.

- Newer at-risk profiles and patterns in which sex work operates are likely emerging due to socio-economic disruption caused by the pandemic. These do not necessarily identify with the program-defined typologies. The program needs to adopt approaches to reach out to these populations. Tapping the knowledge and insights of peers and outreach workers will be important.

Table of Contents

Abbreviations 1
Introduction 3
Methodology 9
About community based HIV screening 13
Findings 21
Challenges of the 'new normal' in outreach and HIV testing 22
Programmatic responses 32
Impact of COVID-19 pandemic on program outcomes 36
Impact on sex work and sexual behaviors among community 52
Reflections: Adaptation strategies and best practices 56
The way forward 67
References 70
Annexures 72
A1: District-wise annual HIV testing in TI program before and during the COVID-19 72
A2: District-wise annual HIV testing in LWS program before and during the COVID-19 81
A3: District-level trends in monthly HIV testing in the TI program before and during the COVID-19 88
A4: HIV yield in TI program through CBS and ICTC before and during COVID-19 91

List of Tables

Table 1: Division, district, and typology wise selection of organizations for qualitative data collection 11
Table 2: Distribution of organizations implementing CBS 20
Table 3: HIV testing, number of HIV Positives and Positivity rate through CBS and ICTC across districts in Maharashtra in TI Program for Female Sex Workers (FSWs) during pre-COVID-19 and COVID-19 period 72
Table 4: HIV testing, number of HIV Positives and Positivity rate through CBS and ICTC across districts in Maharashtra in TI Program for Men who have sex with Men(MSMs) during pre-COVID-19 and COVID-19 period 75
Table 5: HIV testing, number of HIV Positives and Positivity rate through CBS and ICTC across districts in Maharashtra in TI Program for Trans Genders (TGs) during pre-COVID-19 and COVID-19 period 77
Table 6: HIV testing, number of HIV Positives and Positivity rate through CBS and ICTC across districts in Maharashtra in TI Program for MIgrants during pre-COVID-19 and COVID-19 period 78
Table 7: HIV testing, number of HIV Positives and Positivity rate through CBS and ICTC across districts in Maharashtra in TI Program for Truckers during pre-COVID-19 and COVID-19 period 80
Table 8: HIV testing, number of HIV Positives and Positivity rate through CBS and ICTC across districts in Maharashtra in LWS Program for FSWs during pre-COVID-19 and COVID-19 period 81
Table 9: HIV testing, number of HIV Positives and Positivity rate through CBS and ICTC across districts in Maharashtra in LWS Program for MSMs during pre-COVID-19 and COVID-19 period 83
Table 10: HIV testing, number of HIV Positives and Positivity rate through CBS and ICTC across districts in Maharashtra in LWS Program for TGs during pre-COVID-19 and COVID-19 period 84
Table 11: HIV testing, number of HIV Positives and Positivity rate through CBS and ICTC across districts in Maharashtra in LWS Program for Migrants during pre-COVID-19 and COVID-19 period 85
Table 12: HIV testing, number of HIV Positives and Positivity rate through CBS and ICTC across districts in Maharashtra in LWS Program for Truckers during pre-COVID-19 and COVID-19 period 86

List of Figures

Figure 1: Comparison of total HIV testing before and during COVID-19 pandemic in TI program in Maharashtra for different typologies. 38
Figure 2: Monthly HIV testing (total) in TI program before and during the COVID-19 pandemic for different typologies 39
Figure 3: Monthly HIV testing through CBS and ICTC before and during the COVID-19 pandemic in TI Program for different typologies 40
Figure 4: District level trajectories of the extent of CBS used (proportion of CBS to total testing) before and during the COVID-19 pandemic in TI program, for different typologies 42
Figure 5: Comparison of total PLHIV registered and HIV positivity before and during COVID-19 pandemic in TI program for different typologies 46
Figure 6: Monthly new registrations before and during the COVID-19 pandemic in the TI program for different typologies 47
Figure 7: Comparison of total HIV testing before and during the COVID-19 pandemic in LWS program in Maharashtra for different typologies 48
Figure 8: Monthly HIV testing (total) before and during COVID-19 years in LWS program for different typologies 49
Figure 9: Monthly HIV testing through CBS and ICTC before and during COVID-19 years in the LWS program for different typologies 50
Figure 10: Comparison of total PLHIV registered and HIV positivity before and during COVID-19 pandemic in LWS program for different typologies 51
Figure 11: Longitudinal comparison of total HIV testing before and during COVID-19 pandemic across districts of Maharashtra in TI program for FSWs 88
Figure 12: Longitudinal comparison of total HIV testing before and during COVID-19 pandemic across districts of Maharashtra in TI program for MSMs ... 89
Figure 13: Longitudinal comparison of total HIV testing before and during COVID-19 pandemic across districts of Maharashtra in TI program for TGs 89
Figure 14: Longitudinal comparison of total HIV testing before and during COVID-19 pandemic across districts of Maharashtra in TI program for Migrants 90
Figure 15: Longitudinal comparison of total HIV testing before and during COVID-19 pandemic across districts of Maharashtra in TI program for Truckers 90

Figure 16: Longitudinal comparison of HIV positivity through CBS and ICTC before and during COVID-19 pandemic in TI program in Maharashtra for different typologies 91
Figure 17: Longitudinal comparison of number of HIV positives through CBS and ICTC before and during COVID-19 pandemic inTI program in Maharashtra for different typologies 92

Abbreviations

AIDS: Acquired Immune Deficiency Syndrome

ANC: Antenatal Care

ART: Anti-retroviral Therapy

ARV: Anti-retroviral (drug)

BSD: Basic Services Division

CBS: Community Based Screening

CBO: Community Based Organization

CC: Core Composite

DAPCU: District AIDS Prevention and Control Unit

DIC: Drop-in Centre

DPO: District Program Officer

DRP: District Resource Person

FGD: Focus Group Discussion

F-ICTC: Facility-Integrated Counselling and Testing Centres

FSW: Female Sex Worker

HIV: Human Immunodeficiency Virus

HCTS: HIV Counselling and Testing Services

HRG: High-Risk Group

ICTC: Integrated Counselling and Testing Centre

IDI: In-depth Interview

IDU: Injecting Drug User

IEC: Information, Education, and Communication

KI: Key Informant

LWS: Link Workers Scheme

MMD: Multi-Month Dispensing

MDACS: Mumbai Districts AIDS Control Society

MoHFW: Ministry of Health and Family Welfare

MSM: Men Who Have Sex with Men

MSACS: Maharashtra State AIDS Control Society

NACO: National AIDS Control Organization

NACP: National AIDS Control Programme

NCD: Non-Communicable Disease

NGO: Non-Governmental Organization

ORW: Outreach Worker

OST: Opioid Substitution Therapy

PD: Project Director

PE: Peer Educator

PM: Program Manager

PO: Program Officer

PLHIV: People Living with HIV/AIDS

PPP-ICTC: Public-Private Partnership - Integrated Counselling and Testing Centre

SACS: State AIDS Control Society

SA-ICTC: Stand Alone - Integrated Counselling and Testing Centre

SDG: Sustainable Development Goal

SIMS: Strategic Information Management System

STI/RTI: Sexually Transmitted Infection / Reproductive Tract Infection

TB: Tuberculosis

TI: Targeted Intervention

TG: Transgender

TSU: Technical Support Unit

Introduction

HIV infection has remained a public health concern for over four decades in India. India has the third-largest HIV epidemic in the world. As per the recently released India HIV Estimation 2019 report, the estimated adult (15–49 years) HIV prevalence was 0.22% (National AIDS Control Organization, 2019b), equating to 2.1 million people living with HIV. The HIV epidemic in India is predominantly driven by sexual transmission and is concentrated among communities such as Female Sex Workers (FSWs), Men having Sex with Men (MSM) Hijra/Transgender (TGs), and Injecting Drug Users (IDUs). While the FSWs were the epicentre of the epidemic in the early years, the epidemic is now concentrated among MSM, TGs, and IDUs. HIV prevalence in FSW is 1.56%, MSM is 2.69%, TG is 3.14% and IDU is 6.26% (National AIDS Control Organization, 2020a). These typologies are reached out in the national HIV program through the implementation of Targeted Intervention (TI) and the Link Worker Scheme (LWS).

The Targeted Interventions include community outreach, service delivery, commodity distribution, and community system strengthening. TIs are implemented through Non-Government Organizations (NGOs) and Community Based Organizations (CBOs) in urban areas. The program implementation by NGOs/CBOs catering to only one typology (FSW, MSM, TG, IDU) is called 'exclusive,' and those catering to more than one typology are called 'core composite.' The strength of these organizations is their linkages to the community and involving community members in implementing the project activities. A system of peer educators, peer navigators employed from within the community, and outreach workers has been created for reaching

out to the community. They contribute to identifying and mapping new community members and hotspots, conducting HIV testing, commodity distribution, and empowering the community with the Program Manager (PM) to oversee the functioning and planning of the activities. With the decentralized planning and implementation approach, district-level planning and administration are overseen by District AIDS Prevention and Control Unit (DAPCU) and The State AIDS Control Society (SACS) at the State level. Technical Support Units (TSUs) are established at the National and State levels to assist in the program monitoring and technical areas. The District Program Officer (DPO) at DAPCU is in charge of administrative decision-making at the district level and guides the implementation of TI. The Program Officer (PO) at TSU provides technical support and monitors and evaluates TI functioning.

The LWS was launched to cover and provide services to community members in rural areas. The LWS covers 100 villages in each district and caters to all the community members from the core groups and bridge population, pregnant women (ANC), Tuberculosis (TB) patients, and other vulnerable populations. A DRP (District Resource Person) is employed to overlook the activities of the LWS and coordinate activities with link workers involved in outreach activities, commodity distribution, setting up referrals, etc.

To achieve the 'End of AIDS' goal, India has a fast-tracked target of 95:95:95 by 2030. India's national HIV program has extensively scaled up its HIV testing services to achieve the first 95, i.e., 95% HIV infected people know their HIV status. Till 1st December 2017, free HIV testing services were provided at 22,000 facilities (National AIDS Control Organization, 2017). Despite this, significant gaps were observed in the uptake of HIV testing among High Risk

Groups (HRGs)(Gap-33-43%), bridge population (90%), clients with Sexually Transmitted Infection (STI) (65%), TB patients (23%), pregnant women (45%) and partners of PLHIV (64%) (National AIDS Control Organization, 2017). Most HIV screening in the country is provided through multiple outlets such as Standalone Integrated Counselling and Testing Centres (SA-ICTCs), mobile ICTCs, facility integrated ICTCs, and Public-Private Partnerships (PPP). All these testing centers are in health care facilities (National AIDS Control Organization, 2017). The coverage gap in HIV testing, despite the widespread availability of these testing facilities, indicates need for better engagement with at-risk communities.

Strategies beyond conventional facility-based testing were explored to bridge the gaps observed in HIV testing and screening. A system of Community Based Screening (CBS) for HIV was put in place from 2016-17 onwards. The implementation of CBS is mostly done through TI and LWS programs across the country. CBS is essential for improving early diagnosis and reaching first-time testers and people who seldom use clinical services (National AIDS Control Organization, 2019). CBS includes several approaches – door-to-door/home-based testing and mobile outreach campaigns, and testing in workplaces, parks, bars, places of worship, and educational establishments (National AIDS Control Organization, 2016).

The NACO-led pilot program of CBS in India showed that it is an effective strategy for reaching out to the vulnerable population and increasing HIV testing uptake. The piloting was done among community-based organizations (CBOs) working for the FSW program from Andhra Pradesh, Telangana, Karnataka, Maharashtra, and Tamil Nadu. (Chaudhuri et al., 2020).

The HIV services were forced to a standstill by the greatest public health challenge of all times – the COVID-19 pandemic declared by the World Health Organization on 11th March 2020. To combat the pandemic, the Government of India imposed a strict lockdown in most districts of the 22 States and Union Territories from 24th March 2020 to 8th June 2020. Many restrictive measures (social distancing, use of masks and sanitizers, imposition of curfews, the establishment of containment zones, etc.) continued to be enforced during the ensuing period of un-lockdowns. Maharashtra, Delhi, Kerala, and Karnataka were the worst affected states by COVID-19. The pandemic paralyzed other health services. Most of the government hospitals were turned into COVID-19 Care Centres, which impaired the cascade for other essential health services like TB, HIV, etc. The pandemic exacerbated the challenges faced by traditionally marginalized populations. Lack of livelihood, other personal loss, and restricted access to social support were the major concerns for the disenfranchised groups (Dasgupta et al., 2021), with a significant increase in anxiety and depression among people living with HIV (Marbaniang et al., 2020).

Ministry of Health and Family Welfare (MoHFW) released advisories and guidelines concerning COVID-19 protocols for patient referral, testing, clinical management, etc. NACO had also released advisory guidelines, which included the provision of Multi-Month Dispensing (MMD) of 1st and 2nd line ART to all stable patients and the provision of other essential drugs. Strategies like community dispensation (through Care and Support Centres, home delivery through ORW, volunteers, PLHIV networks, etc.) and family dispensation, etc., were allowed due to the COVID-19 scenario. Other commodities like multi-week (2-3 week) dispensation of condoms, needles, syringes, etc. was allowed to community members through peer educators (PEs) /ORWs engaged in TI settings to avoid travel and decrease the frequency

of visits. OST (Opioid Substitution Therapy) drugs were distributed for at least seven days, based on the daily dosing and adherence level of IDUs. The TIs and LWSs were provided specific guidelines by SACS. The programs were instructed to follow all district directives related to COVID-19, adhere to COVID-19-appropriate behaviors, display Information, Education and Communication (IEC) at all centers, provide phone counseling, and ensure treatment adherence by keeping viral load suppressed, and provide condoms on a need basis.

The 'new norms' of the pandemic presented unique challenges for HIV programs. It potentially impacted all the services considered pillars of a successful HIV program. The pandemic evolved differently across states, districts, and urban and rural areas, underlining the need for flexible responses at lower levels of implementation.

With this background, we sought to analyze the impact of the COVID-19 pandemic on community-based screening of HIV in Maharashtra. The state of Maharashtra was one of the high-priority states for the HIV program, with the highest estimated number of PLHIV (3.90 lakh) (National AIDS Control Organization, 2020b). Maharashtra has the largest TI network, with 130 organizations implementing TI and 17 districts implementing LWS, of which nine districts used CBS in the pre-COVID-19 pandemic and during the COVID-19 pandemic. Maharashtra was also the worst affected state during the first and the second wave of COVID-19. The study aims to understand how the COVID-19 pandemic impacted CBS outcomes in Maharashtra and how COVID-19 has compounded the challenges in reaching out to the unreached populations through CBS. It also seeks to get an in-depth understanding of

how outcomes/processes of CBS were influenced by the COVID-19 pandemic and the responses of implementing organizations.

Specific objectives of the study

1) To understand the outcomes achieved in terms of coverage of the target population, screening yield

a. To understand how the outcomes were impacted by the COVID-19 pandemic

b. To understand the heterogeneity in outcomes achieved by key sub-populations

2) To understand the challenges in reaching out to the unreached populations through CBS for HIV implementation

a. To understand how the COVID-19 situation has compounded the challenges

Methodology

The mixed-methods evaluation study used the secondary quantitative data and qualitative data from In-depth Interviews (IDIs) and Focus Group Discussions (FGDs).

Ethics

The research proposal was reviewed and approved by Prayas Institutional Ethics Committee for Research. The study was also reviewed by the research committee at Maharashtra State AIDS Control Society (MSACS), and final approval was sanctioned by the Indian Council of Medical Research (ICMR). Aggregate data was received from MSACS for secondary analysis. For collecting qualitative data, permissions were obtained from MSACS to conduct IDIs and FGDs with the program staff of TI and LWS. Informed consent was taken from all officials, IDI, and FGD participants. All the interviews were conducted using COVID-19 appropriate behavior and following social distancing guidelines.

Quantitative component

Data preparation and analysis

TI and LWS program data from April 2018 to March 2021 from Maharashtra was provided by MSACS. The data obtained from MSACS were checked for missing values and cleaned subsequently. Queries regarding the data were addressed and clarified with the help of respective POs of the TSU. All the data sheets were compiled in MS excel. To understand the COVID-19 impact, a reference period was established. April 2020 to March 2021 was considered

a 'COVID-19 year', and one previous year (April 2019 to March 2020) was considered a 'Pre-COVID-19' year. Data was analyzed in MS Excel and R statistical software using descriptive comparison of time trends and comparison of proportions. The TI data from 30 districts (excluding Mumbai) and LWS data from 17 districts of Maharashtra were used for analysis. The indicators like total HIV testing, HIV testing through CBS, total HIV positives, positives tested through CBS, and new registrations, were used for quantitative analysis.

Qualitative component

Recruitment and Sampling

For qualitative data collection, districts from all six divisions of Maharashtra were selected to get an adequate representation of the regional diversity in the data. The districts were selected based on the presence of TI, Non-TI, and LWS organizations in the respective districts. Organizations catering to different typologies were selected to ensure the diversity and specificity of issues faced during the COVID-19 pandemic. Qualitative data were collected from 30 TI organizations across ten districts and LWS data from four districts. (Table No. 1)

IDIs (n=54) were conducted with PMs of TI, DRP of LWS, District Program Officer (DPO) of District AIDS Prevention and Control Unit (DAPCU), and POs of TSU. Additionally, Key Informant interviews include officials from MSACS, Mumbai District AIDS Control Society (MDACS), TSU, TI, and Basic Service Division (BSD). FGDs (n=13) were conducted with peers, outreach workers, and link workers. Two research staff, one as the lead interviewer and a second as the note taker, were present at each interview. The lead interviewer administered the written informed consent for audio-recording and voluntary

participation, collected demographic information, and conducted the interview.

Table 1: Division, district, and typology wise selection of organizations for qualitative data collection

Division	District	Typology
Amravati Division	Amravati	FSW, MSM, TG, Migrant, LWS
Nagpur Division	Nagpur	FSW, Migrant, LWS
Aurangabad Division	Aurangabad	FSW, MSM, TG, Migrant, Trucker, LWS
Konkan Division	Thane	FSW, MSM, TG, Migrant
Nashik Division	Ahmednagar	FSW, MSM, TG, Migrant
	Jalgaon	FSW, MSM, TG
	Nashik	FSW, MSM, TG
Pune Division	Pune	MSM, TG, IDU, Migrant, Trucker
	Sangli	FSW, MSM, TG
	Solapur	FSW, MSM, TG, LWS

The probing technique was initially reviewed for the first district interviewed by investigators, and feedback was provided to teams to adjust the exploration of themes in more detail. The research team regularly discussed the key findings from interviews and derived new focus areas from exploring for future interviews. The interviews lasted between 45 and 80 minutes and were conducted in the participants' preferred languages, including Marathi, Hindi, and English. No remuneration was offered to the participants.

Data Analysis

All the interviews were assigned a unique study ID and sent for transcription to the transcribers with appropriate undertaking to maintain the confidentiality of the data. The transcripts obtained were scrutinized for errors and completeness. A primary code list was prepared. The transcripts were coded using RQDA software for qualitative data analysis. While coding, there was a mix of inductive and deductive codes arising from the transcripts. Codes were categorized into code categories, and emerging themes were identified and analyzed.

About community based HIV screening

There could be some variation in how CBS typically gets implemented across and within states. The following section provides an overview of how the CBS program was being implemented in Maharashtra, before the COVID-19 pandemic.

Who gets tested under CBS?

As described in the National HIV Counselling and Testing Services (HCTS) Guidelines (*Consolidated Guidelines on HIV Testing Services*, 2015), CBS is considered as an approach to improve early diagnosis, reaching first-time testers and people who seldom use clinical services, including men and adolescents in high HIV prevalence settings and HRG populations. The guidance recommends that it is to be carried out through various approaches, such as (i) Mobile HCTS, (ii) Screening by ancillary healthcare providers (for ANC), (iii) Screening for HIV by targeted intervention (TI-ICTC), (iv) HCTS for prison inmates, and (v) HCTS at the workplace.

At the level of NGO/CBO, CBS is used for the population which is 'hard to reach' - for community members from any typology who find it challenging to access facility-based testing (due to their timings of work, distance, concerns about stigma, and discrimination). The following illustrations explain how decision-making to test specific typologies and sub-typologies through CBS is made.

