INDIAN INSTITUTE of PUBLIC HEALTH

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COVID FREE VILLAGE

ASSESSMENT OF THE COVID-FREE VILLAGE (CFV) PROGRAM FOR COVID-19 RISK REDUCTION

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GLOSSARY OF TERMS

Sarpanch	A decision-maker, elected by the village-level constitutional body of local self-government called the Gram Sabha in India
Taluka	An administrative unit in India below a district
Gram Sevak	Person employed by government to advise and assist villagers in matters of community welfare and development.
ANM	Auxiliary Nursing Midwifery is a village-level female health worker in India who is known as the first contact person between the community and the health services.
ASHA	Accredited Social Health Activist Accredited Social Health Activist (ASHA) is a community health worker employed by the Ministry of Health and Family Welfare (MoHFW) as a part of India's National Rural Health Mission (NRHM).
GP	Gram Panchayat is a basic village-governing institute in Indian villages.
SC & ST	The Scheduled Castes and Scheduled Tribes are officially designated groups of people and among the most disadvantaged socio-economic groups in India.
OBC	Other Backward Class are described as socially and educationally backward classes (SEBC), and the Government of India is enjoined to ensure their social and educational development
Police patil	A police patil is a state government employee, drawing a monthly salary who is an interface between the police and the villagers.
VTF	Village Task Force
CCC	COVID Care Centres
DHO	District Health Officer
ZP	The Zila Panchayat or District Development Council or Mandal Parishad or District Panchayat is the third tier of the Panchayati Raj system and functions at the district levels in all states.

EXECUTIVE SUMMARY

Introduction

Severe acute respiratory syndrome (SARS) is a viral respiratory disease caused by a SARS-associated coronavirus (SARS-CoV-2) that caused an unprecedented global pandemic since 2020. Maharashtra, India's second-most populated state, has been one of the most affected regions during this Covid-19 pandemic with an estimated ~8 million confirmed cases and more than 1.4 lakh deaths. Within the state, the district of Pune, was amongst the worst hit, reporting ~10.9 lakh confirmed cases of COVID-19, with over 19,000 associated deaths.

Rural areas in the developing world including India, the second most populous country, with nearly 70% rural population were predisposed to high morbidity and mortality burden from the Covid-19 pandemic. Weak pre-existing health infrastructure, inadequate healthcare resources especially related for hospitalization and intensive care, diversion of existing health staff for Covid management activities, and low awareness in rural communities were factors that accentuated risk of Covid-19 in rural populations in India.

Covid-free Village (CFV) programme is a community-led initiative to protect the rural communities from the deleterious effect of the Covid-19 pandemic. The CFV programme was engineered for the effective implementation of the CFV competition scheme of the Government of Maharashtra. The objective of the CFV programme was to empower villagers to take ownership of their own health through a collective sustainable people's movement to achieve collective action. The constitution of Village level Task Forces (VTFs) guided by the BJS team coordinators was the cornerstone of the CFV programme. VTF 1 was responsible for creating awareness of Covid Appropriate Behaviour in their respective Gram Panchayats (GPs). VTF 2 & 3 members coordinated with the ASHA for tracing, tracking, testing and treatment in a total 873 GPs across the district. The VTF-4 members were responsible to provide the required help and support to all the eligible people from the village to avail the benefits of Covid-related government schemes announced by the central and state governments. VTF 5 team was dedicated to work and expand COVID-19 vaccination service and coverage through awareness campaigns, holding vaccination camps, and providing transport services to vaccine sites for the vulnerable populations.

The aim of this assessment study is to understand whether the implementation of the Covid Free Village Programme in the Pune district was effective or ineffective in increasing Covid-19 resilience of the communities.

Objectives

1. Determine the difference in Covid-19 related morbidity in the CFV and control villages.
2. Assess the change in Covid-19 awareness, adherence, facilitators (resources), and barriers in adopting Covid-19 appropriate behaviour in the CFV and control villages
3. Assess the change in Covid-19 vaccine hesitancy, vaccine confidence, and compare the rate of increase in vaccination coverage in the CFV and control villages
4. To explore how the stakeholders responded to the CFV-package of interventions
5. To explore how the CFV-package of interventions contributed to change in Covid-19 related behaviours through community engagement and mobilization.

Methods

This was an observational mixed-methods concurrent triangulation design study in which quantitative and qualitative data collection is done at the same time. The intervention site were rural areas of Pune district in Maharashtra state where the CFV programme was implemented from August 2021 to February 2022. An adjoining control district Satara without overlapping boundaries (to avoid contamination) with Pune district was selected from the state of Maharashtra with criteria of comparable culture, geography, rural health infrastructure, and average household size.

Stratified Cluster Random Sampling method was used for selection of the intervention Villages in Pune district. The control villages from Satara district were selected by matching the village sociodemographic characteristics with those from the chosen Pune villages. From Satara district, villages were selected after matching socio economic and infrastructure characteristics at village level from Census 2011 data. To adjust for residual household level differences in socioeconomic status (SES) that could potentially confound the results, propensity score matching was conducted to identify matched households from the Satara district. The characteristics used for matching were a different set of SES variables, which were available at household level from the survey data. Households within each village were selected by Systemic Random Sampling method.

Data collection was conducted from the month of May to June 2022 by an external survey agency, SSF Professionals Pvt. Ltd that had no role in the implementation of the CFV. Quantitative data was collected using a close-ended interview schedule that was administered at the household level in 16 villages from Pune district and Satara district each and data was entered electronically. A total of 3,680 households were covered, of which 1,637 were from Pune (intervention) and 2,043 were from the Satara (control) district.

Results

From the district level data, it was estimated that Pune rural had significantly lower deaths per 1,00,000 population compared to Satara rural during the period of observation (August 2021- February 2022). However, Satara also had higher Covid-19 testing per 1,00,000 population compared to Pune throughout the period of observation (August 2021 - April 2022).

Respondents in Pune reported observation of lower occurrence of Covid-19 related stigma or discrimination (-21%). There was also improved awareness of handwashing with soap (+11%), and vaccination for prevention of Covid-19 (+32%) in comparison with the control district, Satara. Respondents in Pune had greater awareness of Diabetes comorbidity (+2%) and low immunity (+25.2%) being linked with adverse health outcomes in patients with Covid-19 disease that could have improved their treatment seeking behavior.

Behavior change with adherence and persistence to Covid appropriate behavior was greater in Pune compared with Satara with respect to handwashing with soap / sanitizing hands (+8%) and wearing of masks when outdoors (+5.3%).

Although the availability of Covid-19 village testing camps and provision of Covid-19 testing support were reported to be significantly lower in Pune compared to Satara, a higher proportion of respondents in Pune (+4%) had been diagnosed with Covid-19 in village camps compared to Satara. However, a negligible proportion of

the respondents reported the presence of any Covid Care Centres in their villages in both the districts.

In our study we were only able to obtain a list of 5 households from Pune and 12 from Satara that were eligible for support and compensation for the next of kin of Covid-19 victims which precluded the conduct of matched analysis.

In Pune, almost 14 percent more eligible household members below the age of 60 years were administered their first dose of COVID vaccine at village vaccination camps, and there was significant evidence of facilitation of transport services to the elderly and comorbid to reach these camps. However, no significant difference was observed between the intervention (Pune) and control (Satara) sites in terms of vaccine availability, accessibility, and cost of vaccination.

There is evidence to suggest higher health system resilience of Pune compared to Satara which could be secondary to community and stakeholder mobilization through the CFV programme. In Pune, regular under-3 immunization services (+10%) and antenatal care services (+17%) were not detrimentally impacted by the Covid-19 pandemic during the period of observation. Continuum of care for patients with chronic diseases was also better maintained in Pune villages compared to Satara (+17%).

Conclusions and Recommendations

The assessment of the CFV programme in the rural areas of Pune District of Maharashtra conducted nearly 8 months since its inception suggested near universal uptake (enrolment) with high albeit variable utilization in the villages of Pune.

The CFV programme was effective in improving awareness, adherence, and persistence to Covid appropriate behavior and associated reduction in Covid-19 related stigma which promoted rural resilience in the intervention site of Pune rural. The hybrid approach of deployment of traditional IEC platforms in conjunction with social media and instant messaging with WhatsApp were useful in the rapid and complete coverage of the population.