Home-based sex workers

Home-based sex workers, a sub-typology of FSW, usually operate from their homes, contacting their clients on the phone or through word of mouth or middle-men (e.g., auto drivers, network operators, etc.). Generally, they are not known to be working as sex workers within their neighbouring areas and in the family. They have a fear of disclosure about their sex work to significant others. Therefore, they generally do not visit the ICTCs. CBS is often used for reaching and testing this population. The testing is carried out at their doorstep or a convenient location, thus preserving their identity and maintaining confidentiality.

> *"In the FSW project, we majorly have home-based FSWs; they do not get out much or cannot get out (due to issues of disclosure). Then through a peer, we provide those services at their home through CBS; that's why those who can't get (tested) through standalone ICTC, those who can't get (tested) through mobile vans, in that case, we cover them completely through CBS."*
>
> *(DPO)*

Bar-based sex workers

Their occupational timings are usually during the evening and night, at which ICTCs are non-functional. Also, for them, fear of disclosure and confidentiality is a significant concern, and hence they avoid going to ICTC for testing. They are often tested through CBS at their workplace.

IDU

IDUs are often under the influence of drugs. They are found at hotspots where they inject drugs or score drugs. They have scattered timings and

change hotspots according to drug availability. CBS is the most convenient option for this typology.

Migrants

Migrants are often registered at their destination city (place of in-migration) by the TI. Migrant workers include industrial workers, construction site laborers, road development workers, seasonal workers, farm laborers, hawkers, and hotel workers. Majorly, TI covers industrial and construction site workers. The work timings of these workers make it very inconvenient for them to visit ICTCs. They are therefore tested through CBS camps at the work location.

> *There is some migrant population which leaves early in the morning or come after six-seven in the evening. Our target was mainly to cover this population which was being missed; we were covering them through CBS. The site may be a construction site, hotel, or industry... or if there's a new road work going on, and a lot of migrant population had come there, so providing testing there (at the road construction site) is important, so CBS testing at that site would increase.*
>
> *(DPO)*

Truckers

The trucker community consists of both long-route and short-route drivers. Short routes include inter-district, and long routes are inter-state. Driver check-up camps are usually held in the company parking lot or *Dhabas*. The truck drivers halt at truck parking or a lodge for a short duration to seek rest or service their vehicles. Thus, the proportion of this population that can visit

the ICTCs is negligible due to the timing constraints of the ICTC, and they are tested majorly through CBS.

> *We have a mobile van. Testing is done in that mobile van; CBS is done. That is a screening test. If someone is found positive through screening, then for confirmation, we take them to the nearby ICTC. We don't send them alone because truckers do not know anything (regarding the local area), they are always with their vehicle, and they cannot even speak the local language, Marathi. That's why we assist them.*
>
> *(PM, Trucker TI)*

New Registration

The peer educators or peer navigators gather information about new community members; the ORW then provides counseling and, after building rapport, confirms the new community member has been involved in high-risk activities. The community member is then registered under TI. The newly registered community members are unwilling to go to ICTCs due to disclosure concerns and a lack of rapport. CBS provides a more feasible alternative in such cases. CBS is also a preferred option for doing partner testing.

> *For my new registration (in the project), I use only CBS. If a new woman (FSW) is registered.... it is useful for me also.... If I register a new woman, I don't need to take her anywhere. If I have to take her at any new place, e.g. if I have to take her to ICTC, then she has fear that "after going there would they (counselor/technician at ICTC centers) ask me anything (titha gelyavar mala te kahi vichartat kay?)?*
>
> *(PM, FSW TI)*

> *We use CBS kits mostly for new areas or partners of PLHIV... because we have to do a lot of hard work (kasarat karavi lagate) to reach their partners and they do not easily get convinced to go to ICTC. That's why we use CBS for the partners of PLHIV or spouse or children. So that the testing takes place there itself, and if they are detected positive, we can do counselling as well.*
>
> *(PM, FSW TI)*

Approaches used for CBS testing

CBS is conducted through camps, Drop-In Centres (DICs), or one-on-one testing.

CBS through camps

CBS is majorly conducted through CBS camps, where trained TI-NGO staff do screening and counseling. A CBS camp size could vary between 2 to 40 people. Before testing, the TI staff undertakes community outreach, awareness, sensitization sessions, and risk assessment. It helps in identifying people for HIV testing. The approach is mainly used for migrants, truckers, and bar-based sex workers.

CBS in Drop-in centers (DICs)

DICs are community centers where community members can drop in to avail of testing and counseling services. CBS in DICs is usually done for TGs and MSMs.

CBS through doorstep testing

The population that does not visit CBS camps and does not come to DIC is mostly tested by doorstep testing, and this approach is mainly used for home-based sex workers.

Contribution of CBS in overall HIV testing at the district level

There exists a significant variation across districts on how much CBS contributes to overall HIV testing. Some districts (e.g., Thane and Pune) complete almost all their testing through CBS. As against, some districts used it very frugally. (e.g. Sangli and Nagpur).

The quality and trust issues are the main reasons for this variation. CBS kits are to be stored under a cold chain, many NGOs do not have such provision, or electricity failures could cause changes in kits, leading to false positive or false negative tests. There are also issues regarding errors while doing the CBS test.

> *How will the kits be carried via transport, even if they are sent properly from here (from DAPCU), will the carriers maintain the cold chain or not, whether they will keep it in the refrigerator, how long after the kits are out will they use it for testing, will they allow it to reach room temperature, will they keep the kit on a flat or a cross surface while testing, whether the drops (reagents, blood drops) were placed properly... there were concerns about all these things.*
>
> *(DPO)*

Issues regarding unsupervised use and misuse of CBS were also found to be an important concern raised. Indiscriminate use of CBS is also a reason for lowering the allowance of CBS testing in districts.

> *For community-based testing, I have a negative opinion. I strongly feel testing should take place at ICTCs only. In my opinion, CBS is a shortcut for the NGO. I am doubtful whether the NGOs would maintain the quality or not. We did try, but we were not that successful with CBS, and I do not trust it at all.*
>
> *(DPO)*

In districts with many TI organizations, the requirement for camps is higher. Providing the required amount of ICTC camps was perceived as difficult. In such situations, CBS gets used.

> *Actually, when CBS started first, it started in Thane district. What happened was the camps provided by ICTC were fewer, mobile vans were also not there... we had only two mobile vans, and there were lots of, i.e.32-34 NGOs. So providing all of them with camps was very difficult, and that's why they (MSACS) planned CBS.*
>
> *(DPO)*

CBS operationalization in the state

Table 2 shows the number of TI organizations undertaking CBS during pre-COVID-19 (April 2019 through March 2020) and the COVID-19 pandemic period (April 2020 through March 2021).

As can be seen, out of 130 functioning TI NGOs/ CBOs, most were implementing CBS for the pre-COVID-19 pandemic and during the COVID-19 pandemic. Some initiated CBS during the first six months or the next six months of the pandemic. Very few organizations did not implement CBS throughout. The pattern was more or less similar across all divisions.

Table 2: Distribution of organizations implementing CBS

Division*	Target Population	Total	Number of TI organizations initiating CBS during				
			Pre-pandemic period^	First six months of the pandemic	Next six months of the pandemic	Pre-pandemic period^^	No CBS
Amravati	37410	12	11	-	1	-	-
Nagpur	110800	16	10	-	2	-	4
Aurangabad	31900	14	10	-	2	-	2
Konkan	240862	38	33	5	-	-	-
Nashik	89000	19	17	1	-	1	-
Pune	184800	31	22	5	1	-	3
Maharashtra	694772	130	103	11	6	1	9

*Administrative divisions of Maharashtra state
^CBS was functional throughout the pre-pandemic and pandemic period
^^CBS was functional only during the pre-pandemic period

Findings

The section describes how COVID-19 pandemic impacted TI/LWS programs in general and HIV testing through CBS in particular. The findings are broadly divided in following sub-sections.

- Challenges in outreach and HIV testing in the 'new normal'
- Programmatic response during phases of lockdown and un-lockdown and strategies implemented to sustain HIV testing services
- Impact of COVID-19 pandemic on programmatic outcomes such as HIV testing through ICTC and CBS, new registration, HIV positives detected in TI and LWS
- Impact on sex work and sexual behaviors among community
- Reflections: Adaptation strategies and best practices

Challenges of the 'new normal' in outreach and HIV testing

With the unprecedented lockdown in March 2020, everything closed down suddenly. The HIV services of TIs and LWSs were halted during the lockdown. During the opening-up phases, services resumed under multiple restrictions on movements, social gatherings, and concerns about COVID-19 disease and death. The changing contexts during the pandemic posed many difficulties for the programs.

Hampered access to the communities

1) Closure of physical sites

Most of the outreach activities of the TIs are done at sites where the community members often meet or engage in sexual activities/sharing of needles etc. These sites are also known as hot spots. Due to the sudden lockdown, these physical sites (e.g., brothels, bars, lodges, *dhabas*, pick-up points, bus stops, railway platforms, urinals, and cruising sites) became non-operational. As physical outreach is the backbone of the TI program, the program's reach to communities suffered greatly during the lockdown.

With the un-lockdown phases, communities returned to the hot spots, but it happened at a much slower pace. It has not yet reached pre-COVID-19 levels. Some community members also changed old traditional sites/hotspots and moved to new sites in more remote or lonely places. IDUs changed their

spots as they were not getting drugs at previous sites as the area was converted into a containment zone or was under police patrolling.

In these circumstances, it was challenging for outreach workers and peers to reach the scattered population. The Staff also struggled due to movement restrictions, limited travel options, containment zones, etc. TIs/LWSs generally reach newer community members through already registered community members or peers. However, due to movement restrictions, registered community members were inaccessible at physical sites, affecting new registration in the program. Moreover, peers and ORWs could not go to newer hotspots for outreach activities due to movement restrictions. As outreach was difficult, HIV testing among community members also got hampered.

> *There was a lot of difference... before the COVID pandemic, we used to meet people on sites easily; it was easy to increase rapport with the community. Since it was a famous cruising spot, it attracted a lot of crowds. After the COVID, what happened... no one was ready to come to the site as everything was closed. It was difficult to reach the people.*
>
> *(PM, MSM/TG TI)*

> *At that time, vehicles, transport, railway stations, everything was shut. Those who wanted drugs arranged it. But the DIC area was completely sealed. The slum area was marked as a containment zone (Zopadpatti sagali positivemadhye adakali hoti). Every day 60-70 people were detected to be COVID positive. Hence this area was sealed from all sides.*
>
> *(ORW, IDU TI)*

2) Communities shifted to online modalities of operation

As it was difficult to access physical sites, the community shifted to online platforms like social media, WhatsApp groups, and mobile for getting partners or clients. It was easier to contact each other through mobile or social media platforms and travel to a convenient place like a flat, room, some lonely place, field, etc., for sexual activity. The use of social media platforms such as different dating apps (Planet Romeo, Grinder, Blued, etc.) was primarily reported by community members from metro cities like Pune, Thane, and Nagpur.

The community used these modalities even before the COVID-19 pandemic, but after communicating on social media platforms, they used to meet the clients or partners at physical sites. During the pandemic period, more community members shifted to these new options and were meeting each other at places of their convenience. It became difficult for staff to trace these community members.

> *"Before Covid, the activities were in full bloom at all the sites, and it was easy to meet people. During the lockdown, the timings (relaxation timings and timings of activities) were not matching, or people did not step out of their houses. At that time, there was a significant increase in the use of virtual sites... if you like someone on a virtual site, you can send the location, and it is easily possible for someone to reach there alone. Even now, many people don't visit physical sites; many are still using virtual sites."*
>
> *(PM, MSM/TG TI)*

3) *Community migrating back to their native places*

Those primarily dependent on sex work as a livelihood faced several issues during the lockdown. The business opportunities were reduced drastically during the lockdown, and later, meeting needs such as ration, everyday essentials, rent, electricity bills, and children's education became a struggle. All their savings were finished. Many community members could not send money to their families in their native places who were dependent on them. The community staying in rental houses was asked to vacate the house as they couldn't afford rent. Moreover, there was fear of death and untouchability after death due to COVID-19. Many sex workers, TGs, and MSMs migrated to their native places. TI staff tried to follow up with this migrated population through phone calls, but it was difficult to reach those who had not given their mobile numbers or had switched off their numbers used for sex work.

> *"They (FSWs) were returning to their villages; some had a home, farmlands, family, so they thought that whatever happens, they would be with their family (je vhayachay te family barobar houn jail). (They thought) If we stay here and get Covid or something bad happens, our family members will not even receive our bodies. That's why they chose to go home. If something were to happen, our family would look after us."*
>
> *(PM, FSW TI)*

Due to the lockdown, companies, construction sites, industrial sites, looms, workplaces of daily wagers, etc., got closed. It resulted in the reverse migration of laborers and daily wagers after announcing the un-lockdown. The migrant program could reach only those who stayed back. Moreover, some companies, construction sites, etc., restricted the entry of TI staff on the

campus. Even during the un-lockdowns, when these migrants eventually returned, few companies divided workers into multiple shifts to avoid crowding and restricted entry of TI staff. Previously, TI staff used to cover many migrants at a time, but it became problematic during the pandemic. They had to visit each site multiple times to cover all the community members at that site.

4) Few truckers in parking areas

During the initial lockdown, a few truckers got stuck in parking areas. Due to the overall economic downturn, even during initial un-lockdowns, the trade didn't start with a total capacity. So there wasn't much movement in the truckers. No new truckers were coming to the parking areas. It hampered the outreach and HIV testing significantly in this population during the first lockdown and initial un-lockdowns.

Difficulties in HIV testing

Along with the difficulties in outreach in the community, which eventually hampered HIV testing, there were following more specific challenges which impeded it.

1) Fear related to COVID-19 infection and denial of HIV testing

There were many misconceptions and fears related to COVID-19 in the community. There was a belief in the community that they would get COVID-19 through interaction with people, and a person contracting COVID-19 will surely die. So they avoided meeting peers and ORWs. There was also fear among the community members that staff would test them for COVID-19 and

take them to quarantine centers. So they didn't allow the team to enter their area or house. Even after un-lockdowns, the community avoided coming to camps arranged by TIs/LWSs as they feared contracting COVID-19 infection from campsites due to the crowd. People from villages were not allowing LWS staff to enter villages for fear that they were health workers, and as they were coming from cities (as there were more COVID-19 cases in cities than in villages), they would spread COVID-19 infection in the village. There was fear of being quarantined and death associated with COVID-19. TI/LWS staff had to make extra efforts to convince the community members that they were not testing for COVID-19 and counsel them regarding the importance of testing for HIV/STI.

> *"They used to think because of Covid they must take care of their immunity. Immunity as in, there would be blood loss if they get tested. They used to think that if they went for testing, it could be crowded and contract Covid. People would travel from cities to villages... Because at that time, after the first wave, at the rural level, Covid was low, and at the district level, it was high. People didn't allow (us) to enter the villages; such problems were also there during Covid time."*
>
> *(PM, LWS)*

During the initial lockdown, there was enormous fear of COVID-19, even among TI/LWS staff and their family members. The Staff had to deal with resistance from family members to continue working. There were concerns about transmitting COVID-19 to elderly family members, children, and family members with comorbidities. Elderly staff and staff with comorbidities were also scared to work during the pandemic.

> *At first, we used to go to the civil hospitals for ART. The idea of going to the civil hospital was scary; there were sanitizer sprays displayed everywhere, we used to park the vehicle very far. We used to wear 2-3 masks and take a bath after coming home. If anyone in the staff would cough or sneeze, it would also make us cautious. The staff that fell sick, we used to make that staff member stay at home. What would happen if the staff was positive? The situation was very difficult at that time.*
>
> *(PM, CC TI)*

2) <u>Survival was the priority</u>

There were more pressing issues, such as fear and survival in the community. It led to a reluctance to test for HIV/STI. Besides, there was a low-risk perception regarding HIV as sex work had stopped/reduced, and according to the community, if they weren't engaged in sexual activity in the last 2-3 months, there was no need to get tested for HIV.

> *(The sex workers used to tell us) "Don't visit. Currently, we are not doing sex work, don't give condoms. If we get HIV, we will live for 20 years, but if we get Corona, we will not survive even for 20 days. Do not come! Even if you get angry, it's okay".*
>
> *(ORW, FSW TI)*

3) <u>No ICTC camps for HIV testing</u>

During the COVID-19 pandemic, ICTC staff were assigned COVID-19-related duties and, therefore, could not conduct HIV testing camps for TIs/LWSs. Even

after the un-lockdown, the number of camps provided by ICTCs were less than in the pre-COVID-19 period. This significantly hampered testing.

4) Civil hospitals converted into COVID-19 hospitals

During the pandemic, the civil hospitals were converted into COVID-19 hospitals, so there was fear among the community of acquiring COVID-19 infection if they went to civil hospitals for HIV testing or to access HIV-related services. Therefore, the community avoided going to SA-ICTCs at civil hospitals for HIV testing.

> *"If we go to ICTC or hospital, we were scared that we would get Covid since those were Covid hospitals and had Covid patients. Or if we visited it, would they test us for Covid? These fears were circulating in those times."*
>
> *(PO)*

Few PLHIV also missed ART or didn't access care for opportunistic infections. The community also avoided seeking care for other health-related issues like TB, Non- Communicable Diseases (NCDs), obstetric care, etc.

> *"Family is dependent on them. They say "If something happens to me, who would look after them?" On the other side, due to misconceptions related to Corona, the disadvantage was... even when they had symptoms, they did not go to get ART. Because of it, they did not get Corona but were diagnosed with other diseases, like TB."*
>
> *(PM, CC TI)*

5) Limited numbers allowed per testing camp

HIV testing among the community in TI/LWS programs is mainly done through arranging ICTC or CBS camps at physical sites/hotspots and sometimes through one-to-one testing or walk-in referral to ICTC. However, during the first lockdown, no camps were conducted. Also, one-on-one testing was done minimally.

During un-lockdown phases, too, TIs/LWSs couldn't conduct group sessions, HIV testing, and RMC camps in large numbers due to COVID-19-related restrictions. It was impossible to conduct camps in areas with containment zones. Previously it was possible to cover many community members in a single camp. After un-lockdowns, the number of community members attending camp decreased significantly (e.g., ten instead of forty). There were limitations on conducting camps during specific hours of relaxation.

Staff had to visit the community members at their doorsteps or travel multiple times at one site. But due to inflation, the cost of travel increased, and it was difficult for staff to cover all the community members. Due to insufficient travel allowance, staff could not reach community members staying away from their residential areas.

> *"There were no camps during the lockdown. After that, we conducted camps. Previously (before Covid), 30-35 camps were conducted, which were reduced to 10-20. That also we had to call four (several) times. The woman, who usually visited camps on one call, had to be called two-three times, and then she would come. After which, camps also increased. If my target is 10 (covering 10 community members), and I cannot achieve it in one camp, then I have to conduct three-four camps to achieve the same target."*
>
> *(PM, FSW TI)*

6) Curfew during the evening and night hours

Even after un-lockdowns, there were restrictions on movement after a specific period. There was a curfew after 4 or 5 o'clock. TI staff often arrange camps at physical sites during evening hours as community members come to these sites for sexual activities. There was a curfew during evening hours, so it was difficult for TIs to conduct camps during this period. Previously, TI staff extended the camp till evening, which was impossible due to these restrictions. Due to a short period of relaxation, staff received less time to complete the work, which hampered the outreach and HIV testing.

7) Fear of disclosure in door-step testing

There were also some concerns about doing one-on-one doorstep testing among some community members, such as home-based FSWs and MSMs who had not disclosed their identity to their family members or neighbors. They were unwilling to get tested for HIV in camps arranged in their neighborhood due to fear of disclosure.