Camp based approaches that were facilitated by the CFV-BJS coordinators were particularly effective in reaching the unreached vulnerable populations for both Covid-19 vaccination and testing. However, as the information on monthly vaccination statistics were not available, the current study was unable to compare the rate of change in vaccination coverage between Pune and Satara districts that precluded the assessment of the effectiveness of the VTFs in accelerating the pace of Covid-19 vaccination. Certain indicators such as booster status and vaccine wastage rate were unavailable and could not be compared between the intervention and control sites.

The findings of this assessment suggest the potential applicability of CFV model in rural community and health system strengthening especially for controlling local outbreaks, epidemics, disasters, and future pandemics in rural communities. The broad principles of empowerment of villages, encouragement to volunteerism, and community mobilization based on principles of trust and considering village as a unit of intervention can be replicated in emergency like situations. Knowledge Management System like open access, multi-lingual platforms can be developed for ease of access to accurate and validated health information to avoid infodemics while spreading awareness and scaling up BCC initiatives. However, community mobilization and successful functioning of the VTFs will also be dependent on the perceived susceptibility and magnitude of the outbreak in the affected population.

The study findings suggest assessment of the potential applicability of the CFV model for control of chronic lifestyle diseases especially Diabetes and Hypertension and their modifiable risk factors in rural areas through pilot studies.

Study Limitations

- Unavailability of the baseline information: COVID-19 spread was high when the project was launched. Due to the dynamic situation and logistical constraints, obtaining baseline data for the entire study population was challenging, which restricted the scope of the assessment. For instance, it was not possible to measure the extent of change in KAP both due to lack of baseline data, and also, the change in risk perception in the communities with subsequent pandemic waves.

- Choice of comparator: The administration's approval and logistical feasibility led to the selection of Satara as the comparator. However, Pune only had 39% rural population compared to Satara which had 81% rural population. Differences in the extent of spread of infection in rural Pune and Satara, which mediated the extent and quantum of work done to prevent and contain the infection may also affect the study findings.

- In general, evaluation of an intervention crucially depends upon comparability of the control groups (counterfactual). Due to lack of baseline data and any prior randomized process of the intervention, we used statistical matching methods to create the counterfactual. However, it is important to note that matching techniques such as propensity score matching (used in this study) are not capable of controlling the role of unobserved heterogeneity. Larger the role of such unobserved factors, lesser may be the reliability of the study estimates. However, to address this issue, we conducted a series of matching exercises with different specifications and confidence levels. Our results across different matched samples did not differ significantly indicative of the robustness of the study design.

1. INTRODUCTION

The Coronavirus 2019 (Covid-19) pandemic resulted from an infectious viral disease caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The initial cases were reported from Wuhan, China in December 2019, before it spread worldwide and caused a global pandemic.

As of August 20, 2022, more than 590 million people worldwide have tested positive for COVID-19, with 6.4 million deaths estimated worldwide (1). India alone reported 44 million confirmed cases of COVID-19, with more than 5.2 lakh deaths (2). Maharashtra, India's second-most populated state, has been one of the most affected states, reporting about 8 million confirmed cases and more than 1.4 lakh deaths (3). Pune is the second-largest city in the Maharashtra state and the seventh most populous city in all of India (4). The city reported the first patient in the country and emerged as one of the earliest coronavirus hotspots in India and was amongst the worst hit cities in the country (5). Pune district had reported around 10.9 lakh confirmed cases of COVID-19, with over 19,000 deaths.

Rural areas in the developing world including India, the second most populous country, with a 70% rural population, were highly vulnerable to infection, transmission, and mortality resulting from the Covid-19 pandemic due to several factors (6). These included the weak pre-existing health infrastructure with significantly lower doctor population and population-to-bed ratio compared to urban areas apart from difficult accessibility to healthcare services and poor health literacy in most of the population (7). Many healthcare facilities were either functioning sub-optimally or had been converted to COVID-19 management facilities, which made accessing healthcare services more challenging for those with comorbidities, particularly those living in rural areas (8). Prevention efforts were also frequently undermined by poor community awareness and pre-existing suboptimal hygiene with reduced rates of handwashing and sanitation.

Limited hospital accessibility and severe lack of oxygenated and intensive care with ventilator beds in district hospitals with concomitant lack of specialist care across India further accentuated the risk of patients with moderate to severe Covid-19 disease. A study in rural parts of Karnataka, India during the Covid-19 pandemic observed high levels of stressors amongst village communities arising from financial problems and familial disruptions. However, several effectual coping mechanisms were identified such as their social capital, government support and judicious resource management with the villagers perceiving strengthening the involvement of GPs and improved communication as necessary measures for helping the community combat and overcome the pandemic (9).

In the midst of escalating COVID-19 spread, various community-based interventions were explored to prevent and control COVID-19 and improve pandemic preparedness. Campaigns in Afghanistan to raise public awareness of preventive practices, such as frequent handwashing and the wearing of masks were effective (10). The engagement of Village Health Volunteers (VHVs) were effective in the prevention and control of COVID-19 in the north-eastern villages of Thailand. The VHVs helped bridge the gap between the government and the community by acting as the face of the community, networking with local and regional agencies, and offering need-based assistance to villagers with Covid-related issues (11). In Oman, researchers observed that collective efforts by Healthy Village Committees functioning at the village level, Willayat Health

Committees at the district level, and Community Support Group volunteer at the ground level were able to improve preparedness and response to COVID-19. These included awareness of COVID appropriate behaviour, and supporting testing and isolation facilities (12).

Role of technical support

A study done in West Bengal, India involving 25 million people, sent SMS texts with a 2.5-minute short video for promotion of COVID appropriate behaviour. There was significant improvement in awareness and practices in both the intervention and control groups suggestive of information exchange within the community (13). An adaptive randomized controlled trial conducted in rural Bihar, India six months after the onset of the pandemic assessed whether a text-message intervention was effective in improving handwashing and social distancing behaviour in the participants (14). Ten different study groups were sent messages with different messages' contents and delivery times. No improvement in knowledge or COVID-appropriate behaviour was seen in the groups, indicating the limited effectiveness of the SMS-based communication campaign beyond the early phase of the outbreak.

Covid-free Village (CFV) programme is a community-led initiative to protect the rural communities from the deleterious effect of the Covid-19 pandemic. The objective of the CFV was to empower villagers to take ownership and create a people's movement for containing the pandemic through **collective action by constituting village level Task Forces (VTFs)**.

> **COVID-FREE VILLAGE SCHEME**
> The Government of Maharashtra had launched Covid-Free Village Competition Scheme on 2nd June 2021 with the target of empowerment of all villages in the state by instilling a healthy competitive approach towards combating the Covid-19 pandemic. The scheme recommended all Gram Panchayats (GPs) to constitute five village level groups that were entrusted with the responsibilities of Household Survey, Establishment of Isolation Centre, Arrangement of Vehicles for testing and treatment, Covid Helpline and Vaccination.
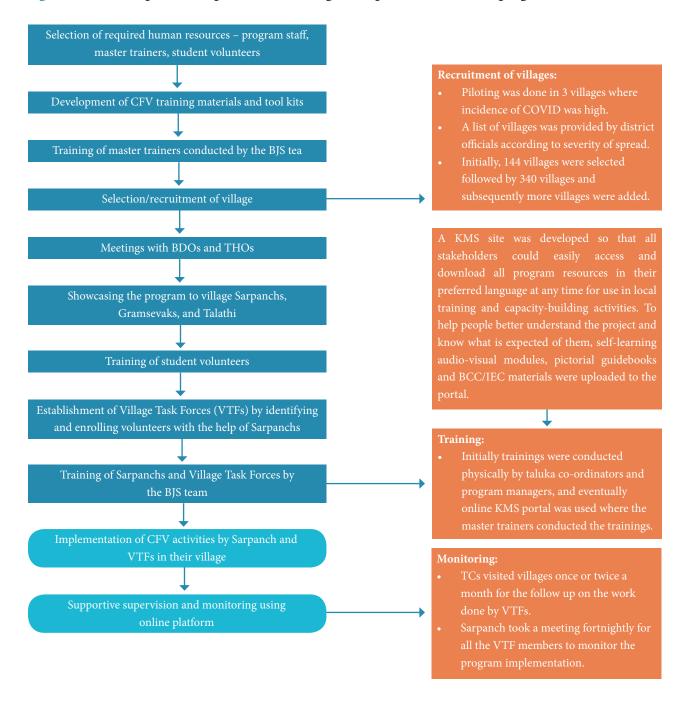
Social mobilization led by the Sarpaznch, and village leaders facilitated an enabling environment in the village for Covid risk-reduction and resilience. The CFV program was first initiated on 1st August 2021 in rural areas of Pune district and continued until March 2022. Five VTFs were formed in each village and each was dedicated to a specific task focusing on Covid-19 risk reduction. VTF 1 focused on COVID appropriate behaviour, VTF 2 on tracing, tracking, testing and treatment, VTF 3 was dedicated towards establishing COVID care centres and quarantine centres, VTF 4 on providing awareness and support on government schemes and VTF 5 was dedicated to work on COVID-19 vaccination. There was flexibility in this approach i.e. the task forces were designed to be activated and responsive to ground level exigencies.

An online knowledge management portal (CFV-KMS) was developed for providing access to all program and training-related content for implementing the Covid-free Village program (https://kms.covidfreevillage. in/). It had a comprehensive set of program resources including key processes, roles and responsibilities of stakeholders, pictorial implementation guidebooks, self-learning videos and BCC/IEC material available for download in multiple languages. Availability of above resources on the KMS portal facilitated daily online training of village stakeholders like Sarpanchs, VTF members by Master Trainers.

This report describes the results of the assessment of the CFV Programme in Pune district against a control district in Satara. The report includes a comprehensive program description, study methods, study results, conclusions and recommendations towards consideration of the CFV programme model for future pandemic preparedness and other health conditions.

Figure 1: **Activities performed prior to and during the implementation of the program**

Selection of required human resources – program staff, master trainers, student volunteers

Development of CFV training materials and tool kits

Training of master trainers conducted by the BJS tea

Selection/recruitment of village

Recruitment of villages:
- Piloting was done in 3 villages where incidence of COVID was high.
- A list of villages was provided by district officials according to severity of spread.
- Initially, 144 villages were selected followed by 340 villages and subsequently more villages were added.

Meetings with BDOs and THOs

Showcasing the program to village Sarpanchs, Gramsevaks, and Talathi

Training of student volunteers

A KMS site was developed so that all stakeholders could easily access and download all program resources in their preferred language at any time for use in local training and capacity-building activities. To help people better understand the project and know what is expected of them, self-learning audio-visual modules, pictorial guidebooks and BCC/IEC materials were uploaded to the portal.

Establishment of Village Task Forces (VTFs) by identifying and enrolling volunteers with the help of Sarpanchs

Training of Sarpanchs and Village Task Forces by the BJS team

Training:
- Initially trainings were conducted physically by taluka co-ordinators and program managers, and eventually online KMS portal was used where the master trainers conducted the trainings.

Implementation of CFV activities by Sarpanch and VTFs in their village

Supportive supervision and monitoring using online platform

Monitoring:
- TCs visited villages once or twice a month for the follow up on the work done by VTFs.
- Sarpanch took a meeting fortnightly for all the VTF members to monitor the program implementation.

Figure 2: **Interventions delivered as a part of Covid Free Village program**

INTERVENTION

Sarpanch & Gramsevak to conduct meetings with VTFs, village seniors, social workers, and self-motivated persons to discuss and finalize the need based activities in the villages

Activities by Village Task Forces

All the activities in the village are guided & supported by Sarpanch & Gramsevak in support with Taluka Coordinators under the guidance of BJS District Coordinators

Other activities

Members of VTFs, seniors, self-motivated persons, social workers, police patil, NGOs play important role the activities towards Covid free village initiative

VTF-1

Awareness and Covid appropriate behaviour
- Conduct home visits
- Dawandi/loudspeakers, display of posters/banners & wall paintings
- Use of WhatsApp, local cable TV channels, or other local and social media for wider dissemination of messages on COVID prevention with the help of Taluka coordinators
- Sanitation of common places/streets in the village
- Distribution of masks and sanitizers
- Arrange funds for material printing by finding local sponsors, and local donations

Covid Madat Kendra
- Provide village-level key information on Covid status
- Disseminate positive messages against Covid through various platforms
- Make efforts for all eligible villagers to receive benefits of Covid-related government schemes
- Make emergency transportation available for Covid patients if needed
- Provision of emergency contact information for essential services
- Preserve information and documentation on all village-level activities

VTF-2

Trace, Track, Test and Treat
- Support ASHAs in surveillance for Influenza-like illness
- Facilitate referrals for Covid testing
- Help in tracing contacts of suspected cases
- Provide assistance in shifting people to CCC and making arrangements for the transport facilities
- Counsel villagers on measures to be taken if tested positive for COVID

Potential risk/challenges:
- People may not have TV, mobile phones, or any media exposure
- Limited funding

Trask forces to work in accordance with local requirements. If and when a rise in new infections occur, the appropriate VTF is activated as per the need, and when the number of cases decreases, they focus on capacity building.

VTF-3

Quarantine Centers & Covid Care Centers
- Help in identifying patients who needed admission in QC/CCC and facilitate the admission
- Involve in need-based activities like-
- Support for setting-up of the Quarantine Centre/ Covid Care Centre
- Ensure proper provision of food, tea, entertainment, beds, clean water, and transport at the center

Community-led activities
- Disseminate contact details of VTF members as the emergency contacts for seeking assistance
- Mobilize self-help groups/Bachat Gat, school teachers, youth clubs/Yuva Manch, and Mahila Mandal for door-to-door counseling on Covid risk reduction
- Take support from vehicle owners for use of their vehicles for emergency transport
- Felicitate Covid warriors, community leaders, local influencers, etc. for their contributions

VTF-4

Covid-related government schemes
- Create awareness about Covid-related government schemes in the village through display of information at the Gram Panchayat office or other key locations in the villages
- Counsel families where death due to Covid has occurred about appropriate schemes for them
- Facilitate application process for the schemes

Potential risk/challenges:
- Lack of people's interest
- Lack of necessary resources

VTF-5

Vaccination
- Meetings with villagers to address vaccine hesitancy
- Promote vaccination through notice boards at Covid Madat Kendra, social media, home visits, use of BCC/IEC material
- Facilitate need-based vaccination camps in collaboration with the Taluka Administration
- Assist in preparing due lists of eligible persons for dose 1 and dose 2
- Assist villagers in registering for vaccination
- Organize local transportation for elderly and specially-abled for their vaccination

Awareness Activities
- Conduct education programs for school and college students with Covid reduction themes
- Mobilize religious leaders, kirtankar troups, etc. for delivering key prevention messages by incorporating them into their routine communication/interaction
- Seek & obtain support from people like shopkeepers, tea stall owners, etc. for the display of posters & banners with Covid prevention messages
- If permitted by the district administration and village rules, conduct small cultural events/performances/exhibitions by observing social distancing protocols, and utilize them to disseminate key messages

CFV Program Implementation – findings from the Monitoring and Evaluation Report (Source: BJS)

The CFV program was first initiated on 1st August 2021 in rural areas of Pune district and it was subsequently implemented across 13 blocks of Pune where VTFs were formed in 1198 Gram Panchayat till 31st March 2022. Data was monitored in 913 of these villages. BJS conducted a total 144 offline trainings and 166 online trainings for Sarpanches as well as VTFs (Sarpanch- 109, VTFs- 57) from August 2021 to March 2022. The online training programs aided reaching out to Sarpanch and VTF members in a majority of the GPs.

The registration of all 5 VTF members was done in 674 GPs across Pune district. The VTFs included a minimum of 5 members including 2 female members. On an average, the 5 VTFs included 20 members from the village. The **VTF 1** group was responsible for creating awareness of Covid Appropriate Behaviour in their respective GPs. 719 GPs had printed and displayed BCC/IEC material at prominent places in the village such as Gram Panchayat office, Temples/ Religious places, ST Stand and these materials focused upon the sanitization, masking, vaccination and social distancing. social media platforms such as Facebook and WhatsApp were most prominently used by VTFs for awareness in 92.31% GPs followed by home visits which were used for awareness in 90.55% GPs.

VTF 5 team was dedicated to work on COVID-19 vaccination. Vaccination camps were arranged in 683 Gram Panchayats across the district. In addition to this, the transport facilities were arranged for the elderly, senior citizens, pregnant women, comorbid patients and specially-abled people in 599 Gram Panchayats. The booster dose vaccination was started in January 2022 and within 3 months of the project period, the booster dose was administered to more than 50% population in 6.27% GPs whereas 8.91% GPs had completed vaccination of 25-50% of the population.