> *"Generally, women who are open (have disclosed their identity) come to camps or get tested through ICTC. But home-based women (in sex work) whose husbands, sons, or family members do not know about their work do not easily get ready for testing through camps. The same is with married MSM; when it is not known at home, they are not ready for testing."*
>
> *(PM, CC TI)*

Programmatic responses

The phase of lockdown

The rapidity with which the COVID-19 situation evolved globally and the sudden announcement of the lockdown in March 2020 did not give any time for preparatory planning for the program. The TI/LWS organizations struggled to grasp the situation and respond, with offices and transport shut and staff homebound. The livelihood of the community members was severely impacted, raising serious survival concerns for many. During this period, organizations responded by distributing essential commodities like ration kits, ready-to-eat food, grocery, masks, sanitizers, soaps, and nutrition support (for PLHIV). The fundraising was done through Corporate Social Responsibility (CSR), local political leaders, local donations, etc. At the HIV program level, priority was put on distributing ART medicines (for PLHIV). The outreach teams of TIs/LWSs were majorly involved in the efforts of reaching out to communities with essentials and ART medicines. Staff had to travel to distribute essential commodities, ration kits, ART medicines, etc. There was inflation; travel costs increased as there were no means of public transportation (buses, trains, locals, etc.), and private vehicles and rickshaws were charging four times higher than routine. Staff bared this extra cost of travel through their own pockets as travel allowance was insufficient. Staff reached the community by private vehicles, ambulance/vehicle belonging to the organization, rickshaws, two-wheelers, bicycles, or walking long distances to distribute essential commodities.

During lockdown and the initial few un-lockdowns, many organizations provided private vehicles, identity cards, or permission letters from civil surgeons to a few of the Staff, with the help of which they could reach the

community for outreach activities. Sometimes, police did not consider their organization's ID card and didn't consider them healthcare workers. Staff had to call their seniors to convince the police. Sometimes police beat them with sticks without asking anything when they were going to distribute essentials, condoms, or ART.

Phases of un-lockdown

The un-lockdowns were gradual, with many restrictions still in place, such as sealing down of containment zones, evening/night curfews, closure of inter-district borders, closure of public transport, restrictions on the number of people that can travel in a private vehicle, restrictions on group meetings in closed spaces, big gatherings, and so on. The situation was fluid, with district-level variability and uncertainty. The responses to initiate service delivery had to be framed within this context. All the organizations were instructed to follow the local guidelines of the respective district regarding appropriate COVID-19 behaviors. The communications with state/district supervisory teams and communication within the organization (staff meetings) shifted to telephonic or online modes of communication. Organizations used mobile, WhatsApp groups, zoom meetings, Google meets, conference calls, video calls, etc., for communication. Organizations had to teach the staff how to use these platforms. Staff used to face problems such as network, internet connectivity issues, and data recharge. A few staff members were uncomfortable using these platforms; some didn’t have android mobiles, etc. To overcome these issues, ORWs with an android mobile and good connectivity attended the meetings along with 3-4 peers and ORWs without an Android mobile or were not comfortable using social platforms. PMs were constantly in contact with peers and ORWs and were guiding them.

The COVID-19 situation (caseload and restrictions) unfolded differently across districts and urban and rural areas. Some districts/areas had a higher COVID-19 caseload relative to others. During the first wave of COVID-19 (April 2020 to June 2020), cities were more affected than villages. The restrictions were more severe and lingered for a more extended period for these areas/districts. It affected the work of TIs/LWSs from these places. People from villages were more scared of staff coming from cities to provide the services due to fear of contracting COVID-19. There was also wide variation within TI/LWS organizations regarding the experience of working with communities, capacities for social networking, and financial viability, which also affected the responses of different organizations during the pandemic.

Strategies to sustain HIV testing services

As there were challenges to accessing HIV testing services at health facilities (barriers for ICTC testing discussed in detail earlier section), TIs/LWSs were instructed to reach the community to provide services. Organizations were asked to provide program services while abiding by district-level regulations. Immediately after the post-un-lockdown, organizations prioritized completing the dues for HIV testing of the already registered community members. Organizations prepared an area-wise due list of community members for HIV/STI testing, discussed with ORWs, link workers, and peers, and accordingly gave increased targets to them. Emphasis was on CBS so that testing could be done at the community's doorsteps. High-risk cases (community members who reported STIs, unprotected sexual activities, having multiple partners, pregnant women in villages – through LWS) were prioritized. Programs also ensured the supply chains of essential commodities to organizations. Hardly any issues with the supply chain were reported in qualitative interviews,

except a few organizations reported a shortage of CBS for HIV kits for a specific period.

Due to pandemic restrictions and difficulties in conducting camps, emphasis on one-on-one HIV testing was increased. Each camp accommodated only a few people at a time. HIV testing became more effort-intensive, with multiple visits required to complete the testing target and more counselling efforts. Various solutions were explored to increase outreach and HIV testing uptake, such as - integrating HIV testing with food/ration distribution, COVID-19 awareness, vaccination, using networks of peers and stakeholders (e.g., *guru, maushi, paanwala*) for reaching already registered community members.

Impact of COVID-19 pandemic on program outcomes

This section describes the impact of COVID-19 pandemic on programmatic outcomes such as HIV testing through ICTC and CBS, new registration, HIV positives detected. These impacts are assessed through a comparative analysis of pre-COVID-19 and COVID-19 period, separately for each typology. Further, district wise analysis of how CBS testing contributed to overall testing during pandemic period is discussed.

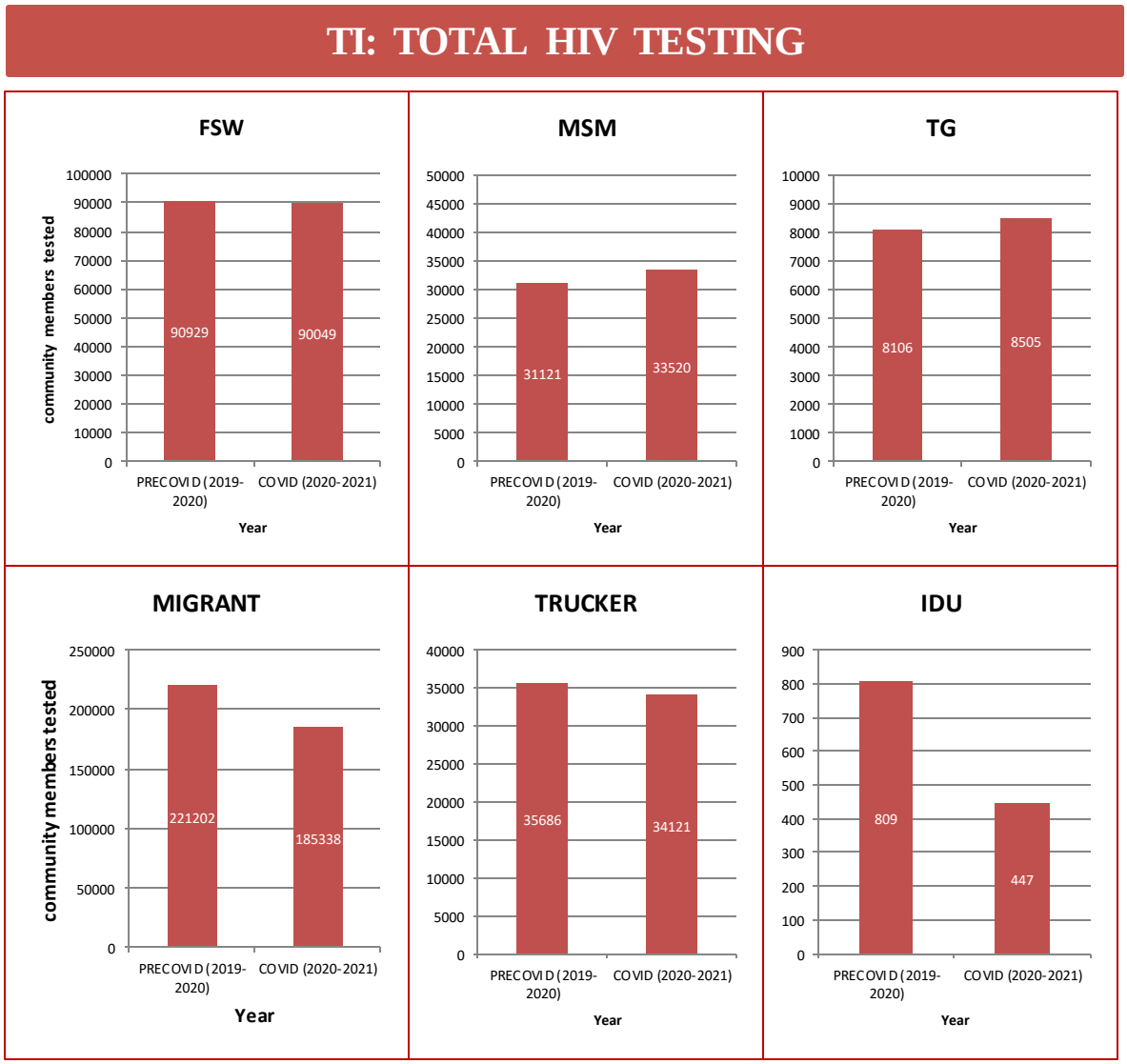
Outcomes: Targeted Intervention Program

A. Total HIV testing uptake in the TI program

Total testing in TI-programme includes testing conducted either through ICTC or CBS. The period from April 2019 to March 2020 is considered a pre-COVID-19 year, and from April 2020 to March 2021 is regarded as a COVID-19 year. According to the mapping and size estimation of the high-risk population, each TI organization is given a target to cover the population of a specific typology mapped in their working area. The number of operational TI organizations increased in 2019-20, compared to 2018-19, as the HIV program aimed at increasing its penetration. The target for 2020-21 was set in March 2020 – i.e., before the pandemic hit. It was at levels similar to the previous year. For most of the active TI organizations in Maharashtra, their respective annual targets have remained the same from 2018-19 to 2020-21. During the year 2018-19, a total of 296013 individuals were tested for HIV. During the pre-COVID-19 year, 3,87,853 community members (all typologies) were tested for HIV compared to 3,51,980 in the COVID-19 year. A 9% reduction in annual HIV testing in all typologies was seen during the pandemic year, compared to the previous year, despite the same number of functional TI organizations.

Relative to the pre-COVID-19 period, total HIV testing was reduced by 1% among FSW, 4% among truckers, 16% among migrants, and 44% among IDUs. It increased by 7% among MSM and 5% among TGs. (The district-wise information on total testing across all typologies in the pre-COVID-19 and during the COVID-19 pandemic is given in Annexure no. 1)

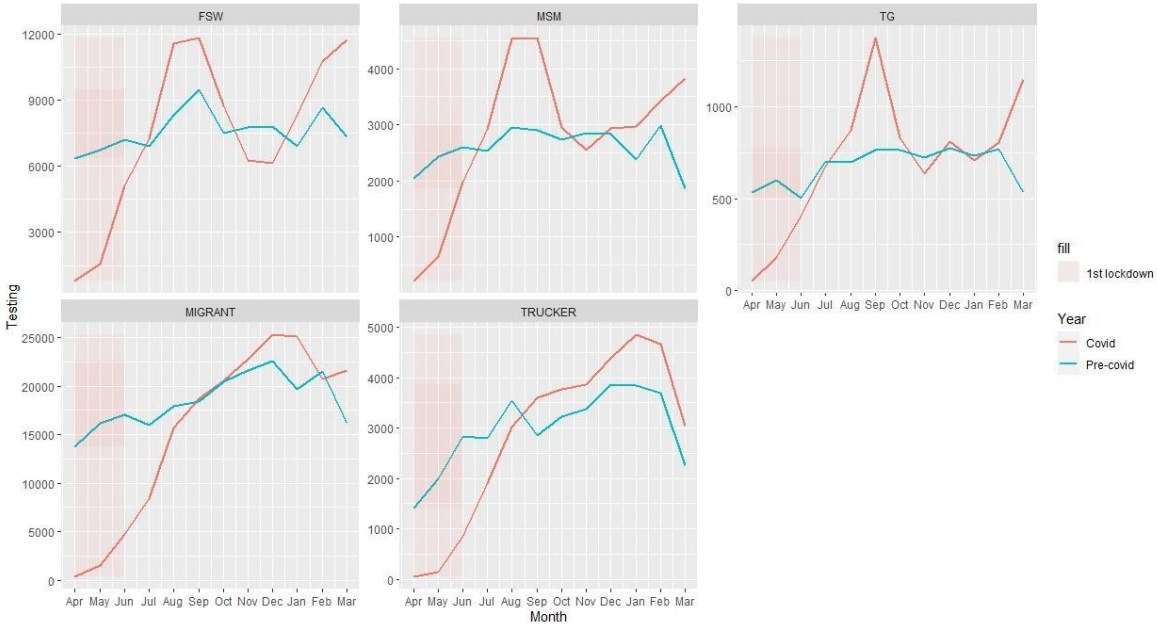
Figure 1: Comparison of total HIV testing before and during the COVID-19 pandemic in the TI program in Maharashtra for different typologies.



B. Longitudinal patterns of recovery of HIV testing in the TI program

With the COVID-19 pandemic followed by a sudden strict nationwide lockdown, there was an expected noticeable decline in testing from April 2020 to June 2020. A prompt recovery was observed in the subsequent months post-lockdown among FSW, MSM, and TG.

Figure 2: Monthly HIV testing (total) in the TI program before and during the COVID-19 pandemic for different typologies

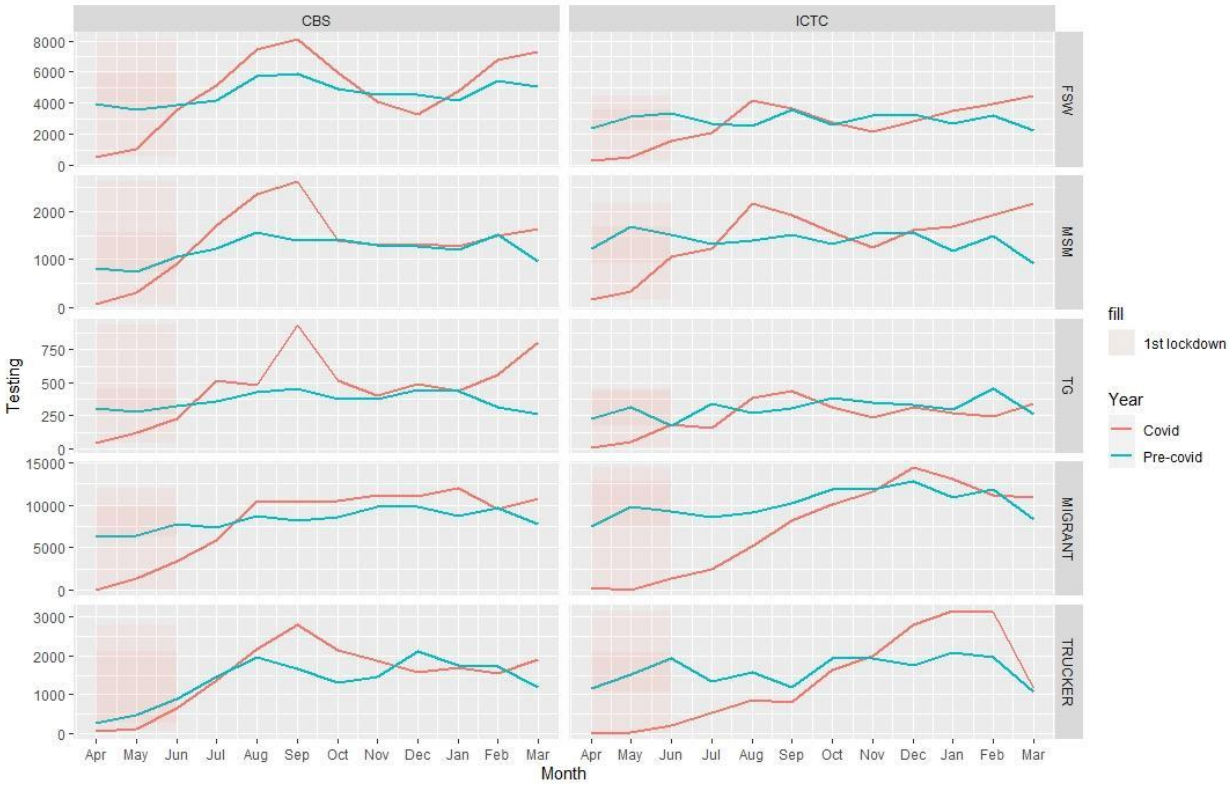


This recovery resulted from the intensive efforts these programs initiated to reach out to the community members who were due for testing during the lockdown. The recovery among migrants and truckers was comparatively gradual as inter-state travel was not relaxed immediately, and movement restrictions were still in place. Migrant workers who had returned to their source arrived at their destination city after the restrictions on travel were relaxed. Truckers began functioning with the opening of inter-state boundaries for trade and commerce.

C. Role of CBS and ICTC testing in the recovery of the TI program

Testing under the TI program is either done in the ICTC facilities or through CBS. CBS was an important programmatic strategy during the COVID-19 pandemic. During the lockdown, both CBS and ICTC testing came near a halt. After the initial unlock, a sharp increase was observed in CBS testing in FSW, MSM, and TG.

Figure 3: Monthly HIV testing through CBS and ICTC before and during the COVID-19 pandemic in TI Program for different typologies



*ICTC testing registered under the TI program

As against, the ICTC testing remained at levels similar to the pre-COVID-19 period. In migrants and truckers, the testing through CBS was marginally higher relative to the pre-COVID-19 period. The ICTC testing in migrants and truckers remained much lower for longer, and recovery was seen from November onwards. In IDU, all the HIV testing was done through CBS during the pre-COVID-19 and COVID-19 periods. Thus, it can be said that CBS played an essential role in testing and reaching the community during the pandemic.

D. District-wise variation in the use of CBS during the pandemic

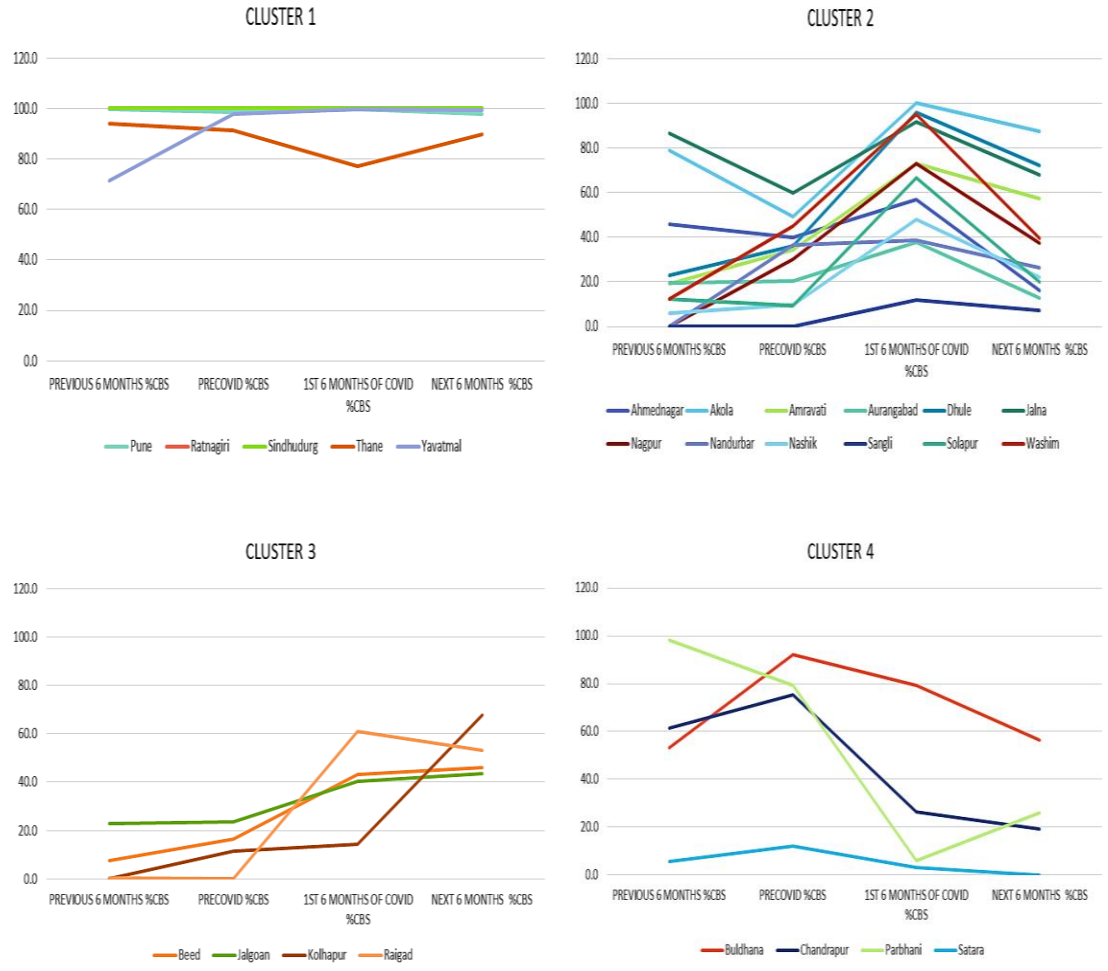
The longitudinal trajectory of proportionate use of CBS, relative to total testing for each district for each typology, was assessed. Trajectories of districts following similar paths (based on visual impression) were clustered together.