VTF 2 & 3 members coordinated with the ASHA for tracing, tracking, testing and treatment in a total 873 GPs across the district. More than 10 symptomatic cases were identified and referred for early testing in 44.57% GPs followed by identification and referral of 1 to 5 patients in 30.01% GPs and 6 to 10 GPs in 16.54% GPs. In total 862 GPs, the VTF guided the Covid positive patients from the household. They also assisted in establishing COVID Care Centres in 37 GPs and Quarantine centres in 480 GPs.

The **VTF-4** members were responsible to provide the required help and support to all the eligible people from the village to avail the benefits of Covid-related government schemes announced by the central and state governments. They provided information about the schemes through awareness in 822 GPs and prepared the list of eligible beneficiaries in 727 GPs and assisted them to apply for the schemes. The assistance was provided in the form of providing information about schemes, ensuring the readiness of the documents required for the applications, and preparing and submitting applications of the eligible people for availing scheme benefits. As per the government data there were 188 beneficiaries from 288 villages.

The weekly/ monthly meetings were conducted by VTF 5 members in 42.90% GPs, VTF 2-3 members 36.14% GPs. VTF 1 and VTF 4 members conducted these meetings in 31.98% & 30.77% GPs respectively

2. GOAL

The aim of this assessment study is to understand whether the implementation of the Covid Free Village Programme in the Pune district was effective or ineffective in increasing Covid-19 resilience of the communities.

3. OBJECTIVES

1. Determine the difference in Covid-19 related morbidity in the CFV and control villages.
2. Assess the change in Covid-19 awareness, adherence, facilitators (resources), and barriers in adopting Covid-19 appropriate behaviour in the CFV and control villages
3. Assess the change in Covid-19 vaccine hesitancy, vaccine confidence, and compare the rate of increase in vaccination coverage in the CFV and control villages
4. To explore how the stakeholders responded to the CFV-package of interventions
5. To explore how the CFV-package of interventions contributed to change in Covid-19 related behaviours through community engagement and mobilization.

4. METHODOLOGY

4.1 Design and setting

This was an observational mixed-methods concurrent triangulation design study in which quantitative and qualitative data collection is done at the same time. Quantitative data was collected from households and qualitative data was collected from key informants and stakeholders.

The intervention site were rural areas of Pune district in Maharashtra state where the CFV programme was implemented from August 2021 to February 2022. Pune district as per Census 2011 had an estimated population

of 9429408 with 39% rural population. An adjoining control district Satara (population 3003741 with 81% rural population) without overlapping boundaries (to avoid contamination) with Pune district was selected from the state of Maharashtra with criteria of comparable culture, geography, rural health infrastructure, and average household size.
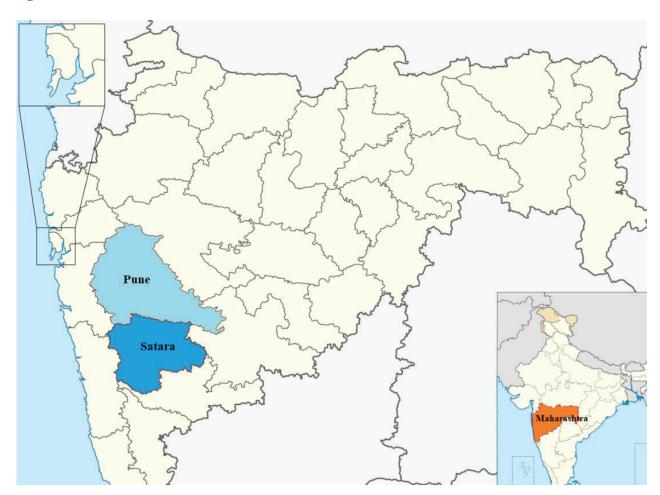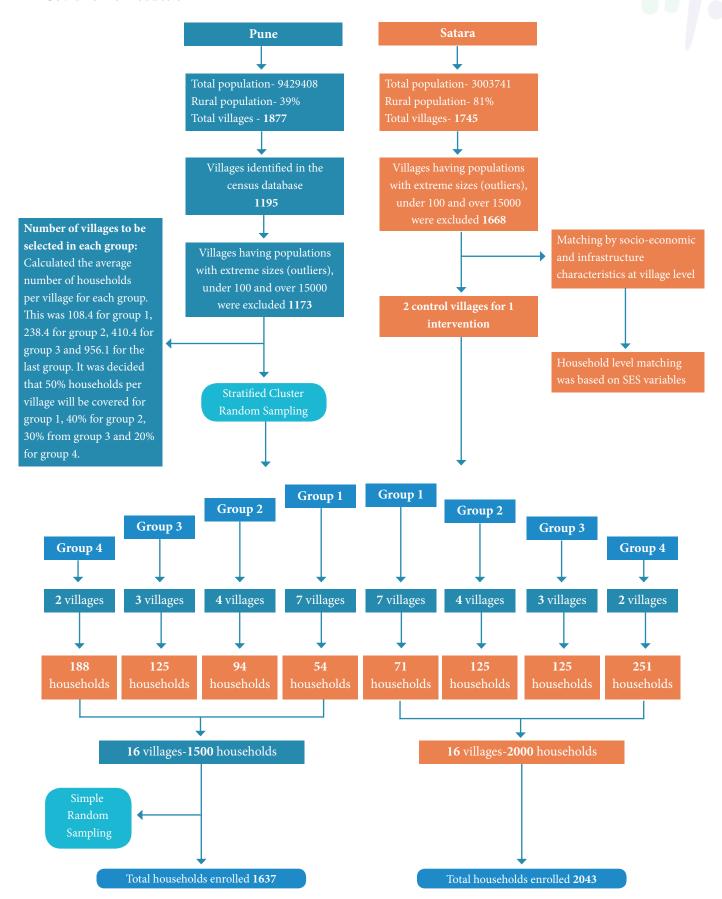
Figure 3: **Pune and Satara districts in Maharashtra, India**

4.2 Sample size and sampling strategy

Sample size estimations were based at 5% significance level (alpha error), 90% power, expecting 85% success in intervention and 80% success in control group, with 20% non-response rate. A minimum of 1500 households in the intervention and control district each were required for estimating the change in outcomes. Additional 500 households were selected in the control district to account for loss of power during matched analysis.

Figure 4: Sampling of villages and households in Pune and Satara for assessment of CFV program for Covid-19 risk reduction

Selection of intervention villages

Stratified Cluster Random Sampling method was used for selection of the intervention Villages in Pune district. The control villages from Satara district were selected by matching the village sociodemographic characteristics with those from the chosen Pune villages (Annexure).

Within Pune district, the final list of intervention villages were ranked in the ascending order based on the number of households within the villages that were subsequently allocated into 4 equal sized groups. A total of 1500 households were subsequently allotted to 4 equal sized groups having 375 households per group. Next to calculate the number of villages to be selected in each group, we calculated the average number of households per village for each group. This was 108.4 for group 1, 238.4 for group 2, 410.4 for group 3 and 956.1 for the last group. It was decided that 50% households per village were to be covered for group 1, 40% for group 2, 30% from group 3 and 20% for group 4.

Using this information, we calculated the number of villages from each group by dividing the number of households covered in each group by number of the households covered per village. Subsequently this turned out to be 7 villages in the group 1, 4 villages in group 2, 3 in villages in group 3 and 2 villages in group 4. These villages were selected from each group using the simple random sampling method using STATA 15 (StataCorp, USA) software.

Table 4.1: **Number of Intervention villages selected and number of households to be covered**

Group number	Total No of villages to be covered	No of Household to be covered per village
Group 1	7	54
Group 2	4	94
Group 3	3	125
Group 4	2	188
	Total Village=16	Total Household = 1505

To obtain this list of the intervention villages that were to be matched with the control district villages, the village level data from census 2011, India were used. From the list of 1877 intervention villages from the Pune district provided to us by the BJS, we were able to identify only 1195 villages in the census database. Within this list, the villages having population with outliers, under 100 and over 15000 were excluded. Finally, we obtained a total of 1173 villages that constituted the village sampling frame for Pune.