Four prominent clusters were observed across all typologies. Cluster 1 comprises districts where a very high proportion of CBS (>80%) was used during the pre-COVID-19 period. This proportion was sustained during the COVID-19 period. Cluster 2 comprises districts where CBS use was limited to a lower level (20-40%) during the pre-COVID-19 period. This proportion increased substantially during the first six months of COVID-19 and subsequently decreased to pre-COVID-19 levels. Cluster 3 comprises districts where CBS testing was very low (<20%) during the pre-COVID-19 period, and a sustained increase was observed throughout the pandemic. Cluster 4 comprises districts where CBS testing declined during the COVID-19 pandemic.

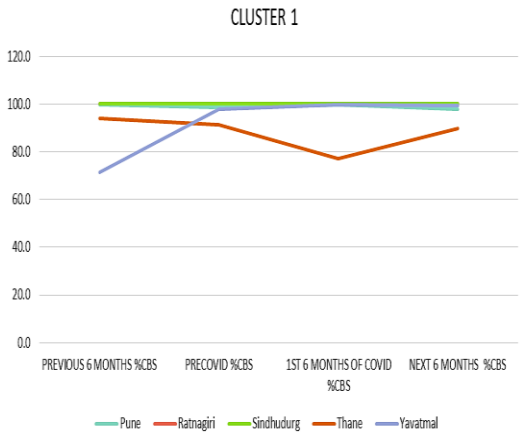
Across all typologies, most districts followed Cluster 2 (a substantial increase followed by a drop in CBS proportions). A handful of districts belonged to Cluster 1 (high CBS use throughout) or Cluster 3 (sustained increase in CBS throughout the pandemic). Only a few districts belonged to Cluster 4 (declining CBS use during the pandemic).

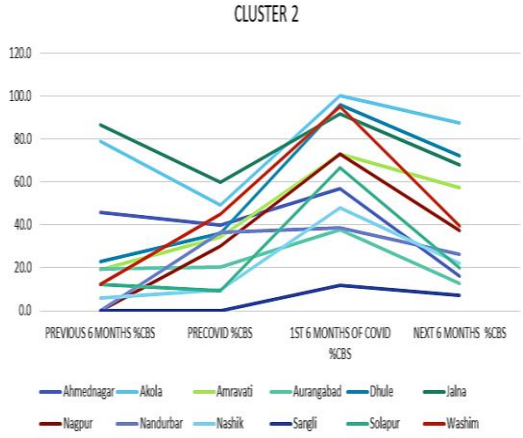
Figure 4: District level trajectories of the extent of CBS used (proportion of CBS to total testing) before and during the COVID-19 pandemic in TI program, for different typologies

FSW



MSM


CLUSTER 1
120.0
100.0
80.0
60.0
40.0
20.0
0.0
PREVIOUS 6 MONTHS %CBS
PRECOVID %CBS
1ST 6 MONTHS OF COVID %CBS
NEXT 6 MONTHS %CBS
Pune
Ratnagiri
Sindhudurg
Thane
Yavatmal


CLUSTER 2
120.0
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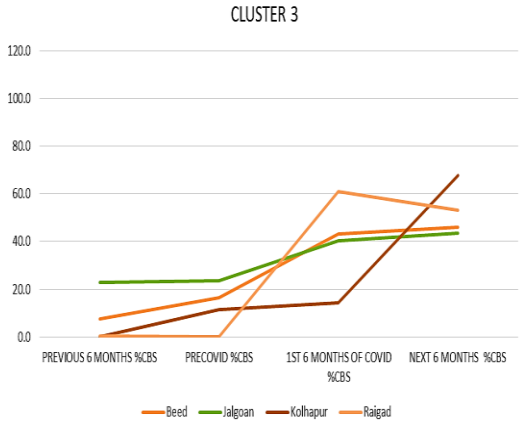
80.0
60.0
40.0
20.0
0.0
PREVIOUS 6 MONTHS %CBS
PRECOVID %CBS
1ST 6 MONTHS OF COVID %CBS
NEXT 6 MONTHS %CBS
Ahmednagar
Akola
Amravati
Aurangabad
Dhule
Jalna
Nagpur
Nandurbar
Nashik
Sangli
Solapur
Washim


CLUSTER 3
120.0
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40.0
20.0
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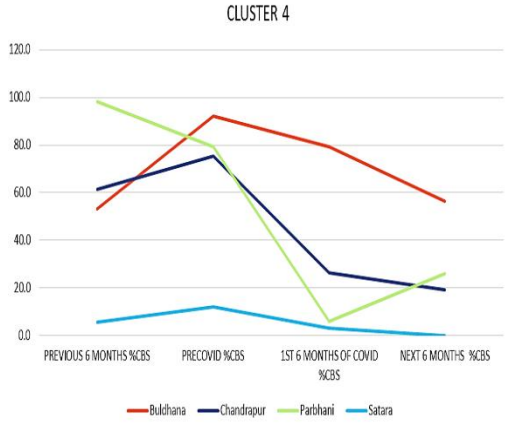
PREVIOUS 6 MONTHS %CBS
PRECOVID %CBS
1ST 6 MONTHS OF COVID %CBS
NEXT 6 MONTHS %CBS
Beed
Jalgoan
Kolhapur
Raigad


CLUSTER 4
120.0
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40.0
20.0
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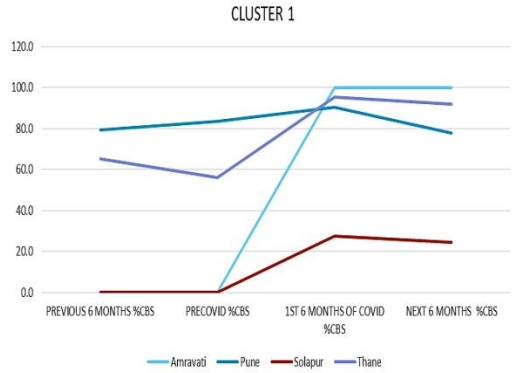
PREVIOUS 6 MONTHS %CBS
PRECOVID %CBS
1ST 6 MONTHS OF COVID %CBS
NEXT 6 MONTHS %CBS
Buldhana
Chandrapur
Parbhani
Satara

TG


CLUSTER 1
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40.0
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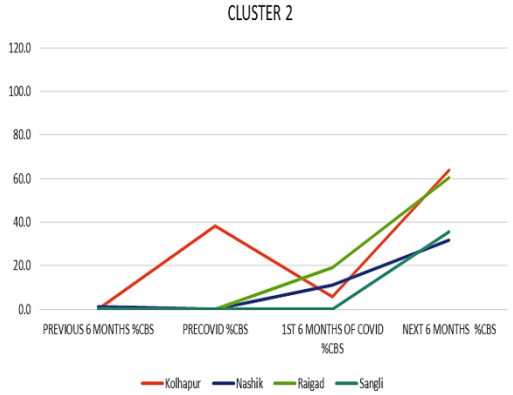
0.0
PREVIOUS 6 MONTHS %CBS
PRECOVID %CBS
1ST 6 MONTHS OF COVID %CBS
NEXT 6 MONTHS %CBS
Amravati
Pune
Solapur
Thane


CLUSTER 2
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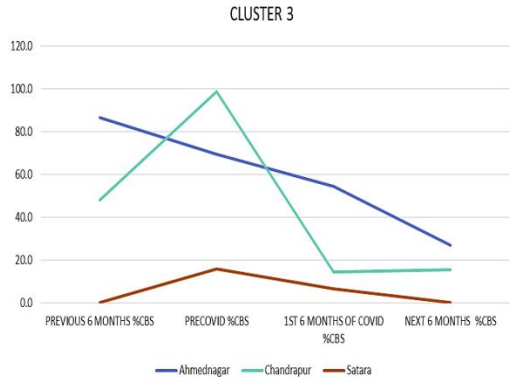
PREVIOUS 6 MONTHS %CBS
PRECOVID %CBS
1ST 6 MONTHS OF COVID %CBS
NEXT 6 MONTHS %CBS
Kolhapur
Nashik
Raigad
Sangli


CLUSTER 3
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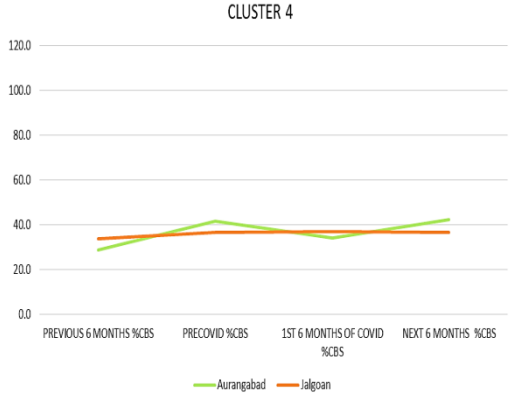
PREVIOUS 6 MONTHS %CBS
PRECOVID %CBS
1ST 6 MONTHS OF COVID %CBS
NEXT 6 MONTHS %CBS
Ahmednagar
Chandrapur
Satara


CLUSTER 4
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100.0
80.0
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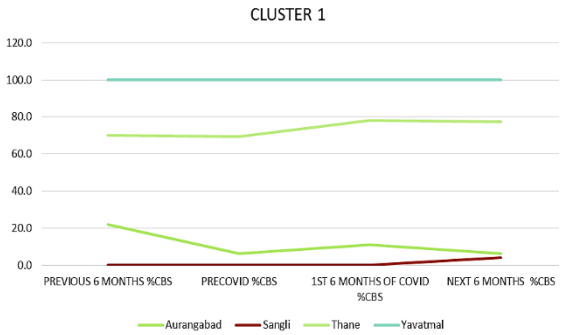
40.0
20.0
0.0
PREVIOUS 6 MONTHS %CBS
PRECOVID %CBS
1ST 6 MONTHS OF COVID %CBS
NEXT 6 MONTHS %CBS
Aurangabad
Jalgoan

Migrant


CLUSTER 1
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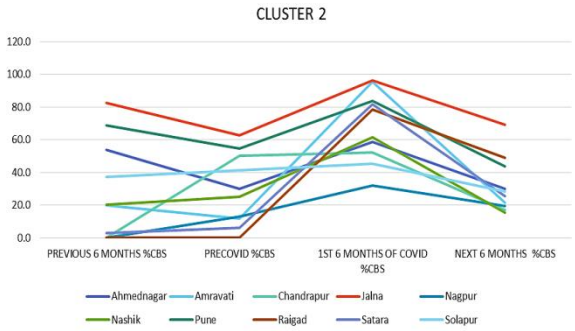
60.0
40.0
20.0
0.0
PREVIOUS 6 MONTHS %CBS
PRECOVID %CBS
1ST 6 MONTHS OF COVID %CBS
NEXT 6 MONTHS %CBS
Aurangabad
Sangli
Thane
Yavatmal


CLUSTER 2
120.0
100.0
80.0
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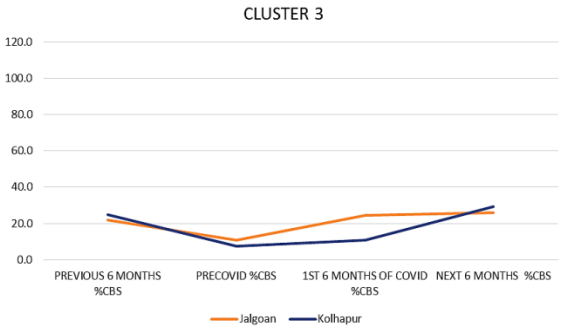
0.0
PREVIOUS 6 MONTHS %CBS
PRECOVID %CBS
1ST 6 MONTHS OF COVID %CBS
NEXT 6 MONTHS %CBS
Ahmednagar
Amravati
Chandrapur
Jalna
Nagpur
Nashik
Pune
Raigad
Satara
Solapur


CLUSTER 3
120.0
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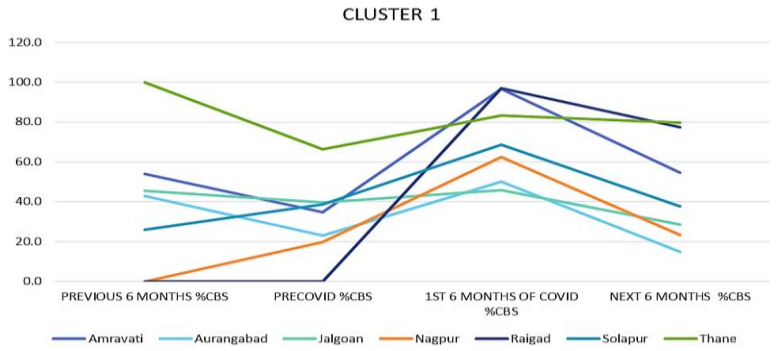
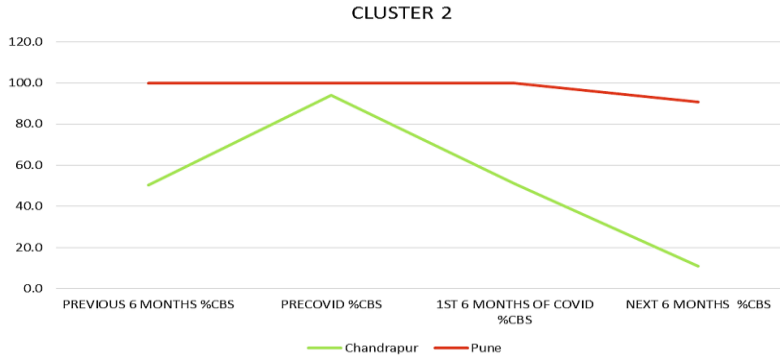
80.0
60.0
40.0
20.0
0.0
PREVIOUS 6 MONTHS %CBS
PRECOVID %CBS
1ST 6 MONTHS OF COVID %CBS
NEXT 6 MONTHS %CBS
Jalgoan
Kolhapur

Trucker

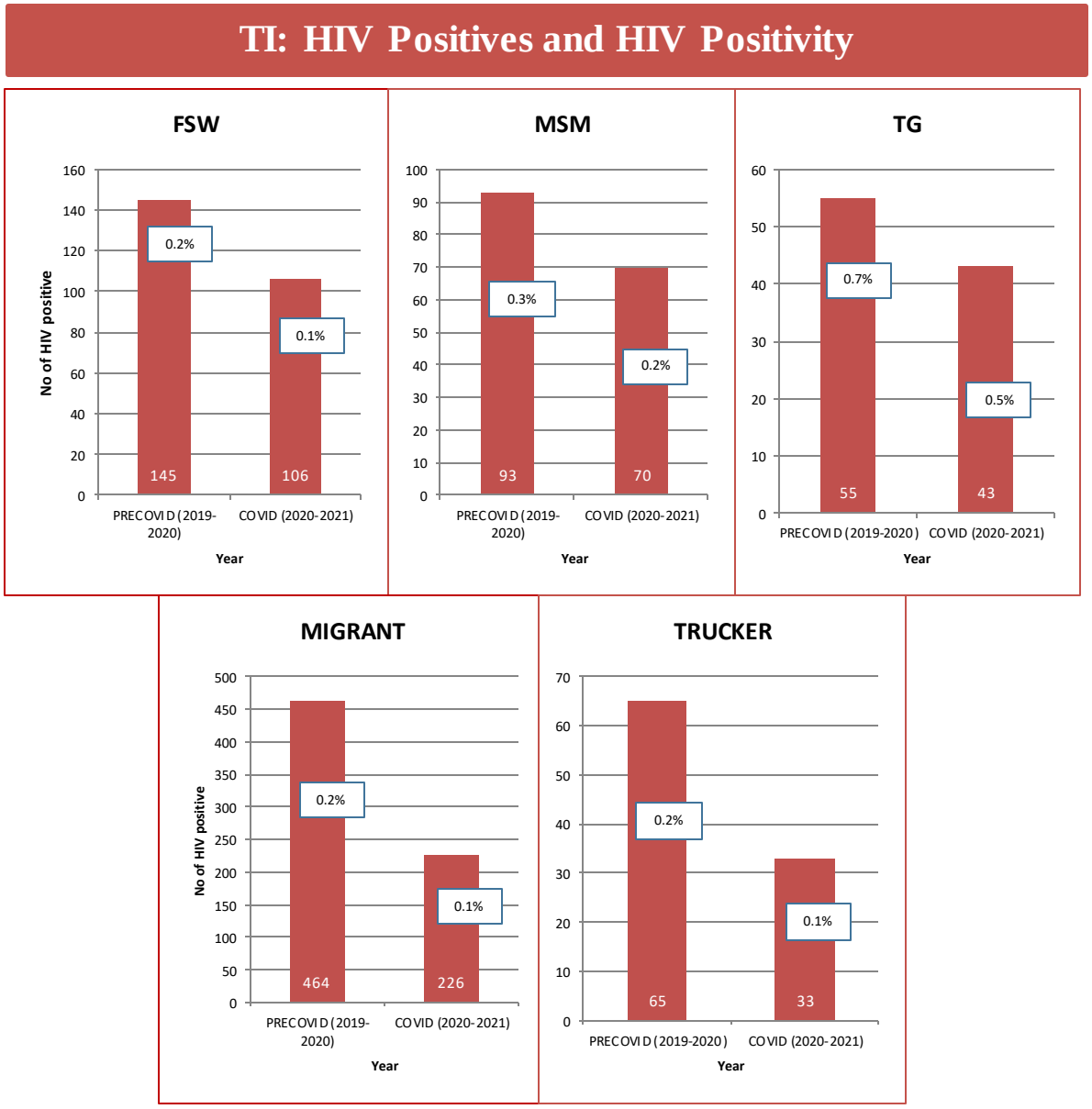




E. HIV positives and HIV positivity

The number of total HIV-positive cases detected in TI programs declined during the COVID-19 year, compared to the pre-COVID-19 year, across all typologies. At the state level, the total HIV-positive cases declined from 822 during the pre-COVID-19 year to 478 during the COVID-19 year. The reduction in Migrant was highest (51%), followed by trucker (49%), FSW (27%), MSM (25%), and TG (22%), respectively. Among IDU, no PLHIV was registered during the pandemic year, compared to 6 PLHIV in the pre-pandemic year. The program reports one TI organization working for IDUs stopped working during the COVID-19 year, and there was a reduction in the total number of HIV testing.

Figure 5: Comparison of total PLHIV registered and HIV positivity before and during the COVID-19 pandemic in the TI program for different typologies



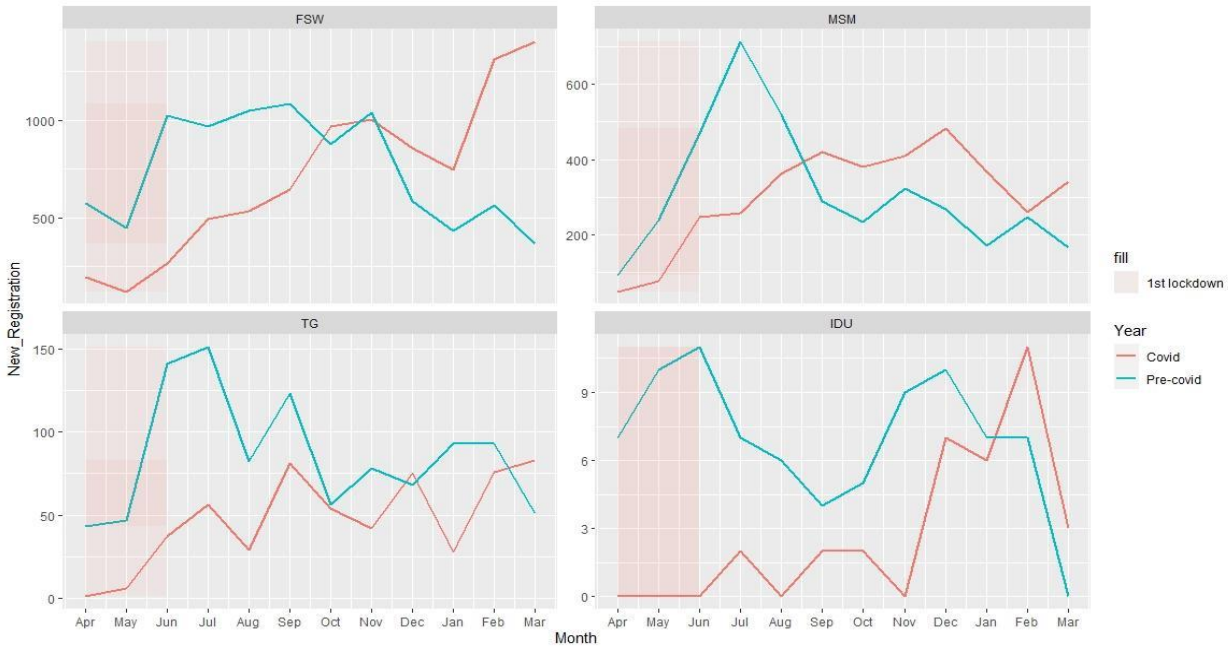
*Numbers in boxes are the HIV positivity rate

Comparative analysis of HIV positivity data for CBS and ICTC during 2018-2020 shows that CBS positivity rates are generally slightly higher than ICTC testing across all typologies. The positivity rate for CBS testing in the TI program was observed to have declined during the COVID-19 period compared to earlier periods. (See Annexure No. 2)

F. New registrations in the TI program

New registrations are the new community members registered in the TI program and availing of various TI services. Higher new registrations indicate reaching newer and unreached populations through mapping or discovering new hotspots. The new registration data is not maintained for the bridge population (migrants and truckers). New registrations have significantly reduced for IDU (60%) followed by TG (44.6%), FSW (5%), and MSM (2.1%), respectively, during the COVID-19 year compared to the pre-COVID-19 year. Fig. 6 provides a comparative analysis of monthly new registrations during the pre-COVID-19 and the COVID-19 periods. The new registrations remained very low during the lockdown and early un-lockdown and increased in quarters 3 and 4 of the COVID-19 year.

Figure 6: Monthly new registrations before and during the COVID-19 pandemic in the TI program for different typologies



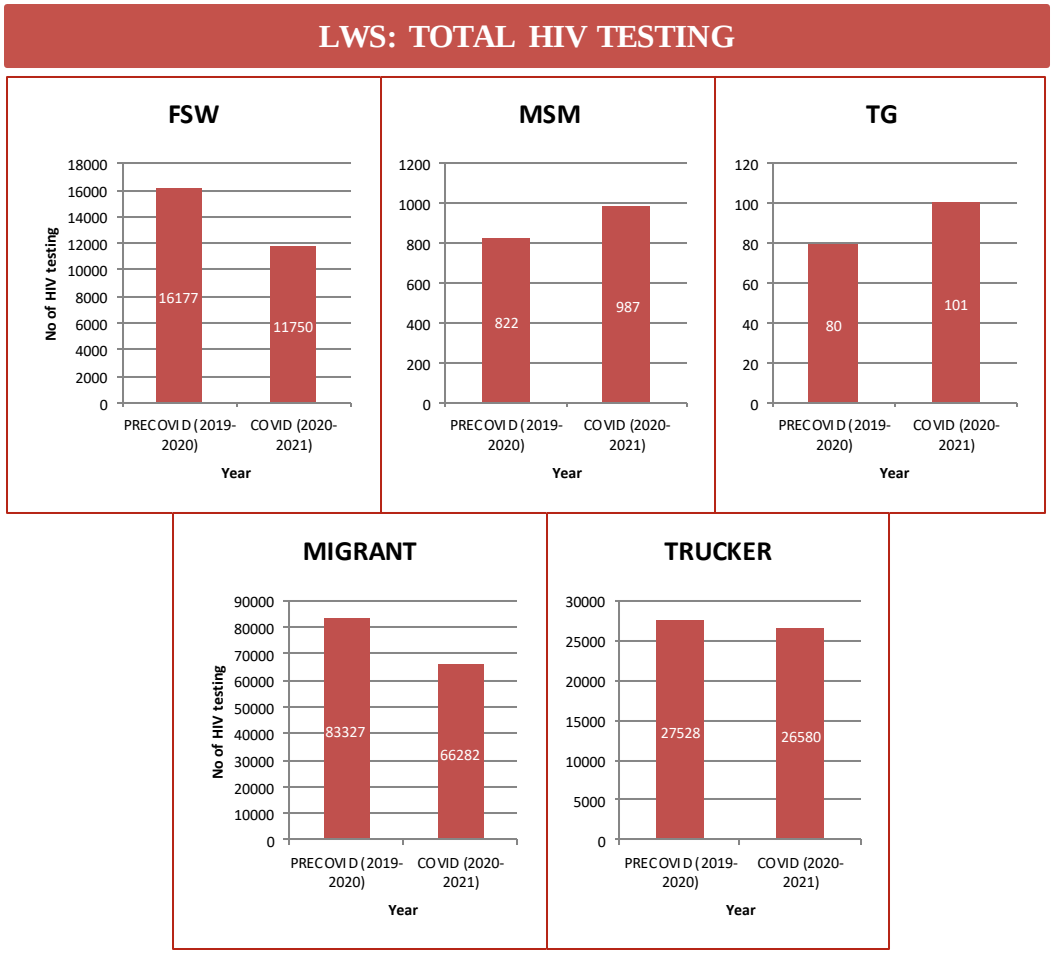
Outcomes: Link Worker Scheme

A. Total HIV testing uptake in LWS program

During the pre-COVID-19 year, 1,27,934 community members were screened and tested, whereas during the COVID-19 year, 1,05,700 were tested. There was a significant reduction in total testing during the COVID-19 pandemic year.

Total HIV testing was sustained/increased during the COVID-19 year among MSM, TG, and trucker. The decline in testing was observed during the COVID-19 year, compared to the pre-COVID-19 year, among FSW (27%) and migrant (20%).

Figure 7: Comparison of total HIV testing before and during the COVID-19 pandemic in the LWS program in Maharashtra for different typologies

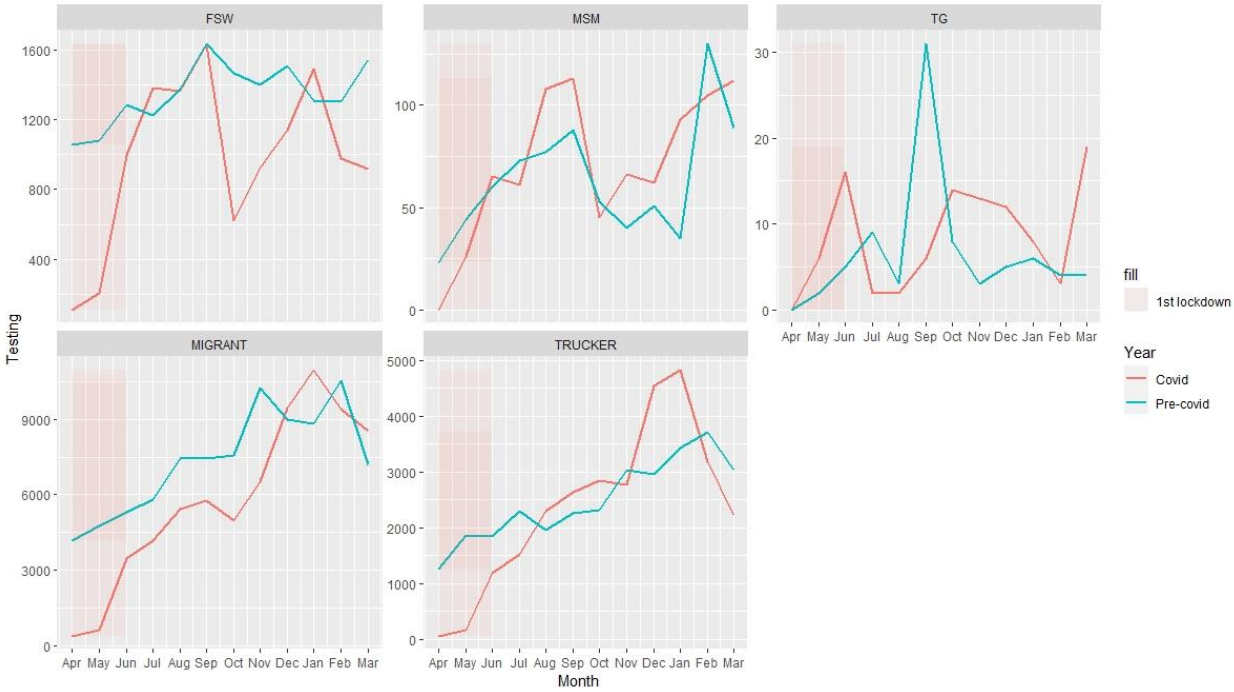


B. Longitudinal patterns of recovery of HIV testing in the LWS program

HIV testing is an essential component of the LWS program to reach rural community members. There was an expected noticeable decline in testing during the initial nationwide lockdown from April 2020 to June 2020. A recovery in testing was observed in the FSW and MSM. The testing in TG was significantly hampered during the COVID-19 pandemic.

The recovery among Migrant and Truckers post-lockdown was comparatively gradual. It never reached the pre-COVID-19 level for a long time. Migrant workers who had returned to their source arrived at their destination city after the restrictions on travel were relaxed. Truckers began functioning with the opening of inter-state boundaries for trade and commerce. Aligned with this, a spike in CBS testing was seen after November 2020.

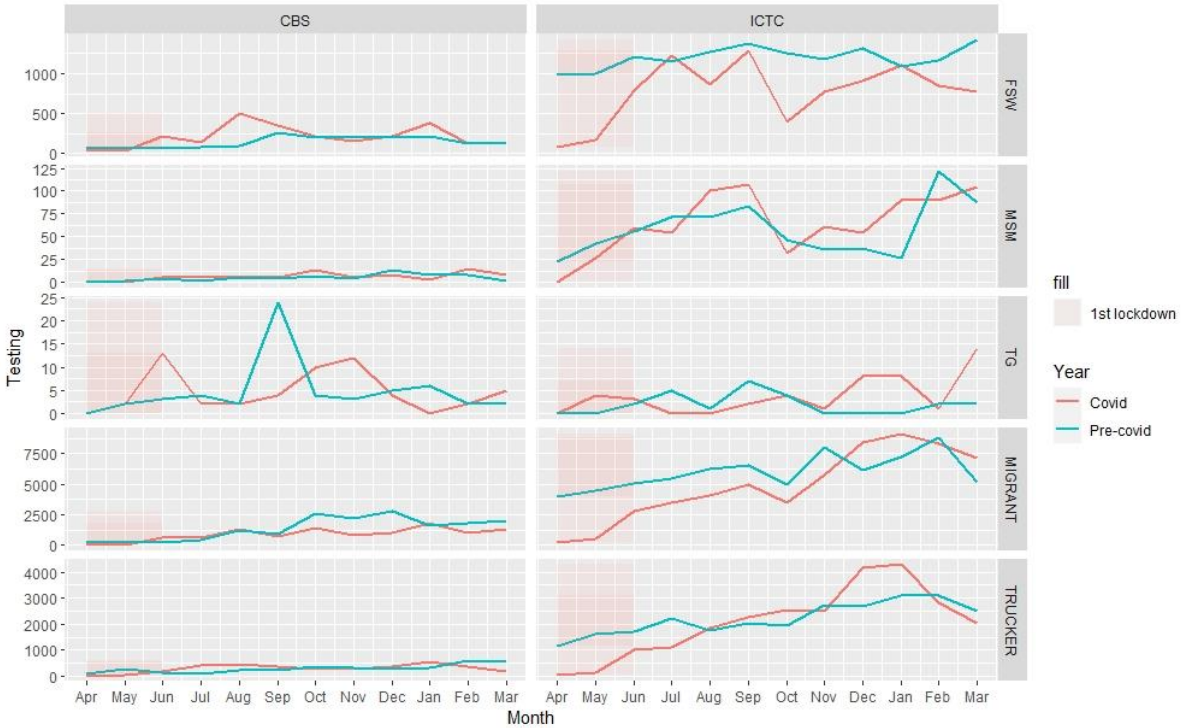
Figure 8: Monthly HIV testing (total) before and during COVID-19 years in the LWS program for different typologies



C. *Role of CBS and ICTC testing in the recovery of the LWS program*

The implementation of CBS in LWS, in general, is low across all typologies. Even during the pre-COVID-19 year, most HIV testing was done through ICTC. During the lockdown, ICTC testing in LWS was greatly affected for all typologies. Gradual recovery was seen during the un-lockdown phases. CBS did not play a significant role in testing recovery during COVID-19.

Figure 9: Monthly HIV testing through CBS and ICTC before and during COVID-19 years in the LWS program for different typologies

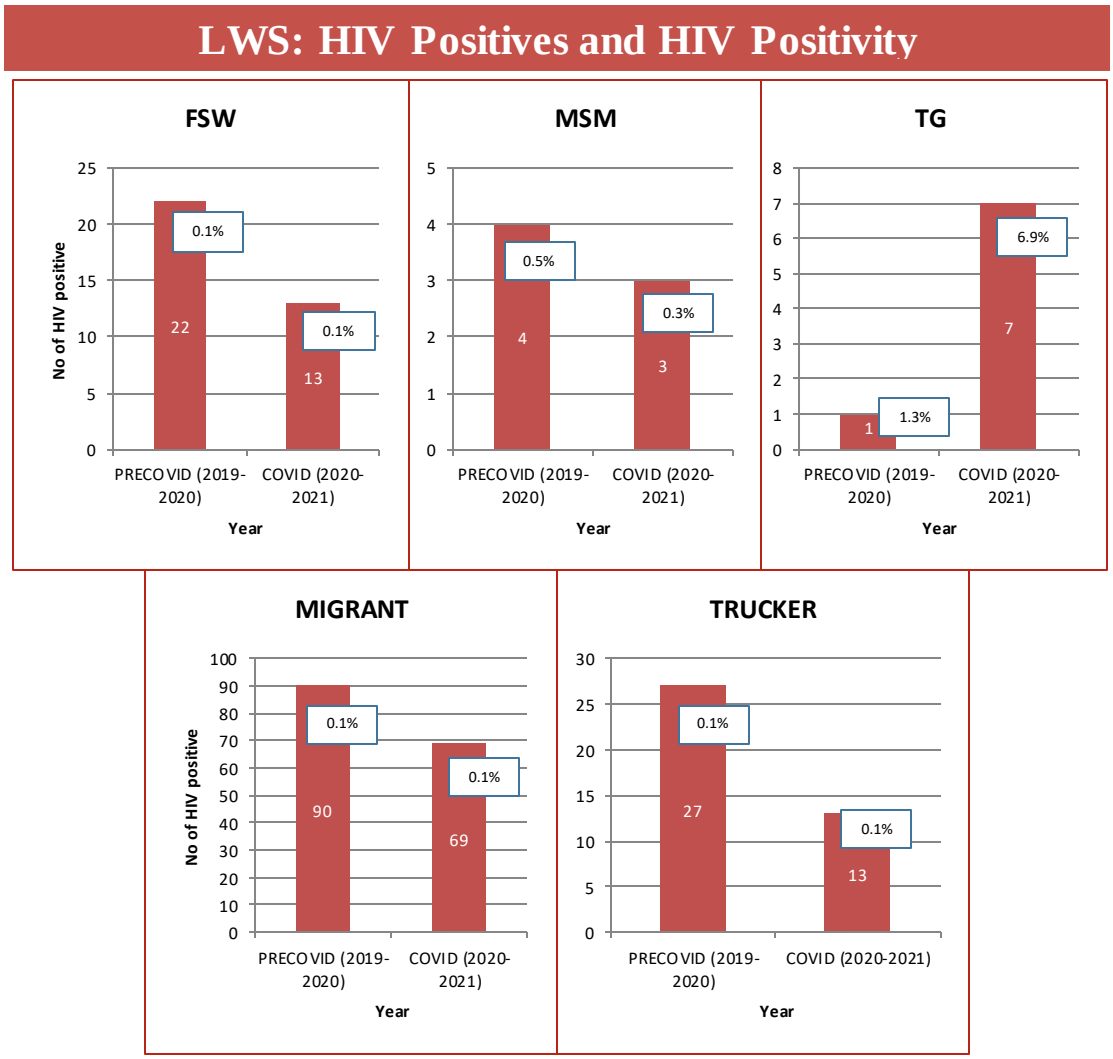


D. *HIV positives and HIV positivity*

The number of HIV-positive cases detected in LWS programs declined during the COVID-19 year, compared to the pre-COVID-19 year, across all typologies. At the state level, the total HIV-positive cases declined from 144 during the pre-COVID-19 year to 105 (27% reduction) during the COVID-19 year.

The reduction in total HIV positives in Trucker was highest (52%), followed by FSW (41%), MSM (25%), and Migrant (23%), respectively. There was an increase in total HIV positives in TG. However, it must be noted that the numbers of tests done through LWS among TG are too small to draw any inference (One TG was found HIV positive during the pre-COVID-19 period compared to seven in the COVID-19 period).

Figure 10: Comparison of total PLHIV registered and HIV positivity before and during COVID-19 pandemic in LWS program for different typologies



*Numbers in boxes is the HIV positivity rate

Impact on sex work and sexual behaviors among community

The following section describes how the pandemic influenced sex work and the sex trade.
The lockdown and restrictions on trade, businesses, and market operations meant the loss of jobs and livelihoods for many people, especially those from the unorganized sectors. There were economic hardships, which are known to have close interlinkage with HIV risk. The qualitative data from this study provides some indications of the same.

The decline in clientele reduced the negotiation power of sex workers

Sex work was hampered substantially during the first lockdown and initial un-lockdowns. All the traditional sites for sex work were closed; markets were closed; *Mangati and Badhai* were stopped. It was difficult for home-based FSWs and MSM/TGs to go out for sexual activities due to movement restrictions. Sex workers were serving mainly the regular clients and clients from nearby areas. It reduced the negotiation power of sex workers. Clients paying 500 rupees previously started paying 100 rupees. Some reported incidences of unprotected sex among the community members as clients were ready to pay more for sex without a condom. During some unplanned encounters, condoms were unavailable, and they engaged in unprotected

sexual activities. Due to the overall economic downturn, even during later periods of un-lockdowns, sex work didn't completely resume normalcy. There were a lower number of clients.

> *Their work (sex work) was not happening, trade was limited. Previously, 500 rupees was the rate which reduced to 100 – 200 rupees. Reduced rate and the competition was too high.*
>
> *(PM, CC TI)*

> *Home-based and all, if the woman (FSW) has money problems and if she finds a client, then she will not leave him. The situation was so bad that no one had money. If she gets a client, she will take him to the field; where would she find condoms on the farm? That time she would have sex without Nirodh.*
>
> *- (PM, FSW TI)*

The link between violence and the high risk of sexually transmitted infections is well known. Increased vulnerability to violence was observed among FSWs during the pandemic. FSWs faced violence (Physical and mental) from their regular partners or family members. One CBO also reported a few cases of murders among FSWs by their regular partners. Organizations also reported a few cases of suicide among community members.

> *There was a lot of violence from husbands of these women (FSWs). The way it happens in mainstream society...people do not interfere in domestic violence.....violence between husband and wife. The same thing applies in this (sex workers) context as well. Other people won't interfere if the so called husband or lover is harassing the woman. In last two months, five women were murdered here and that too by their partners.*
>
> *(PM, FSW, CBO)*

Newer entrants in the sex trade who do not self-identify with high-risk group categories

The economic compulsions arising from losing jobs, the death of earning family members, and debts due to hospitalization pushed some women into the sex trade. These newer entrants in the sex trade were introduced through agents working in the sex trade, other relatives, friends, boyfriends, neighbors, etc. There was an increase in the number of FSWs who had stopped sex work and started again during the COVID-19 pandemic.

The organizations reported that, during the COVID-19 period, they had observed that some women, who resorted to various temporary occupations during the pandemic, were engaging in transactional sex. Transactional sex also functioned through massage parlors and online escort services. The activities were done secretly, at discrete locations, through mobile contacts or social media platforms (WhatsApp, Facebook, etc.).