Households from each village were selected the by Systemic Random Sampling method. For Satara, we collected data for 2000 households, 500 from each of the 4 groups. 50% households per village were to be covered for villages matched with villages of group 1, 40% for the villages matched with group 2 villages, 30% for the villages matched with group 3 villages and 20% for the villages matched with group 4 villages.

Table 4.2: **Number of Intervention villages selected and number of households to be covered**

Group number	Total No of villages to be covered	No of Household to be covered per village
Group 1	7	71
Group 2	4	125
Group 3	3	167
Group 4	2	251
	Total Village=16	Total Household = 2000

Selection of these villages was done by matching the socio-economic characteristics of control villages with the selected intervention villages. It is explained in detail under the section 2.3.1 (matching of villages).

4.3 Data Collection

Data collection was conducted from the month of May to June 2022 by an external survey agency, SSF Professionals Pvt. Ltd that had no role in the implementation of the CFV. Quantitative data was collected using a close-ended interview schedule that was administered at the household level in 16 villages from Pune district and Satara district each and data was entered electronically. A total of 3,680 households were covered, of which 1,637 were from Pune (intervention) and 2,043 were from Satara (control) district.

A total of 25 investigators along with five supervisors and two qualitative researchers were involved in the process of data collection. Field investigators were provided three days residential training at BJS campus at Wagholi, Pune, before commencement of the data collection where they were explained the purpose of the CFV project, household selection method, consent procedures, and administration of the tool. The training was facilitated by BJS specialist as resource persons. After two days of classroom training, one day field visit was planned for the participants to an environmental sensitive area to familiarize the trainees on how to carry out the tool in real life situations.

The interview schedule had 6 sections: Section one comprised of identification questions such as name, age, contact number etc. Section two collected information on socio-demographic characteristics of the household like religion, caste, education, etc. Section three assessed the COVID-19 vaccination status and associated information like site of initial vaccination, distance of vaccination site and perception regarding the vaccination. In the next section questions were related to prevention of the COVID-19 infection such as if the illness was considered serious, methods of awareness campaign and its focus accessibility of hygiene essentials like soap, masks sanitizers etc and about utilization of Arogya Setu app. The next section assessed Covid-19 preparedness through questions on COVID testing, hospitalization, deaths and government schemes utilization. The final section was related to utilization of support and containment measures and regarding the availability of other medical services. The interview schedule was pretested in 100 households from a separate intervention village to assess participant comprehension and further changes were made in few items based on the analysis of the responses and feedback from the field investigators.

Figure 5: **Information collected during interview**

Section 1- Information of the respondents
- Name, Age, Contact number etc

Section 2- Socio-demographic characteristics of the households
- Religion, Caste, Education, Comorbidities etc.
- Awareness about Village Task Forces etc.

Section 3- Household COVID-19 vaccination status
- Eligible members, site of initial vaccination & Access to it
- Perception regarding the vaccination
- Reasons for not receiving vaacination etc.

Section 4- Prevention & control of COVID-19
- Methods of awareness campaign and its focus
- Accessibility to soap, masks, and sanitizers
- Utilization of Arogya Setu app etc.

Section 5- Preparedness for COVID-19
- COVID testing, hospitalization, deaths
- Government schemes utilization

Section 6- Support and containment
- Questions on distribution of soaps, masks, immunity boosters etc.
- Support received from village panchayat or VTFs
- COVID care centers and availability of other medical service

Qualitative data was collected only from the intervention (Pune) district through in-depth key informant interviews (KII). A total of 86 KIIs were conducted among Medical officer, Community health officer, Block development officer, Tehsil health officer, Dy. CEO & Asst. DHO of Zila Parishad, Sarpanch, members of VTFs, ANM & ASHA workers using the interview guide.

Four different interview guides were prepared for conducting KII for Sarpanch/ Gramsevek/ VTF member, Medical Officer, Community Health Worker and Government Officials. The guide was divided into various

themes like COVID-19 Vaccination, government schemes utilization, Covid-19 prevention through Covid appropriate behaviours, COVID-19 management. We also collected information about non-covid health services (Annexure).

For the data quality assurance, two field visits were conducted by two of the IIPH-D investigators who verified the fidelity of the data collection processes.

This assessment was conducted to assess the effect of the CFV program amongst the residents of Pune villages in their adherence to COVID appropriate behaviours like regular hand washing and use of masks, affordability and distribution of hygiene essential items like Soaps, sanitizers masks etc., support provided by the VTF during COVID in terms of providing transportation, establishing testing and vaccination camps, utilization of COVID related government schemes etc.

Table 4.3: **List of outcomes**

S.N	Outcome
1	Effect on Awareness regarding Village Task Force
2	Effect on COVID-19 vaccination coverage
3	Effect on accessibility of Covid-19 vaccination services
4	Effect on availability of transportation service to Covid-19 vaccination site
5	Effect on perception regarding safety and effectiveness of Covid-19 vaccination
6	Effect on awareness regarding Covid-19 preventive measures
7	Effect on perceived seriousness of Covid-19 infection in high-risk groups
8	Effect on awareness of Covid-19 campaign methods
9	Effect on perception regarding thematic focus of Covid awareness camps
10	Effect on frequency of handwashing
11	Effect on adherence to wearing mask in public places
12	Effect on accessibility of essential hygiene products
13	Effect on adoption of Aarogya Setu application
14	Effect on availability of testing camps in the villages
16	Effect on availability of COVID care camps in village
17	Effect on Facilities available at COVID care camps
18	Effect on awareness about special Covid-19 government schemes for social protection
19	Effect on utilization of special Covid-19 government schemes for social protection
20	Effect on Covid-19 related stigma or discrimination
21	Effect on support provided by VTF/Gram panchayat
22	Effect on other medical services provided during the Covid-19 pandemic
23	Change in the rate of transmission of COVID-19 infection in the villages
24	Effect on the rate of hospitalization due to COVID-19
25	Effect on the mortality due to COVID-19

4.4 Data and Statistical Analysis

Two stage matching analysis was performed to create the control groups (non-intervention population) and assess the effects of intervention on different outcome indicators in the population in intervention district, Pune (Intervention group).

First, from a list of all the villages in districts of Pune, we selected a comparable set of villages from the neighbouring district of Satara. Comparable villages were selected using a statistical matching method using a range of village level socio and infrastructural characteristics.

Second, within the matched villages across Pune and Satara we matched the sampled households on the basis of socio-economic status and household composition.

4.4.1 Matching of Villages

Selection of matched villages for control group

From Satara district, villages were selected after matching socio economic and infrastructure characteristics at village level. Initially we had 1745 villages for Satara district and after removing the villages with extreme population numbers (less than 100 and more than 15000 people) and total geographical area zero, 1668 villages were used for the further steps. Considering a combined list of sample villages in Pune and all the villages (after removing extreme sized villages) in Satara we generated propensity score using a logit model and a range of variables as presented in Annexure Table1. In the present analysis the logit estimation and predicted propensity score consisted of estimating the following logit model (equation 1):

$$P((T_i = 1)/X_i) = \frac{e^{\beta x_i}}{1+e^{\beta x_i}} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (1)$$

Here T_i indicates whether household i belong to Pune (Treatment) district. The vector Xi indicates household demographic, socioeconomic and infrastructure characteristics, and β is a vector of the parameters to be estimated. In the second stage, sample households in Pune were matched to Satara households with predicted values of propensity scores for each household using STATA, version 1.0. For balance checking, for each covariate used in the regression model that generated the propensity scores, we compared the means between the Pune households and matched Satara households using a t-test.

Finally, using 'nearest neighbour matching' method, 2 control villages were selected for each intervention village. While selecting the control village, number of households in the village was considered as the overriding characteristic so that the intervention & control villages have similar population size.

4.4.2 Household matching

Even after village level matching of socioeconomic status, we expect some household level differences in socio-economic status to prevail in villages. Such differences can still confound with outcomes of the programme intervention. We further controlled such differences by using a household level matching in selected sample village using the similar exercise as mention in the village level matching.

We used Propensity scores generated through equation (1) to identify matched households from Satara district. However, the characteristics used for matching were a different set of SES variables, which were available at household level from survey data. List of SES characteristics used for household matching in the sample Pune villages and comparable Satara villages is presented in Annexure Table 2.

The value of pseudo R2 obtained from using Logit model, where dependent variable was a dichotomous variable with value 1 if a households lived in Pune district, was 0.2705. The overall mean bias after the matching reduced from 19.0 to 4.9.