> *During this time, the number of people newly entering sex work has also increased. After their regular work was shut, many women entered this work (Sex work). If the husband lost his job or wages were cut, and there was the responsibility of the children. Then through a friend, they found out how she is getting money. They used to tell each other about customers. Then that woman would enter into this work (sex work). It is how some women entered work (sex work).*
>
> *(PM- FSW TI)*

> *Women from the middle class have also come (into sex work). A 21-year-old girl, her father was ill and had ten lakhs debt to the hospital. The father passed away, the brother was young, the mother was alive, and there was no source of income. Didn't get a job. She came in contact with our peer, through which she got into the sex trade.*
>
> *(PM FSW TI)*

Reaching out to these populations was challenging for TI/LWS programs. The women did not want to get associated with TIs/LWSs due to fear of disclosure.

Reflections: Adaptation strategies and best practices

Quantitative data indicate that TI/LWS programs could sustain HIV testing services during the pandemic period, although there were some gaps for some typologies. CBS for HIV played a central role in sustaining the testing services of the TI program. During pandemic times, the testing through both ICTC and CBS was fraught with many difficulties ranging from financial issues, transport constraints, staff's fear of contracting COVID-19 infections, a limited number of available staff, etc. However, the staff of the TI/LWS organizations and peers kept working against all odds for many months, at times stepping beyond their expected job responsibilities. This section describes ground level processes and good practices that helped sustain HIV testing during the pandemic.

Communities taking charge of the situation

There was a high level of involvement and investment by organizations implementing TI/LWS during the crisis. Field-level teams of TI/LWS (peers, ORWs, program managers) owned up to the responsibility of safeguarding the community's interests. It kept them going for long hours under challenging circumstances. This was driven by emotional attachment and the long-term engagement of staff with the community.

> *Once you get emotionally attached to the KPs (Key Population), what we get in return or no (any incentive), we help them. Whatever our organization could, we did it for them.*
>
> *(ORW, FSW TI)*

> *It's not like that. If that population is not getting anything to eat (tyanchee chul vizali asel), how can we be content? At that time, filling their stomach was very important. At that time, I felt very proud that my staff has worked very honestly, how much ever possible and it could be seen*
>
> *(PM, FSW TI)*

Beyond HIV services, TI/LWS organizations catered to the community's diverse needs during the lockdown and un-lockdowns. It included the distribution of daily essentials during the lockdown and early un-lockdown phases. TIs working for migrants arranged for transport to their native places and started a community kitchen for migrants who stayed back at sites.

Linking to Social Benefits Schemes - They helped the community to get linked to different social benefits schemes. As per the directives passed by Supreme Court, FSWs received a dry ration and 5000 rupees per month for three months of the lockdown from the Women and Child Health department. Organizations faced a lot of issues during linking FSWs to these schemes, such as– discrepancies in name registered with TI/LWS and name on ID proofs; FSWs didn't have identity or address proof and any bank account; photocopying shops were closed; documents were not updated; FSWs didn't have their photos; and due to movement restrictions, it was challenging to

update documents, open bank accounts, etc. Staff had to do a lot of additional work to prepare, collect and submit the required documents from FSWs.

> *We did ration distribution, provided grocery kits, and provided them with financial resources through xx organization. The state government also provided women (in sex work) with 15,000 rupees and 6,000 rupees for their children's education; through constant follow-up, money was also made available to the women. It helped increase their trust in us. We also pay attention to their livelihood and source of income; then we worked on that more.*
>
> *(PM CC TI)*

Mental health support - The pandemic exacerbated mental health issues and violence among community members. The community faced many crises like violence by regular partners, family members, and clients, mental health issues like anxiety, depression, suicide, quarrels, etc. A few organizations reported cases of murder of FSWs by their regular partners and a few cases of suicide among community members. Staff provided social and emotional support to the community and handled the crises. A few TIs attempted to create an alternative source of income for the community by training them on making masks and sanitary pads. A few TIs helped women find new jobs for their livelihood.

> *One (sex worker) burned herself, one committed suicide. Like there were fights with the regular partner/spouse (Malakashee), there was some tension. And one more home-based woman (sex worker) had sugar at a high level, due to which she passed away, and one more woman committed suicide by hanging herself.*
>
> *(ORW, FSW TI)*

Support for COVID-19 services - There was tremendous fear among the community regarding COVID-19. Through field visits, one-to-one, and online sessions, the TI/LWS staff undertook COVID-19 awareness and distributed masks, sanitizers, soaps, etc. For the illiterate community members, some volunteers from the community, ORWs, or peers with android phones used to attend the online session or shared the COVID-19 awareness posters and video clips with them. The TIs also generated awareness regarding timely access to healthcare services if someone from the community suffers from COVID-19-like symptoms. Organizations also helped the community members infected with COVID-19 access health facilities and arranged vaccination camps.

> *When the second wave came, we could see few Covid cases in the community. We helped them reach the Covid center, visited them at the center once in a while, did video calls with them, sent them some food; we were doing all this*
>
> *(PM, FSW TI)*

Support for child care - Many FSWs keep their children at hostels for education and keep them away from the brothel's atmosphere. These children staying at hostels returned home due to the lockdown, which added to their distress. TIs started Bal Bhawan, an observation home for the children of the FSWs, and provided nutritional support.

> *I gathered all these children (of FSWs) and also set up schools at two places. I felt if they stayed away from school, they would directly become addicts (Gardule) after going there (in brothels)*
>
> *(ORW, FSW TI)*

> *During Covid to feed the children of these women (of FSWs) we started 'Bal Bhavan, we provided these children with nutritious food, biscuits, some snacks, teachers from 'Balvadi' used to come and teach them. We also used to make games available for them. Now also these activities are still on-going.*
>
> *(PM, CC TI)*

Promising practices: Micro-level innovations

The organizations developed many micro-level strategies to reach community members and provide services. These, in general, relied heavily on existing networks of peers and community members, community-based structures, and processes of the existing TI/LWS program and were effort-intensive.

Outreach through peer educators

Peers and ORWs played an essential role in outreach due to easy access and strong communication with the community. Peers were allotted an area near their residence for outreach. They were the point of contact for community members of their area. Additionally, outreach was also done using the network of community members.

> *Phone was very useful to us, during this time. Peers were very useful. Those who stayed around these peers gave us a little bit of information about these women (FSWs). Getting information about the woman that stayed far away was a little bit difficult. Then we called one another (traced through contacts); who stayed near her? Then we started coming together.*
>
> *(PM, FSW, TI)*

> *Now, if we want to conduct a camp, even if we tell one woman, she would notify 30-40 women comfortably. Since they used to communicate about the work (Sex work) over the phone, camp-related details were also passed at the same time. One woman would tell ten women, and those ten would pass the information to at least 40 or more, so then we don't have a problem.*
>
> *(PM, FSW, TI)*

TI/LWS staff also used their vehicles or walked to provide services at the community's doorsteps. They gathered nearby community members at the house of one member or stakeholder and provided them HIV testing and other services. Sometimes FSWs didn't give their personal numbers; instead, they gave numbers of brothel owners; Staff tried to reach such FSWs through the brothel owners. Similarly, TGs and MSMs were reached through Gurus and group leaders, respectively. Different TIs working for various communities in the same cities coordinated to provide services to the community members when the Staff of one TI couldn't reach the community.

Outreach through social media platforms

As community members were not meeting at physical sites, TI/LWS staff tried to contact them through phone calls, social media platforms like WhatsApp groups, video calls, and conference calls. TI/LWS organizations trained peers and outreach workers to use social media for outreach and service provision. Counseling sessions and follow-ups were done on the phone or social media platforms. They prepared WhatsApp groups of community members and sent messages regarding the provision of different services, such as the

distribution of essential commodities, HIV testing camps organized in their area, etc., to that group.

> *At that time (Covid lockdown) also we contacted every person through phone and did counseling, told them about ART medicines, how to take precautions for yourself, we were doing all this via phone.*
>
> *(PM, MSM/TG, TI)*

> *At that time, we started a corona group on the mobile. Everyone who had a phone and had WhatsApp was added to the corona group. Then today if I tell them, we are giving ration, whosever numbers you have bring them also with you. Then at that time, we had mobile contact (contact through mobiles) a lot.*
>
> *(ORW, MSM/TG TI)*

As many community members shifted to online platforms to find partners for sexual activity, TIs used online platforms to reach them. Outreach workers of the TI created personal accounts on various dating apps. They gave information about the distribution of essential commodities, including ration kits and different services provided by the TI on these platforms.

> *When the lockdown was imposed, people were not visiting the hotspots/physical sites. Then Grinder, planet Romeo, whatever four-five apps we used, we introduced ourselves to them (Community members using these apps) through these apps. To give them essential information required to make them aware and to also provide counseling, we introduced ourselves as people working for NGO... we used to tell them about activities that are done in the NGO for the community.*
>
> *(ORW, MSM/TG TI)*

For the migrated community, staff was taking follow-ups through phone calls. Staff linked the migrated PLHIV to the ART centers in their respective areas by contacting ART centers, and they were constantly in touch with PLHIV on the phone to check their adherence. Staff was connected to community members through social media platforms like WhatsApp, video calls, phone calls, etc., and provided counseling support.

Though the Staff was reaching the community through mobile and social media platforms, they also faced problems like network issues, internet connectivity issues, mobile numbers not being reachable, some community members didn't have android mobiles, some having to be contacted multiple times, few were not comfortable with using technology, a few had not given their mobile numbers or had switched off their phones, etc. To overcome these challenges during group sessions or COVID-19 awareness sessions, peers or community members with android mobile and good connectivity attended the calls along with those community members who didn't possess an android mobile or weren't comfortable using social platforms.

Integrated HIV services with the provision of essentials, COVID-19 awareness, and vaccination camps

The TI/LWS staff was reaching the community while distributing essentials or conducting COVID-19 awareness sessions and vaccination camps, and they also started providing HIV–related services along with these events. It aided in building trust in the community. It also helped approach the community as there was great fear among community members of contracting COVID-19.

> *During the lockdown, through our organization we provided ration kits sufficient for the month to those in need... The community started to believe that whatever these people were doing was for betterment only (changlya sathi karu rahile). Then along with kit distribution, we also did their HIV testing, gave them information related to Corona, and did awareness...how does Corona infection occur, what happens after that, how to use a mask, hand washing practices, don't go in crowded places, all this information was given. We were doing HIV testing and Covid awareness together (kamat kam hot chalayacha amacha).*
>
> *(LW, LWS)*

> *Initially, we would give them information about Corona, and then we would focus on CBS testing. They used to think that we are giving information regarding Covid... generally have come for the same. This gave us support to do our work.*
>
> *(LW, LWS)*

Home-based FSWs, MSM who were married or had not disclosed their identity, were not coming forward to access any benefits or services due to fear of disclosure. TIs/LWSs provided services to them at their doorsteps by conducting activities for the general population in that area to protect their privacy. Thus, TIs/LWSs tried to address the stigma and disclosure of hidden community members very sensitively while maintaining confidentiality. Many home-based, *Tamasha*-based FSWs, who were previously hesitant about being associated with the TI, registered with TIs after building trust and receiving support from the TIs.

TIs generated awareness about the importance of vaccines against COVID-19 and arranged vaccination camps for the community members. Along with vaccination, they provided routine HIV-related services to the community.

Flexible testing approaches

As there were several challenges in accessing HIV testing at facilities, the program strategized to focus more on CBS during the un-lockdown. Many organizations increased the proportion of CBS to complete the target. Additional focus was given to one-to-one testing than conducting camps. In some instances, staff gathered community members in small numbers, staying in a particular area at one member's home or the house of the stakeholder, and provided services or conducted CBS. At times, CBS camps were conducted in open fields such as farms to avoid crowding and reduce the fear of community members contracting COVID-19.

More effort-intensive testing approaches

As conducting camps with a large group was impossible, the number of camps increased. Small groups of four to five community members were tested in each camp. Previously Staff used to close the camp once they achieved 30-35 HIV testing at one site, but during initial un-lockdowns, they also conducted another camp at a nearby location. Conducting camps with smaller numbers and one-to-one testing meant more field visits and more time spent on the field. After the un-lockdown, ICTCs also started providing camps to TIs/LWSs. Priority for conducting camps was given to sites where there were more numbers of duelists. Organizations increased the working hours of doctors working (under public-private partnership) with them at the campsites to complete the targets.

> *We increased FGDs, group meetings... first, we used to conduct one or two meetings, which increased to four meetings...the PM and counselor both also increased their field visits.*
>
> *(PM, MSM/TG TI)*

Though staff tried their best to reach the community and give services, they faced difficulties like increased travel costs due to inflation and multiple and increased field visits. The travel allowance was insufficient to fulfill all the job responsibilities. Sometimes the staff remained absent due to COVID-19, and those in contact with them were quarantined, which hampered the workflow. Also, there was a significant staff turnover, especially in TIs working for Migrants and Truckers, all resulting in substantial hard work to complete the targets.

> *Our ORWs, peers were also facing problems. SACS didn't give salary for four months. There were many problems. During this crisis, the inflation had increased (increased cost of living)... travel rates had increased... the rickshaw cost was four times the usual. Staff did not get TA (travel allowance) and salary; how were they supposed to work? Staff was provided with a ration. We (PM/Counsellor) do not belong to the community; that's why we didn't receive any help. Firstly, the salary was very low, and additionally, it was not paid regularly then how are they expected to keep up (Tag kasa dharayacha) for four months.*
>
> *(PM, FSW, TI)*

The way forward

The study offers some critical insights into the role of existing structures and processes of TI/LWS programs in adapting to the COVID-19 crisis. It provides valuable inputs for strengthening the existing programs to reach the unreached high-risk groups. In this context, the essential takeaways from this study are –

1) The decentralized, community participatory structures and processes of the TI/LWS programs served as a backbone to the adaptation responses during pandemic times. Going beyond HIV targets, the TI/LWS organizations and peers catered to the community's diverse needs. They worked in challenging circumstances with an acute sense of ownership and volunteerism. A deep-rooted, long-term association and engagement with the communities was the driving force behind this.

> Going forward, the TI/LWS programs should invest in the communities through increased engagement, encouragement, and nurturing (capacity building).

2) CBS, a client-centric testing approach, played a crucial role in sustaining the HIV testing services of the TI program during the pandemic period. The inherent flexibility of this approach could be employed to suit the requirements of COVID-19 times. However, there were concerns and apprehensions about quality control voiced by supervisory-level teams. Another issue was wide variability across districts in the proportionate use of CBS to total testing. In some districts, 80% of HIV testing was done through CBS. For some other districts, this proportion was 20-40% only. Such wide variation raises some questions about its optimal use.

To harness the full potential of CBS in the future, robust monitoring mechanisms will be needed. To achieve the same, we propose following:

- Developing district/typology/location-specific criteria to guide decision making around the extent of CBS testing required by a district/organization
- Setting up a participatory planning process with organizations and community members to decide the share of CBS and ICTC in total HIV testing.
- Periodic evaluation of aggregate data on sub-typologies reached through CBS and adding indicators such as first-time testers to know whether the objective of CBS to reach hard-to-reach population is achieved or not.

3) The concern of stagnation in the TI/LWS programs has been raised in the past. The pandemic has added to this concern, with a decline in testing and new registrations observed in specific typologies. Additionally, there are indications of emerging HIV-specific vulnerabilities borne out of socioeconomic disruptions caused by the pandemic. More recent at-risk

profiles and patterns in which sex work operates are likely emerging. The qualitative data suggested that women from lower or middle socioeconomic status are at risk of getting pushed into the sex trade through transactional sex. These new profiles do not necessarily align with the program-defined typologies. As these activities are done secretly, access to these populations is challenging.

The program needs to adopt approaches to reach unreached at-risk populations.

- Tapping the knowledge and insights of peers and outreach workers will be important.
- More emphasis needs to be given to identifying new hot spots and new enrollments. It would require addressing existing budgetary and HR constraints. More robust community engagement mechanisms will aid this process.

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Annexures

A1: District-wise annual HIV testing in TI program before and during the COVID-19

FSW

Table 3: HIV testing, number of HIV Positives, and Positivity rate through CBS and ICTC across districts in Maharashtra in TI Program for FSW during pre-COVID-19 and COVID-19 period

DISTRICT	TYPE	2019-2020 (PRE COVID)			2020-2021 (COVID)		
		Testing	Positives	Rate	Testing	Positives	Rate
Ahmednagar	CBS	424	2	0.5	437	0	0.0
	ICTC	572	2	0.3	856	3	0.4
Akola	CBS	1598	6	0.4	1969	4	0.2
	ICTC	837	0	0.0	191	0	0.0
Amravati	CBS	582	1	0.2	1425	0	0.0
	ICTC	1612	3	0.2	824	1	0.1
Aurangabad	CBS	657	1	0.2	838	0	0.0
	ICTC	2628	4	0.2	2869	3	0.1
Beed	CBS	323	0	0.0	1179	1	0.1
	ICTC	2341	6	0.3	1461	6	0.4
Buldhana	CBS	1537	0	0.0	1200	1	0.1
	ICTC	522	1	0.2	618	1	0.2
Chandrapur	CBS	451	2	0.4	179	3	1.7
	ICTC	204	0	0.0	610	0	0.0
Dhule	CBS	309	0	0.0	786	0	0.0
	ICTC	675	4	0.6	155	1	0.6

Gondia	CBS	0	2	-	0	1	-
	ICTC	1110	2	0.2	1363	1	0.1
Jalgaon	CBS	554	2	0.4	936	3	0.3
	ICTC	1839	0	0.0	1287	1	0.1
Jalna	CBS	1233	2	0.2	1337	0	0.0
	ICTC	451	3	0.7	351	2	0.6
Kolhapur	CBS	29	0	0.0	405	0	0.0
	ICTC	295	0	0.0	394	0	0.0
Nagpur	CBS	817	0	0.0	2838	1	0.0
	ICTC	4527	13	0.3	2302	1	0.0
Nanded	CBS	0	0	-	0	0	-
	ICTC	0	0	-	545	3	0.6
Nandurbar	CBS	264	1	0.4	660	0	0.0
	ICTC	987	0	0.0	1436	2	0.1
Nashik	CBS	238	1	0.4	807	0	0.0
	ICTC	2731	0	0.0	1769	0	0.0
Parbhani	CBS	1784	5	0.3	301	2	0.7
	ICTC	220	0	0.0	1562	0	0.0
Pune	CBS	11799	14	0.1	11658	9	0.1
	ICTC	95	1	1.1	145	2	1.4
Raigad	CBS	4	4	100	2705	3	0.1
	ICTC	1658	3	0.2	2056	1	0.0
Ratnagiri	CBS	1607	0	0.0	1090	0	0.0
	ICTC	0	0	-	0	0	-
Sangli	CBS	0	1	-	210	3	1.4
	ICTC	2400	4	0.2	2150	0	0.0
Satara	CBS	54	2	3.7	10	2	20.0

	ICTC	587	0	0.0	775	0	0.0
Sindhudurg	CBS	212	3	1.4	600	0	0.0
	ICTC	0	0	-	0	0	-
Solapur	CBS	360	10	2.8	910	5	0.5
	ICTC	5551	3	0.1	4044	5	0.1
Thane	CBS	28434	37	0.1	21567	23	0.1
	ICTC	2281	2	0.1	3814	5	0.1
Washim	CBS	158	2	1.3	426	2	0.5
	ICTC	368	0	0.0	283	0	0.0
Yavatmal	CBS	2560	3	0.1	3490	2	0.1
	ICTC	450	0	0.0	12	1	8.3

MSM

Table 4: HIV testing, number of HIV Positives, and Positivity rate through CBS and ICTC across districts in Maharashtra in TI Program for MSM during pre-COVID-19 and COVID-19 period

DISTRICT	TYPE	2019-2020 (PRE COVID)			2020-2021 (COVID)		
		Testing	Positives	Rate	Testing	Positives	Rate
Ahmednagar	CBS	947	2	0.2	923	0	0.0
	ICTC	703	1	0.1	1106	3	0.3
Akola	CBS	792	9	1.1	953	3	0.3
	ICTC	252	0	0.0	43	0	0.0
Amravati	CBS	387	2	0.5	847	2	0.2
	ICTC	788	0	0.0	506	2	0.4
Aurangabad	CBS	688	1	0.1	996	1	0.1
	ICTC	1252	2	0.2	781	2	0.3
Chandrapur	CBS	1057	4	0.4	244	0	0.0
	ICTC	425	5	1.2	1283	2	0.2
Dhule	CBS	46	0	0.0	363	1	0.3
	ICTC	363	0	0.0	265	0	0.0
Jalgaon	CBS	317	0	0.0	302	1	0.3
	ICTC	858	4	0.5	700	0	0.0
Jalna	CBS	290	0	0.0	239	0	0.0
	ICTC	110	3	2.7	29	1	3.4
Kolhapur	CBS	23	0	0.0	242	0	0.0
	ICTC	564	0	0.0	501	2	0.4
Nagpur	CBS	0	0	-	0	0	-
	ICTC	4896	8	0.2	4486	6	0.1
Nanded	CBS	0	0	-	0	0	-

	ICTC	0	0	-	917	4	0.4
Nandurbar	CBS	258	9	3.5	570	0	0.0
	ICTC	931	0	0.0	1246	7	0.6
Nashik	CBS	280	0	0.0	537	0	0.0
	ICTC	1219	4	0.3	835	3	0.4
Parbhani	CBS	1166	6	0.5	544	0	0.0
	ICTC	730	2	0.3	1223	0	0.0
Pune	CBS	3421	3	0.1	3222	2	0.1
	ICTC	271	5	1.8	186	1	0.5
Raigad	CBS	0	0	-	73	0	0.0
	ICTC	0	0	-	16	0	0.0
Ratnagiri	CBS	199	0	0.0	222	0	0.0
	ICTC	0	0	-	0	0	-
Sangli	CBS	0	1	-	53	4	7.5
	ICTC	693	0	0.0	649	0	0.0
Satara	CBS	11	0	0.0	19	1	5.3
	ICTC	482	0	0.0	457	0	0.0
Sindhudurg	CBS	0	0	-	561	0	0.0
	ICTC	0	0	-	0	0	-
Solapur	CBS	183	3	1.6	80	1	1.3
	ICTC	1867	3	0.2	1343	7	0.5
Thane	CBS	2493	6	0.2	3152	3	0.1
	ICTC	0	0	-	523	3	0.6
Yavatmal	CBS	1951	10	0.5	2283	11	0.5
	ICTC	208	0	0.0	0	0	-

TG

Table 5: HIV testing, number of HIV Positives, and Positivity rate through CBS and ICTC across districts in Maharashtra in TI Program for TG during pre-COVID-19 and COVID-19 period

DISTRICT	TYPE	2019- 2020 (PRE COVID)			2020-2021 (COVID)		
		Testing	Positives	Rate	Testing	Positives	Rate
Ahmednagar	CBS	791	4	0.5	387	0	0.0
	ICTC	237	10	4.2	616	2	0.3
Amravati	CBS	0	7	-	113	0	0.0
	ICTC	109	0	0.0	0	0	-
Aurangabad	CBS	123	0	0.0	173	1	0.6
	ICTC	212	2	0.9	278	0	0.0
Chandrapur	CBS	102	2	2.0	19	0	0.0
	ICTC	41	1	2.4	109	0	0.0
Jalgaon	CBS	92	0	0.0	91	0	0.0
	ICTC	171	1	0.6	158	3	1.9
Kolhapur	CBS	64	1	1.6	137	0	0.0
	ICTC	178	0	0.0	168	1	0.6
Nagpur	CBS	0	0	-	0	0	-
	ICTC	276	3	1.1	377	2	0.5
Nanded	CBS	0	0	-	0	0	-
	ICTC	0	0	-	114	0	0.0
Nashik	CBS	1	0	0.0	26	0	0.0
	ICTC	135	2	1.5	73	0	0.0
Pune	CBS	609	3	0.5	639	0	0.0
	ICTC	140	1	0.7	133	0	0.0
Raigad	CBS	0	0	-	89	1	1.1

	ICTC	45	0	0.0	129	0	0.0
Sangli	CBS	0	0	-	40	2	5.0
	ICTC	151	0	0.0	169	0	0.0
Satara	CBS	11	1	9.1	3	0	0.0
	ICTC	128	0	0.0	132	0	0.0
Solapur	CBS	0	0	-	80	1	1.3
	ICTC	211	1	0.5	232	3	1.3
Thane	CBS	2586	12	0.5	3753	14	0.4
	ICTC	1693	4	0.2	267	13	4.9

MIGRANT

Table 6: HIV testing, number of HIV Positives, and Positivity rate through CBS and ICTC across districts in Maharashtra in TI Program for Migrant during the pre-COVID-19 and COVID-19 period

DISTRICT	TYPE	2019- 2020 (PRE COVID)			2020-2021 (COVID)		
		Testing	Positives	Rate	Testing	Positives	Rate
Ahmednagar	CBS	3033	9	0.3	3133	6	0.2
	ICTC	4697	8	0.2	4675	2	0.0
Amravati	CBS	1390	0	0.0	2591	0	0.0
	ICTC	7476	4	0.1	4676	2	0.0
Aurangabad	CBS	448	2	0.4	174	0	0.0
	ICTC	3472	5	0.1	1915	2	0.1
Chandrapur	CBS	2788	5	0.2	1979	3	0.2
	ICTC	6873	11	0.2	5726	8	0.1
Jalgaon	CBS	951	3	0.3	1459	5	0.3
	ICTC	5146	0	0.0	4308	0	0.0

Jalna	CBS	4097	4	0.1	3256	3	0.1
	ICTC	1699	2	0.1	1039	2	0.2
Kolhapur	CBS	2406	21	0.9	3069	8	0.3
	ICTC	13090	20	0.2	8999	5	0.1
Nagpur	CBS	937	2	0.2	2939	2	0.1
	ICTC	12986	15	0.1	10125	8	0.1
Nashik	CBS	3161	14	0.4	3130	17	0.5
	ICTC	10792	16	0.1	10442	9	0.1
Pune	CBS	11732	44	0.4	11960	25	0.2
	ICTC	7627	32	0.4	7089	10	0.1
Raigad	CBS	5	5	100.0	5879	4	0.1
	ICTC	7300	11	0.2	4278	4	0.1
Sangli	CBS	0	0	-	98	5	5.1
	ICTC	4334	10	0.2	3393	0	0.0
Satara	CBS	200	0	0.0	1404	0	0.0
	ICTC	4195	10	0.2	1983	5	0.3
Solapur	CBS	4080	7	0.2	3121	5	0.2
	ICTC	6313	13	0.2	6109	6	0.1
Thane	CBS	60232	152	0.3	48644	69	0.1
	ICTC	26078	31	0.1	14148	13	0.1
Yavatmal	CBS	3664	8	0.2	3597	6	0.2
	ICTC	0	0	-	0	0	-

TRUCKER

Table 7: HIV testing, number of HIV Positives, and Positivity rate through CBS and ICTC across districts in Maharashtra in TI Program for Trucker during pre-COVID-19 and COVID-19 period

DISTRICT	TYPE	2019- 2020 (PRE COVID)			2020-2021 (COVID)		
		Testing	Positives	Rate	Testing	Positives	Rate
Amravati	CBS	2040	1	0.0	1751	0	0.0
	ICTC	2676	3	0.1	957	2	0.2
Aurangabad	CBS	448	1	0.2	298	0	0.0
	ICTC	1113	6	0.5	878	3	0.3
Chandrapur	CBS	2397	7	0.3	1010	2	0.2
	ICTC	902	0	0.0	4426	5	0.1
Jalgaon	CBS	849	6	0.7	673	1	0.1
	ICTC	1158	0	0.0	1257	0	0.0
Nagpur	CBS	1178	3	0.3	3044	4	0.1
	ICTC	8885	10	0.1	5918	5	0.1
Pune	CBS	4136	5	0.1	2533	3	0.1
	ICTC	0	0	-	159	0	0.0
Raigad	CBS	0	0	-	4311	0	0.0
	ICTC	1873	8	0.4	699	0	0.0
Solapur	CBS	878	4	0.5	1038	2	0.2
	ICTC	1735	5	0.3	1120	1	0.1
Thane	CBS	4312	0	0.0	3245	3	0.1
	ICTC	1106	6	0.5	804	2	0.2

A2: District-wise annual HIV testing in LWS program before and during the COVID-19

FSW

Table 8: HIV testing, number of HIV Positives, and Positivity rate through CBS and ICTC across districts in Maharashtra in LWS Program for FSW during pre-COVID-19 and COVID-19 period

DISTRICT	TYPE	2019- 2020 (PRE COVID)			2020-2021 (COVID)		
		Testing	Positives	Rate	Testing	Positives	Rate
Akola	CBS	0	0	-	0	0	-
	ICTC	923	0	0.0	633	0	0.0
Amravati	CBS	487	0	0.0	1034	1	0.1
	ICTC	2312	2	0.1	1895	0	0.0
Aurangabad	CBS	0	0	-	12	0	0.0
	ICTC	772	1	0.1	1004	0	0.0
Buldhana	CBS	793	3	0.4	1065	5	0.5
	ICTC	0	0	-	0	0	-
Chandrapur	CBS	65	0	0.0	67	0	0.0
	ICTC	0	0	-	386	0	0.0
Jalna	CBS	0	0	-	0	0	-
	ICTC	470	1	0.2	384	0	0.0
Kolhapur	CBS	0	0	-	0	0	-
	ICTC	0	0	-	23	0	0.0
Nagpur	CBS	0	0	-	0	0	-
	ICTC	473	0	0.0	521	0	0.0
Nanded	CBS	58	4	6.9	46	1	2.2

	ICTC	745	0	0.0	782	0	0.0
Nashik	CBS	0	0	-	0	0	-
	ICTC	1124	0	0.0	1308	0	0.0
Parbhani	CBS	34	0	0.0	4	0	0.0
	ICTC	714	2	0.3	547	0	0.0
Pune	CBS	123	3	2.4	55	2	3.6
	ICTC	0	1	-	21	1	4.8
Sangli	CBS	188	0	0.0	236	0	0.0
	ICTC	0	0	-	0	0	-
Satara	CBS	0	0	-	0	0	-
	ICTC	0	0	-	23	1	4.3
Wardha	CBS	2	2	100.0	0	0	-
	ICTC	573	0	0.0	579	0	0.0
Washim	CBS	0	0	-	0	0	-
	ICTC	1173	3	0.3	1139	2	0.2

MSM

Table 9: HIV testing, number of HIV Positives, and Positivity rate through CBS and ICTC across districts in Maharashtra in LWS Program for MSM during the pre-COVID-19 and COVID-19 period

DISTRICT	TYPE	2019- 2020 (PRE COVID)			2020-2021 (COVID)		
		Testing	Positives	Rate	Testing	Positives	Rate
Akola	CBS	0	0	-	0	0	-
	ICTC	158	0	0.0	234	0	0.0
Amravati	CBS	7	0	0.0	0	0	-
	ICTC	16	0	0.0	36	0	0.0
Aurangabad	CBS	0	0	-	0	0	-
	ICTC	9	0	0.0	3	0	0.0
Buldhana	CBS	18	0	0.0	25	1	4.0
	ICTC	0	0	-	0	0	-
Chandrapur	CBS	14	2	14.3	1	0	0.0
	ICTC	45	0	0.0	130	0	0.0
Jalna	CBS	0	0	-	0	0	-
	ICTC	6	1	16.7	6	0	0.0
Nagpur	CBS	0	0	-	0	0	-
	ICTC	69	0	0.0	75	1	1.3
Nashik	CBS	0	0	-	0	0	-
	ICTC	127	0	0.0	128	0	0.0
Parbhani	CBS	11	0	0.0	1	0	0.0
	ICTC	56	0	0.0	68	0	0.0
Pune	CBS	3	0	0.0	2	0	0.0
	ICTC	7	0	0.0	3	0	0.0
Sangli	CBS	16	0	0.0	23	0	0.0

	ICTC	0	0	-	0	0	-
Wardha	CBS	0	0	-	1	1	100.0
	ICTC	20	0	0.0	2	0	0.0
Washim	CBS	0	0	-	0	0	-
	ICTC	70	0	0.0	58	0	0.0

TG

Table 10: HIV testing, number of HIV Positives, and Positivity rate through CBS and ICTC across districts in Maharashtra in LWS Program for TG during pre-COVID-19 and COVID-19 period

DISTRICT	TYPE	2019- 2020 (PRE COVID)			2020-2021 (COVID)		
		Testing	Positives	Rate	Testing	Positives	Rate
Chandrapur	CBS	5	0	0.0	10	0	0.0
	ICTC	5	0	0.0	6	0	0.0
Dhule	CBS	0	0	-	0	0	-
	ICTC	4	0	0.0	9	0	0.0
Kolhapur	CBS	0	0	-	0	0	-
	ICTC	0	0	-	3	3	100.0
Nagpur	CBS	0	0	-	0	0	-
	ICTC	0	0	-	5	0	0.0
Pune	CBS	35	1	2.9	12	1	8.3
	ICTC	14	0	0.0	12	2	16.7
Sangli	CBS	17	0	0.0	34	0	0.0
	ICTC	0	0	-	0	0	-
Satara	CBS	0	0	-	0	0	-
	ICTC	0	0	-	1	1	100.0

MIGRANT

Table 11: HIV testing, number of HIV Positives, and Positivity rate through CBS and ICTC across districts in Maharashtra in LWS Program for Migrant during the pre-COVID-19 and COVID-19 period

DISTRICT	TYPE	2019- 2020 (PRE COVID)			2020-2021 (COVID)		
		Testing	Positives	Rate	Testing	Positives	Rate
Akola	CBS	0	0	-	1	0	0.0
	ICTC	6194	5	0.1	4403	6	0.1
Amravati	CBS	3919	0	0.0	3818	0	0.0
	ICTC	10586	8	0.1	6793	1	0.0
Aurangabad	CBS	688	0	0.0	1456	0	0.0
	ICTC	11000	21	0.2	8091	8	0.1
Buldhana	CBS	2910	5	0.2	3471	3	0.1
	ICTC	0	0	-	0	0	-
Chandrapur	CBS	101	0	0.0	430	0	0.0
	ICTC	4079	0	0.0	3238	0	0.0
Dhule	CBS	0	0	-	0	0	-
	ICTC	5230	13	0.2	6404	12	0.2
Jalna	CBS	0	0	-	0	0	-
	ICTC	6503	5	0.1	2195	5	0.2
Kolhapur	CBS	0	0	-	39	1	2.6
	ICTC	1	0	0.0	343	7	2.0
Nagpur	CBS	0	0	-	0	0	-
	ICTC	858	2	0.2	922	3	0.3
Nashik	CBS	0	0	-	0	0	-
	ICTC	5230	13	0.2	6404	12	0.2
Parbhani	CBS	2327	2	0.1	458	0	0.0

	ICTC	11427	5	0.0	12190	2	0.0
Pune	CBS	445	1	0.2	762	1	0.1
	ICTC	2335	2	0.1	4868	8	0.2
Sangli	CBS	1374	0	0.0	610	1	0.2
	ICTC	0	0	-	0	0	-
Satara	CBS	0	0	-	0	0	-
	ICTC	0	0	-	764	0	0.0
Wardha	CBS	3	3	100.0	2	2	100.0
	ICTC	2120	0	0.0	1444	0	0.0
Washim	CBS	0	0	-	0	0	-
	ICTC	136	1	0.7	146	1	0.7

TRUCKER

Table 12: HIV testing, number of HIV Positives, and Positivity rate through CBS and ICTC across districts in Maharashtra in LWS Program for Trucker during the pre-COVID-19 and COVID-19 period

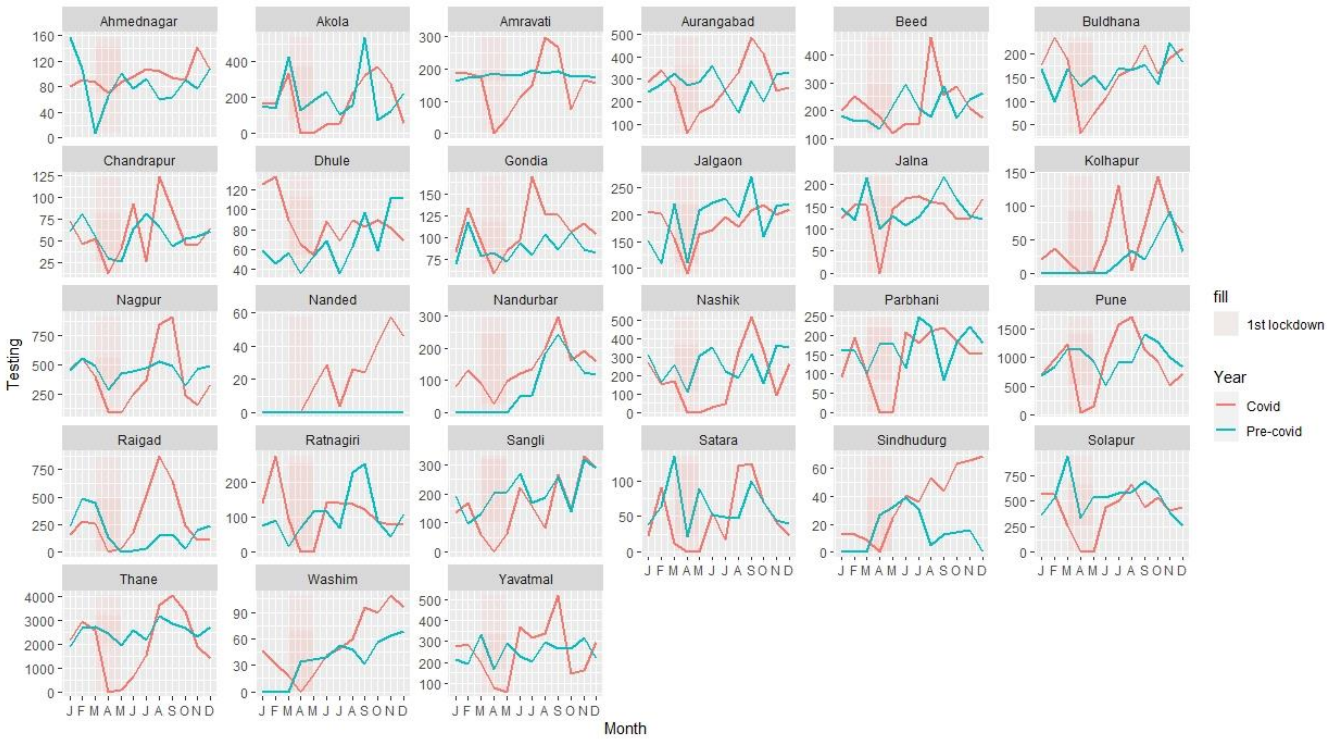
DISTRICT	TYPE	2019- 2020 (PRE COVID)			2020-2021 (COVID)		
		Testing	Positives	Rate	Testing	Positives	Rate
Akola	CBS	0	0	-	0	0	-
	ICTC	5413	0	0.0	4316	0	0.0
Amravati	CBS	989	0	0.0	692	0	0.0
	ICTC	1943	0	0.0	1331	0	0.0
Aurangabad	CBS	26	0	0.0	68	0	0.0
	ICTC	1818	1	0.1	1293	0	0.0
Buldhana	CBS	1317	0	0.0	1721	0	0.0
	ICTC	0	0	-	0	0	-

Chandrapur	CBS	41	0	0.0	19	0	0.0
	ICTC	780	0	0.0	912	0	0.0
Dhule	CBS	0	0	-	0	0	-
	ICTC	276	3	1.1	339	0	0.0
Jalna	CBS	0	0	-	0	0	-
	ICTC	1304	0	0.0	525	0	0.0
Kolhapur	CBS	0	0	-	29	0	0.0
	ICTC	131	2	1.5	407	0	0.0
Nagpur	CBS	0	0	-	0	0	-
	ICTC	0	30	-	0	0	-
Nashik	CBS	0	0	-	0	0	-
	ICTC	2794	2	0.1	1679	3	0.2
Parbhani	CBS	21	1	4.8	17	0	0.0
	ICTC	80	0	0.0	102	0	0.0
Pune	CBS	672	1	0.1	634	0	0.0
	ICTC	1431	6	0.4	548	0	0.0
Sangli	CBS	390	0	0.0	310	1	0.3
	ICTC	0	0	-	0	0	-
Satara	CBS	0	0	-	0	0	-
	ICTC	0	0	-	4315	3	0.1
Wardha	CBS	3	3	100.0	0	0	-
	ICTC	1099	0	0.0	1200	0	0.0
Washim	CBS	0	0	-	0	0	-
	ICTC	7000	5	0.1	6093	4	0.1