We check for balancing to see the distribution of the covariates in the intervention and control group. For balance checking, for each covariate used in the regression model that generated the propensity scores, we compared the means between the Pune households and matched Satara households using a t-test. Before matching 18 of 21 variables used had statistically significant ($p<0.05$) difference in the means and after matching only 6 variables had significant mean difference. The overall mean bias after the matching reduced from 19.0 to 4.9 (Annexure table 6).

Logit results reflect that intervention households were more likely to have female respondents. Household in Pune are more likely to be Hindu and have a joint family setup and less likely to have elderly over the age of 60 years of age and a member between age of 6-18years. These households have at least one member with education level of primary school or above. (Annexure Table 4)

A total of 1321 households from Pune were matched with 1576 households from the Satara district. To infer if the mean difference of intervention and controlled group in the matched sample for the given outcome was statistically significant, we further performed two-sample t-test.

We further performed the sub-group analysis for two different sub-groups population. In the first group, we combined schedule caste and schedule tribe households as against non-SC/ST households, and for the second group we grouped the households on the basis of the education level of the highest educated member of the household was up to middle school level as against the secondary and above level of education.

4.4.3 Qualitative data analysis

The interviews were conducted in Marathi and then translated into English by bilingual language professionals. Each transcript was considered as a unit of analysis. The transcripts were anonymized using pseudonyms before being entered into the QDA Miner Lite V 4.0 software for data organization and analysis. The Braun and Clarke step-by-step guide for thematic analysis was followed in conducting the analysis. The data analysis process began with reading the transcripts at least twice to achieve immersion. The codes were then generated by identifying phrases. The study transcripts were independently coded by one of our team members. Themes were formed by grouping similar codes. For example, different functions of VTFs (e.g., role in vaccination, role in COVID-19 management, etc.) were coded separately and then grouped into a single theme. Two investigators went over the transcripts, methodically categorizing the coded data, allowing main themes to emerge from each topic. After the thematic consensus was double-checked for inconsistencies, the final themes were named and defined.

5. RESULTS

The Covid free village (CFV) program was implemented in the Pune district of Maharashtra, India. As per the M&E CFV-BJS report, VTF members were involved in village-level meetings with the Sarpanch to understand the Covid situation in 844 (92.44%) GPs within the district.

A total of 1637 households from 16 villages in Pune and 2043 households from 16 villages in Satara were included in the current study. We also used certain district level administrative data to compare the vaccination, TRF, death etc *(Source: Pune- Health Department, ZP, Pune, Satara- District Information Officer, ZP, Satara).*

The baseline characteristics of the participants are reported in the Annexure 1.

5.1 Pune rural and Satara rural district level comparison

Figure 6: **Month wise COVID-19 test done in Pune and Satara**
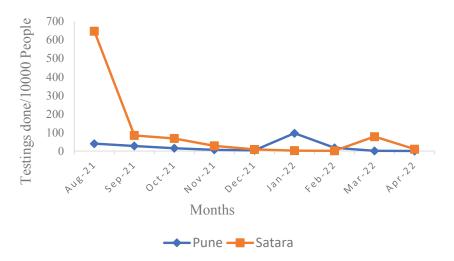
Table 5.1: **Month wise COVID testing per 10,000 population**

	Pune	Satara
Aug-21	40	647
Sep-21	28	85
Oct-21	15	68
Nov-21	7	28
Dec-21	4	9
Jan-22	96	2
Feb-22	18	2
Mar-22	1	78
Apr-22	0	11

Pune had higher Covid-19 vaccination coverage overall compared to Satara (April 2022)

Figure 7: COVID-19 vaccination coverage
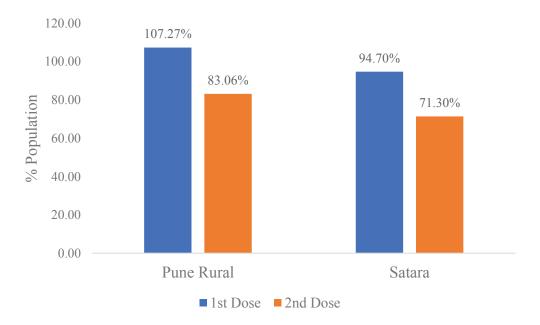
Table 5.2: Vaccine coverage in Pune (rural) and Satara

District	1st Dose Coverage (%)	2nd Dose Coverage(%)
Pune (Rural)	107.27	94.70
Satara	83.06	71.30

Pune rural had significantly lower deaths per 1,00,000 population compared to Satara rural during the period of observation (August 2021-February 2022). However, Satara also had higher Covid-19 testing per 1,00,000 population compared to Pune throughout the period of observation (August 2021 to April 2022).

Figure 8: Month wise Death per 1 lakh Population in Pune and Satara due to COVID-19
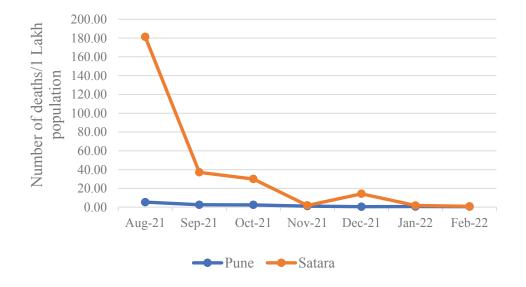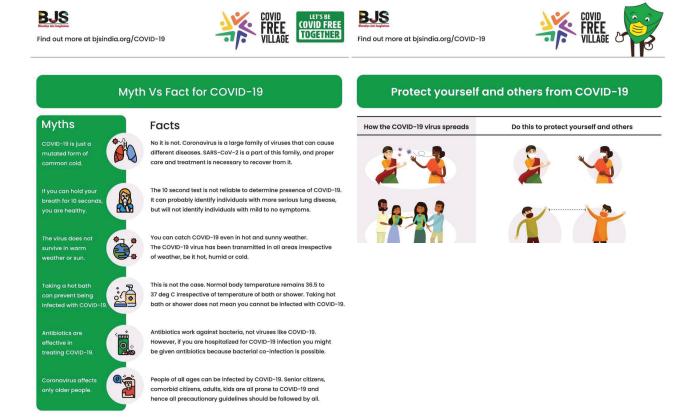
Table 5.3: **Death per 1 lakh Population in Pune and Satara**

	Pune	Satara
Aug-21	5.33	181.19
Sep-21	2.50	37.11
Oct-21	2.42	29.96
Nov-21	1.09	1.85
Dec-21	0.46	14.26
Jan-22	0.68	1.81
Feb-22	0.54	0.86

5.2 Household level results post matching

VTF-1

VTF-1 functioned for spreading awareness about COVID appropriate behaviours through stakeholder sensitization, multiple village awareness campaigns, distribution of CFV designed IEC material. The VTF-1 members also facilitated in the printing and display of IEC posters across villagers apart from door-to-door distribution of IEC-pamphlets through.

ASHAs and village volunteers. Furthermore, they participated in the circulation of CFV designed awareness messages and short videos through social media and village WhatsApp groups in conjunction with Sarpanch and TCs. The IEC implementation guidebooks, self-learning videos and BCC/IEC material were available for download on CFV-KMS portal.

The CFV-KMS portal served as a one-stop-shop for program stakeholders to easily access and download user-friendly program resources in their preferred language at any time. During the pandemic when movement of people was restricted, KMS provided instant access to program resources for self-learning, awareness generation, and capacity building. Detailed processes, roles and responsibilities of stakeholders, audio-visual learning modules, pictorial guidebooks, and BCC/IEC material on the portal helped people to better understand the project and know what was expected of them. Program resources available on the portal were also extensively used by Master Trainers to conduct daily online training of Sarpanchs, VTF members and other stakeholders. KMS was one of the core strategies adopted by the program to reach out to the community, overcoming the barriers to people's movement during the pandemic, to achieve scale.

Our hypothesis was that the Pune awareness campaigns would have employed a more diverse thematic focus and greater variety in IEC related health communication translating into improved awareness of Covid-19 preventive measures with lower levels of COVID related stigma and discrimination experienced by the residents.

Table 5.4: **Effect of the CFV program on COVID-19 awareness campaigns and health communication methods**

	Mean (SD)		Difference (SE)
Indicators	Intervention	Control	
	N=1321	N= 1,576	
Awareness Campaigns			
Subject/ focus of awareness campaigns was Nutrition & Medicines	0.471 (0.499)	0.431 (0.495)	0.040 (0.02)*
Subject/ focus of awareness campaigns was COVID Appropriate Behaviour	0.536 (0.499)	0.430 (0.495)	0.106 (0.02)**
Subject/ focus of awareness campaigns was Govt Scheme	0.110 (0.313)	0.044 (0.205)	0.066 (0.011)**
Awareness campaigns promoted Covid Testing	0.632 (0.482)	0.716 (0.451)	-0.084 (0.019)*
Method used to spread of Covid-19 awareness was Poster	0.540 (0.499)	0.433 (0.496)	0.108 (0.02)**
Method used to spread of Covid-19 awareness was Public Announcement	0.704 (0.457)	0.333 (0.471)	0.371 (0.019)*
Method used to spread of Covid-19 awareness was Home Visit	0.789 (0.408)	0.708 (0.455)	0.081 (0.018)**
Method used to spread of Covid-19 awareness was Social Media	0.487 (0.408)	0.388 (0.488)	0.099 (0.02)**

* = p value for the t-test was > 0.01 and ≤ 0.05
** = p value for the t-test was less than 0.01

Figure 9: *Effect of the CFV program on awareness regarding methods used for awareness campaigns*
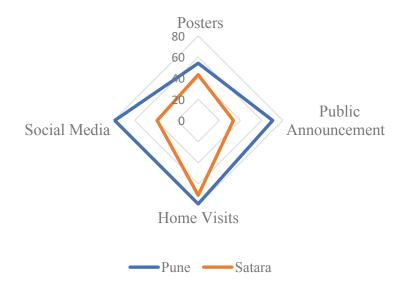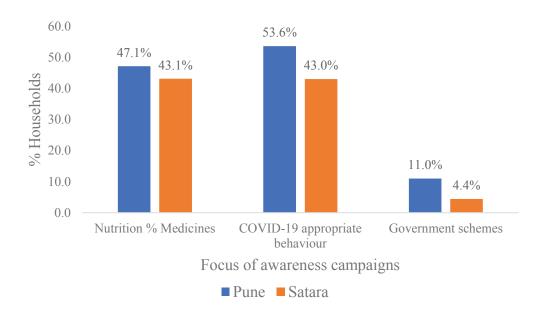
Figure 10: *Effect of the CFV program on awareness regarding focus of awareness campaigns*

There were various COVID-19 awareness campaigns organised in both the districts. In Pune four percent more respondents reported the main focus of these camps on nutrition and medicines, 10.6 percent more reported focus to be on COVID appropriate behaviour and 6.6 percent reported the focus was on government schemes, though 8.4 percent less respondents reported the focus to be on COVID testing. Pune site respondents also reported a diversity of methods for IEC and health communication in the Covid awareness campaigns in their areas compared to the Satara site respondents (Table 5.4). (People were made aware through posters, audio play in the village and announcements. VTF Member, P.36).

Table 5.5: Effect of the CFV program on awareness regarding COVID relate stigma & preventive measures
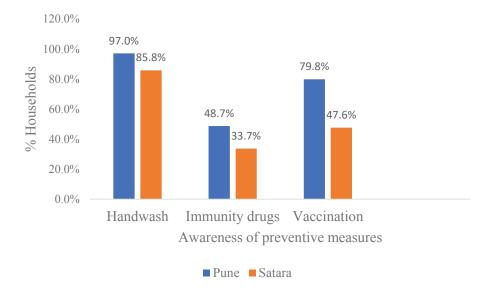
Indicators	Mean (SD)		Difference (SE)
	Intervention	Control	
	N=1321	N= 1,576	
Observed any resident of the village facing Covid-19 related stigma or discrimination	0.091(0.287)	0.297(0.457)	-0.207 (0.014)**
Awareness regarding handwash as a mean of preventing the COVID-19 infection	0.970 (0.169)	0.858 (0.349)	0.112 (0.012)**
Awareness regarding immunity boosting drugs as a mean of preventing the COVID-19 infection	0.487 (0.500)	0.337 (0.473)	0.150 (0.02)**
Awareness regarding COVID vaccination as a mean of preventing the COVID-19 infection	0.798 (0.402)	0.476 (0.500)	0.322 (0.019)**
Awareness regarding COVID wearing masks as a mean of preventing the COVID-19 infection	0.983 (0.131)	0.974 (0.159)	0.009 (0.006)
Awareness regarding COVID social distancing as a means of preventing the COVID-19 infection	0.898 (0.303)	0.880 (0.326)	0.018 (0.013)

* = p value for the t-test was > 0.01 and ≤ 0.05

** = p value for the t-test was less than 0.01

Almost 21 percent fewer respondents reported witnessing Covid-19 related stigma or discrimination in Pune. Awareness was 11 percent more regarding handwashing as a means of preventing COVID-19 infection, 15 percent more regarding immunity boosting drugs as a mean of preventing the COVID-19 infection and 32 percent more regarding vaccination as a mean of preventing the COVID-19 infection (Table 5.5). In the intervention site, stakeholders expressed support for vaccination as it 'increased the immune power' (P.10, 14, 21, 27) and reduced the severity of Covid-19 infection (P.2, 7, 8) to 'save lives' (P. 23) by strengthening the immune system.

However, on analysing for awareness regarding other preventive measures no significant improvement was observed between the intervention (Pune) and control (Satara) sites (Annexure 4).

Figure 11: Effect of the CFV program on awareness regarding preventive measures

VTF-2 & 3

Focus of VTF 2 was on tracing, tracking, testing and treatment. This was done through monitoring surveillance of Covid-19 symptoms conducted by the ASHA volunteers in their village, referring patients with Covid-19 symptoms for early testing, compilation of available emergency contact numbers for helping patients in need and contributing to the organization of village level testing camps.

To assess the effect of the above VTF activities, we examined the proportion of households where any member availed COVID testing in these VTF supported village camps apart from certain knowledge bases indicators like severity of infection in vulnerable population and adherences to best practices.

Our hypothesis was a greater proportion of respondents in Pune would have been tested in village testing camps and greater number of households would have been provided testing related support. We also expected the knowledge and the best practices indicators to be better in Pune compared to Satara households.

Table 5.6: **Effect of the CFV program on COVID-19 testing, awareness regarding infection & best practices**

	Mean (SD)		Difference (SE)
Indicators	**Intervention**	**Control**	
	N=1321	N= 1,576	
Covid-19 testing camps available in the village	0.201(0.401)	0.620(0.485)	-0.420 (0.018)*
Have been ever tested (Antigen/RTPCR) for Covid-19 in village testing camp	0.547 (0.498)	0.506 (0.500)	0.040 (0.019)*
VTF/ GP provided Support COVID19 Testing	0.535 (0.256)	0.640 (0.480)	-0.105 (0.02)*
Covid-19 disease is more serious in people with Hypertension	0.450 (0.498)	0.232 (0.422)	0.218 (0.019)**
Covid-19 disease is more serious in people with lung disease	0.335 (0.472)	0.214 (0.410)	0.121 (0.018)**
Covid-19 disease is more serious in people with low immunity	0.549 (0.498)	0.297 (0.457)	0.252 (0.02)**
Covid-19 disease is more serious in people with Heart disease	0.387 (0.487)	0.364 (0.481)	0.023 (0.02)
Covid-19 disease is more serious in people with Diabetes	0.403 (0.491)	0.381 (0.486)	0.022 (0.02)
Wash your hands with soap/ sanitizer at least 4 times a day	0.705(456)	0.63(0.483)	0.075 (0.019)**
Wear the mask while leaving the house	0.619(0.486)	0.566 (0.496)	0.053 (0.02)**

* = p value for the t-test was > 0.01 and ≤ 0.05

** = p value for the t-test was less than 0.01

Figure 12: **Effect of CFV Program on COVID-19 Testing**
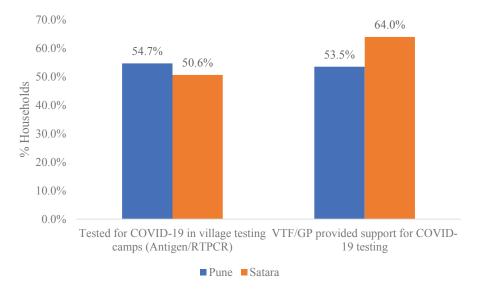