A3: District-level trends in monthly HIV testing in the TI program before and during the COVID-19

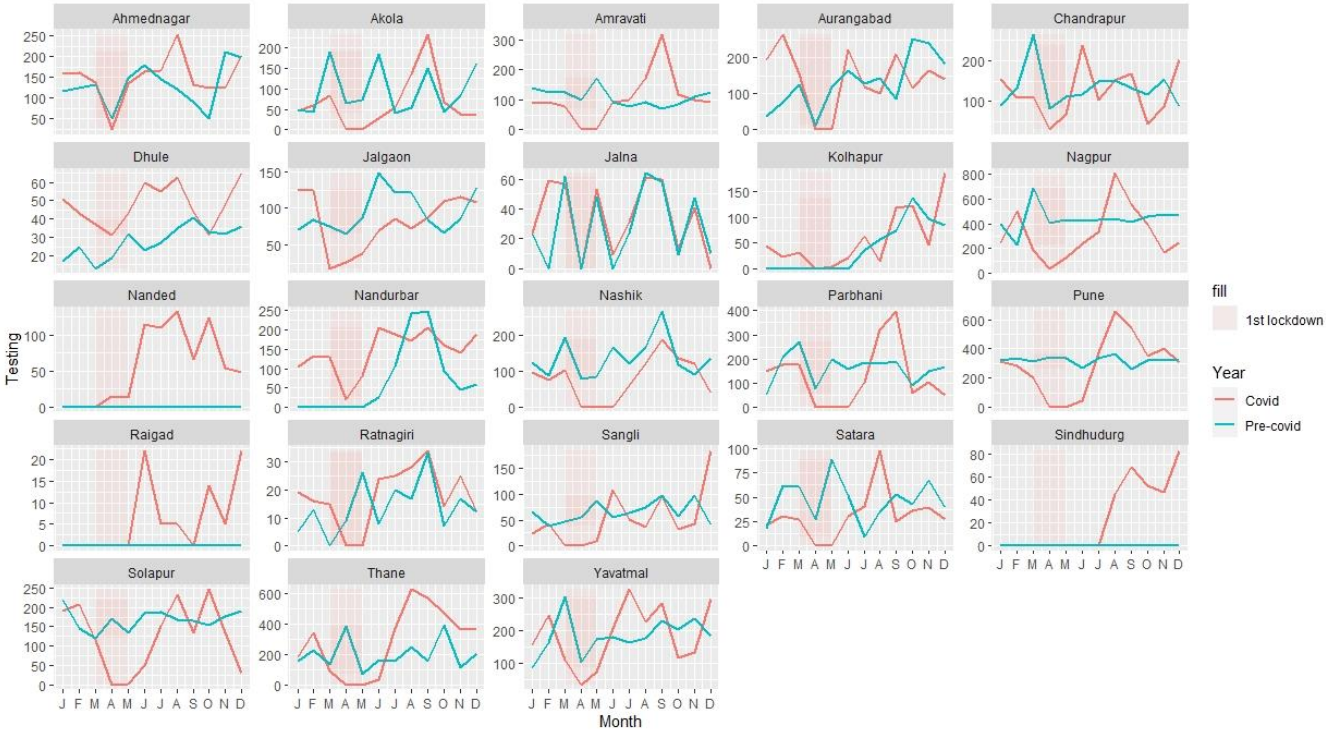
FSW

Figure 11: Longitudinal comparison of total HIV testing before and during the COVID-19 pandemic across districts of Maharashtra in the TI program for FSW



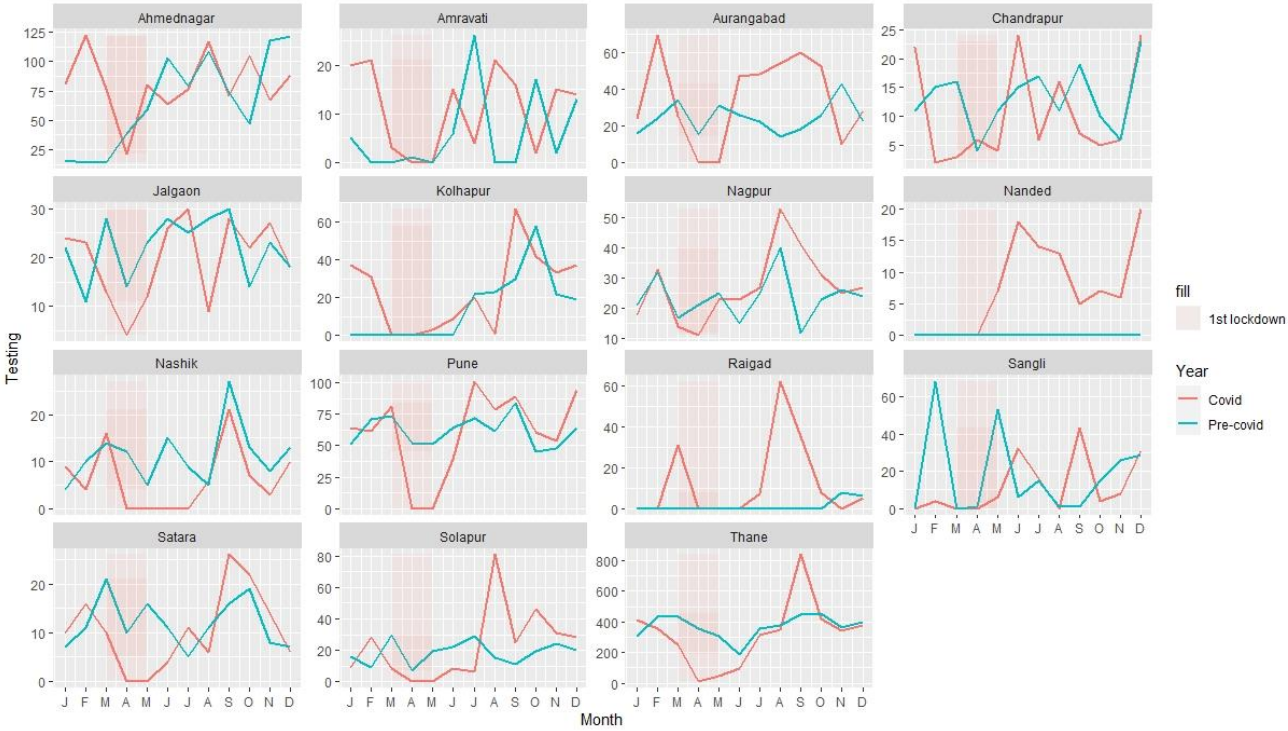
MSM

Figure 12: Longitudinal comparison of total HIV testing before and during the COVID-19 pandemic across districts of Maharashtra in the TI program for MSM



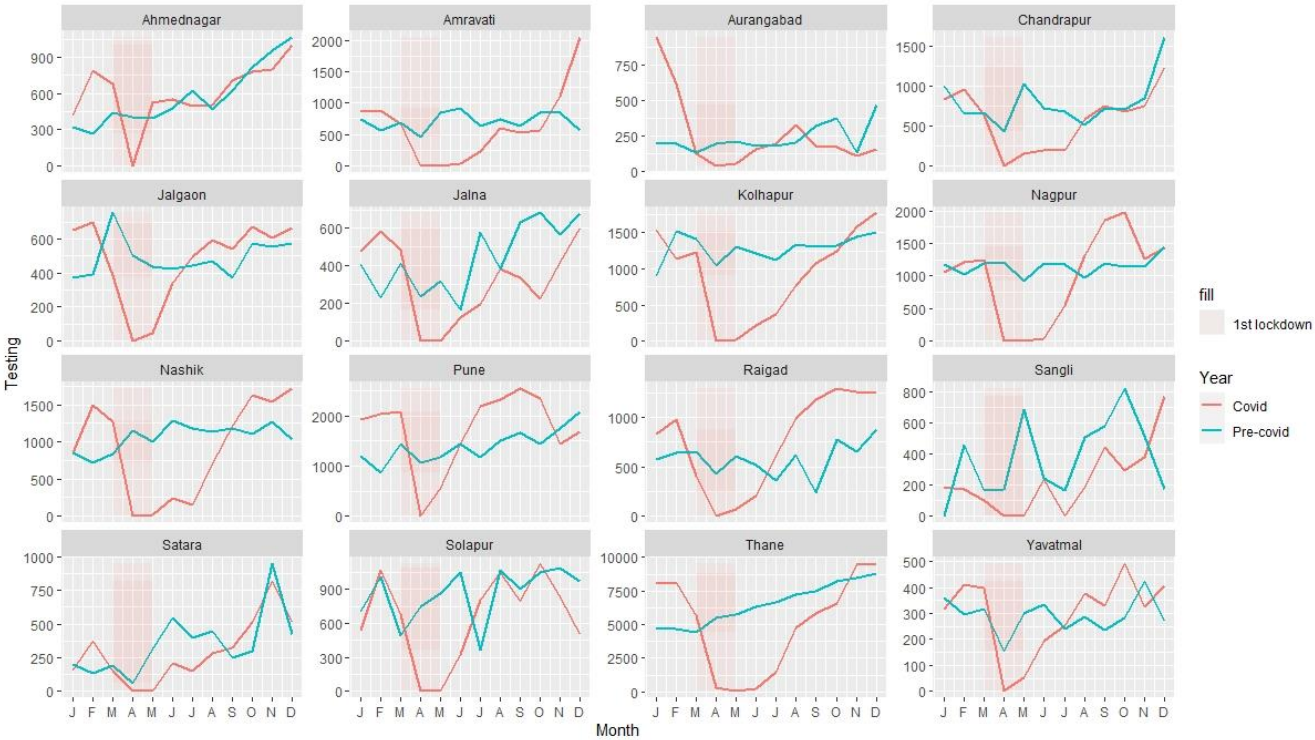
TG

Figure 13: Longitudinal comparison of total HIV testing before and during the COVID-19 pandemic across districts of Maharashtra in the TI program for TG



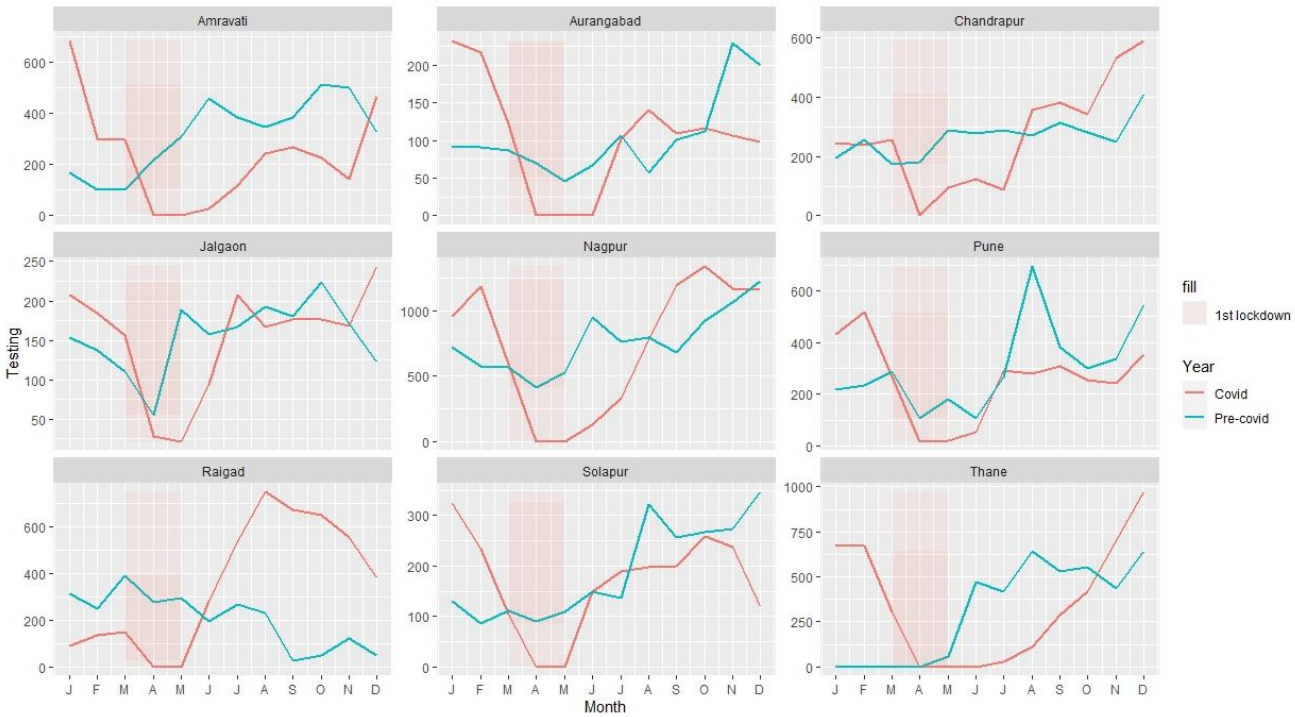
MIGRANT

Figure 14: Longitudinal comparison of total HIV testing before and during the COVID-19 pandemic across districts of Maharashtra in the TI program for Migrant



TRUCKER

Figure 15: Longitudinal comparison of total HIV testing before and during the COVID-19 pandemic across districts of Maharashtra in the TI program for Trucker



A4: HIV yield in TI program through CBS and ICTC before and during COVID-19

Figure 16: Longitudinal comparison of HIV positivity through CBS and ICTC before and during the COVID-19 pandemic in the TI program in Maharashtra for different typologies

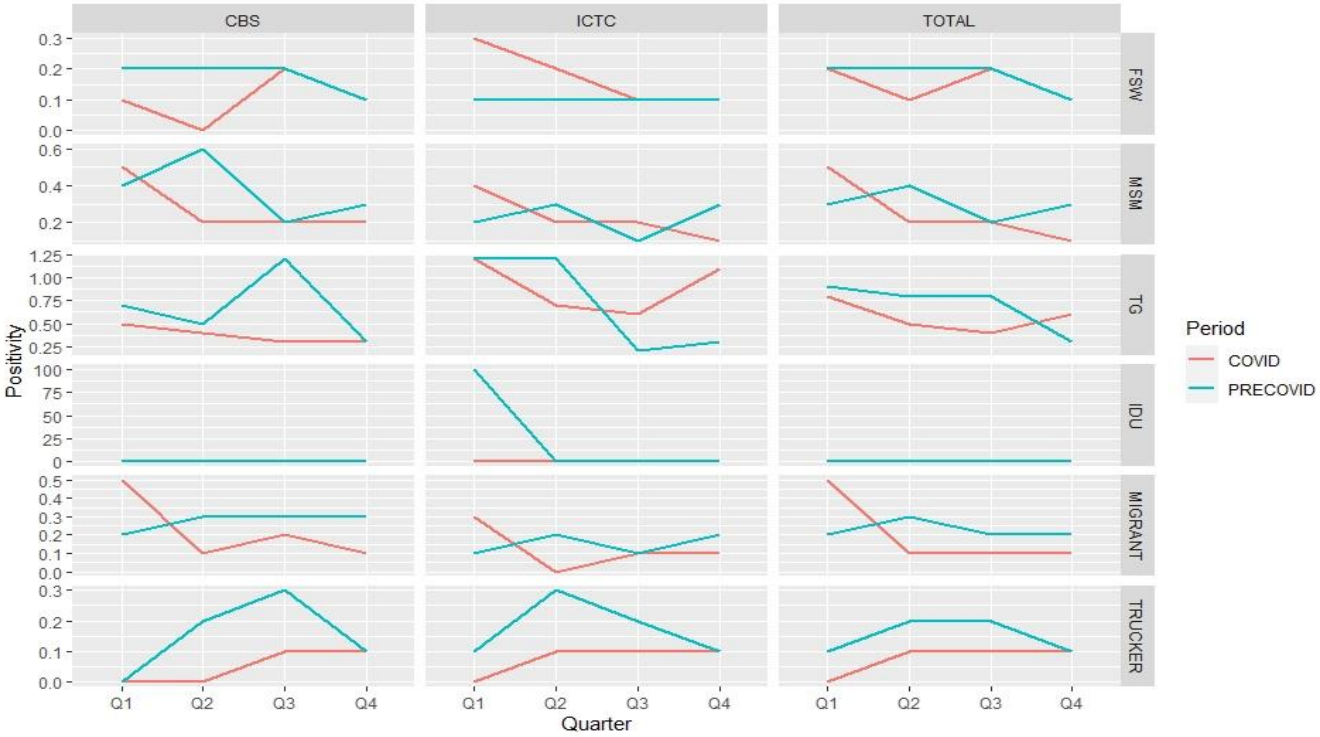
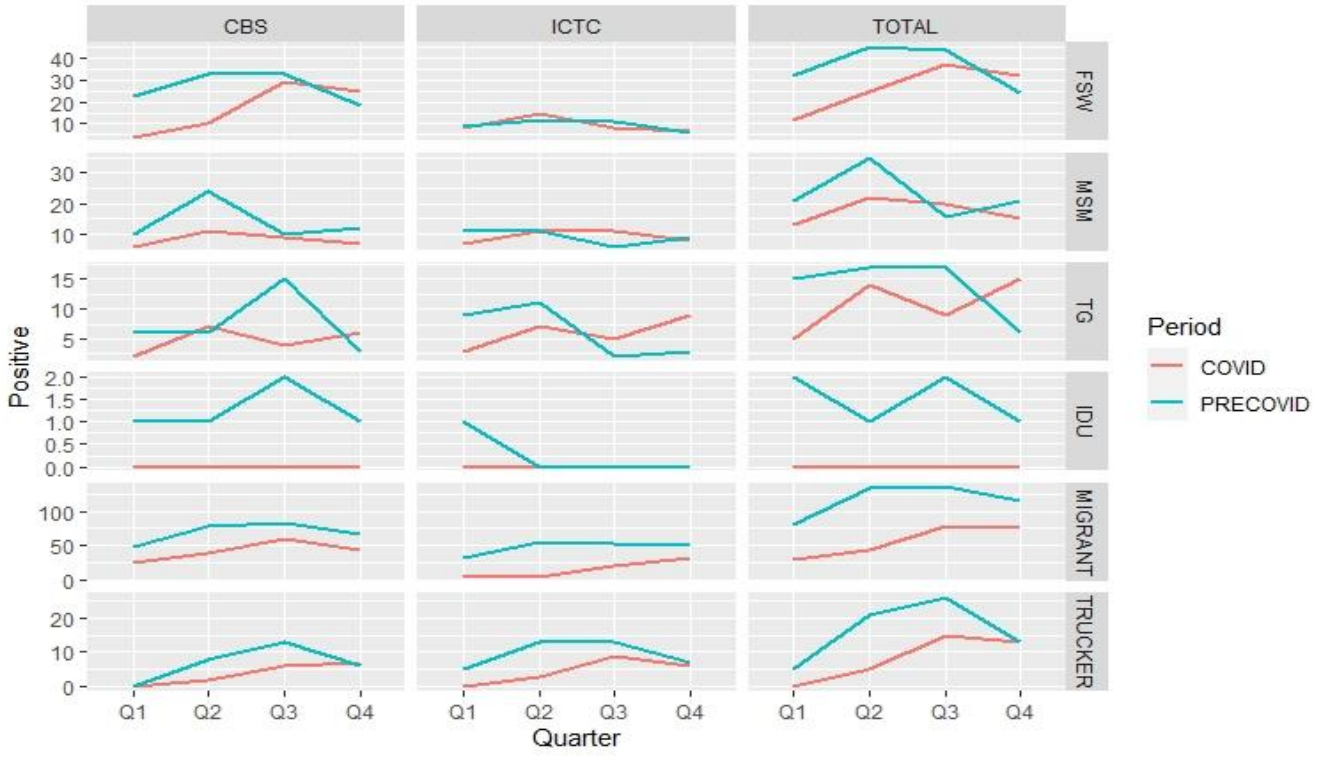


Figure 17: Longitudinal comparison of the number of HIV positives through CBS and ICTC before and during the COVID-19 pandemic in the TI program in Maharashtra for different typologies



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