Figure 13: **Effect of the CFV program on following best practices for preventing COVID-19 infection**
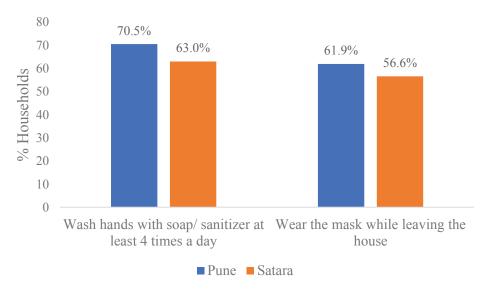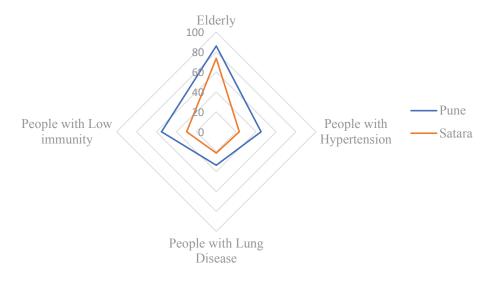

Figure 14: **Effect of the CFV program on awareness regarding seriousness of COVID-19 infection in high-risk groups**

Although availability of Covid-19 village testing camps and provision of Covid-19 testing support were reported to be significantly lower in Pune compared to Satara, a higher proportion of respondents in Pune (4 per cent) had been diagnosed with Covid-19 in village camps compared to Satara. A more targeted and efficient approach is evident in Pune, wherein contact tracing and testing of villagers suspected of having symptomatic Covid-19 disease were often facilitated by the VTF Panchayat members especially when there was resistance or suspicion amongst certain individuals from direct engagement with the health system. Village volunteers sensitized by CFV coordinators participated in community mobilization and sensitization of the village residents having testing hesitancy such as those subsidizing on daily wages, and asymptomatic but engaged in delivery of essential household services (Taluka Health Officer).

Respondents in Pune had greater awareness of Diabetes comorbidity and low immunity being linked with adverse health outcomes in patients with Covid-19 disease that could have improved their treatment seeking behavior. Furthermore, there were 8% more respondents in Pune who reported handwashing with soap or sanitizing their hands more than four times daily, and 5.3% more respondents reported wearing mask outside home suggestive of greater sensitization of Pune villagers towards adherence to Covid-19 appropriate behavior (Table 5.6). This emphasis was a key component of the training component of the VTFs and subsequently village health promotion activities that was testified by multiple stakeholders. "Common topics of discussion were: given information about wearing mask, importance of washing hands, maintaining social distancing" (Sapranch, P.27), "People were informed regarding the proper way of hand washing and importance of regular hand washing, and about wearing the mask while talking to others (VTF Member, P. 36), "Correct way of wearing the mask, washing hands and use of sanitizer was discussed during the training. Maintaining Social distancing was also taught (VTF Member, Female, P. 13). Instant messaging through WhatsApp was extensively used to promote Covid appropriate behaviour. VTF Members were admins of WhatsApp groups including members from all households having members with a smartphone. Short videos, memes, and messages created by the BJS team were forwarded to the Sarpanch by the Taluka coordinators (from the BJS team), and these in turn were circulated to all the villagers enrolled in the group by the VTF members. "the villagers were given knowledge (for Covid prevention and management) again and again through WhatsApp." (Gramsevak, P. 10). "VTF was involved in the five-point program of Covid, which consisted of the use of masks, social distancing, personal hygiene, testing, and vaccination" (District Health Officer, Pune).

VTF-3 members organized and facilitated services at Quarantine and Covid Care Centres. For this they created a working mechanism in the villages to identify patients who required admission in Quarantine Centres/Covid Care Centres, supported in setting-up such centres (if unavailable) and also participated in the maintenance of Quarantine Centres/Covid Care Centres and operations as per recommended government-administrative protocols.

Table 5.7: **Effect of CFV program on availability of CCC in the village**

	Mean (SD)		Difference (SE)
Indicators	Intervention	Control	
	N=1321	N= 1,576	
COVID Care Centres were available in village	0.073(0.260)	0.463(0.499)	-0.389(0.015)**

** = p value for the t-test was less than 0.01

Negligible proportion of population reported the presence of CCC in their villages in both the districts. However, the presence of CCC was reported marginally higher in Satara as compared to that in Pune villages. Almost 39 percent more respondents reported having CCC in the villages in Satara. In our household analysis, only 12 respondents from Pune while 47 from Satara reported availability of CCC in their villages.

VTF-4

VTF-4 worked on improving the utilization of Covid-related Government schemes. For this they compiled the list of all the schemes, created a working mechanism in the village to identify potential beneficiaries of government schemes, engineered efforts to create awareness about Covid-related government schemes in the village and supported the beneficiaries in the village for utilization of such government schemes.

These schemes included the provision of financial support to children in the age group of 0 to 18 years who have lost both parents due to Covid-19, ex-gratia assistance to Anganwadi/staff who died from Covid-19 while performing Covid-19-related duties (Mission Vatsalya Yojana), and grant of 50,000/- INR to any individual that died due to Covid. The Gram Panchayat and VTFs assisted participants in signing up for government schemes by providing information on the Covid-related schemes, assisting with form completion, and organizing necessary documents.

In our study we were only able to obtain a list of 5 households from Pune and 12 from Satara that were eligible for support and compensation. **Of these 2 households from Pune and 5 from Satara applied for the schemes**. The small denominator precluded the conduct of matched analysis.

VTF-5

VTF-5 worked on the improvement of COVID-19 vaccination services and its coverage in the villages. The VTF-5 members conducted vaccine awareness related community meetings, compiled the list of eligible villagers due for the vaccination, facilitated the organization of the vaccination camps in the village, and provided transport facilities for elderly, specially-abled and senior citizens for their vaccination, when required.
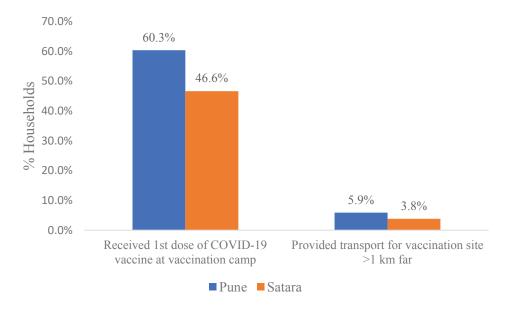
We examined the effect of the of the program on Covid-19 vaccination by assessing specific 2 outcomes, if the first dose of the COVID-19 vaccine for the eligible household members below the age of 60 years was administered at the village vaccination camp and if any transportation was provided to the villagers to reach the vaccination site if the distance from their homes was over 1 km. Through the effect of the CFV program we expect that a higher proportion of respondents in the Pune district were vaccinated in the village camp and more villagers were provided with the transportation services to reach the vaccination site that was at a distance of over 1 km.

Table 5.8: Effect of CFV program on COVID-19 Vaccination

Indicators	Mean (SD)		Difference (SE)
	Intervention	Control	
	N=1321	N= 1,576	
Vaccination			
The first dose of the COVID-19 vaccine for the eligible household members below the age of 60years was administered at the village vaccination camp	0.603 (0.490)	0.297 (0.457)	0.137 (0.02)**
The transportation was provided for the villagers if the site of vaccination was over 1km	0.059 (0.236)	0.038 (0.192)	0.021 (0.009)**
Came across vaccination related home visit	1.802 (0.399)	1.927 (0.260)	-0.125 (0.014)*
Was any cost incurred for vaccination	0.007 (0.082)	0.009 (0.092)	-0.002 (0.003)

* = p value for the t-test was > 0.01 and ≤ 0.05

** = p value for the t-test was less than 0.01

Figure 15: Effect of the CFV program on Vaccination accessibility

In Pune, almost 14 percent more eligible household members below the age of 60 years were administered their first dose of COVID vaccine at the village vaccination camp, and 2 percent more people were provided with the transportation who had vaccination site at the distance of over 1 km. (Table 5.8). Reporting for the vaccination related home visits was 12.5 percent more in Satara compared to Pune villages. Nevertheless, in our KIIs, among frontline workers in the Pune villages, ASHAs affirmed the perceived effectiveness of home visit and vaccine camp approach in promoting Covid-19 vaccine acceptance 'Home visits were done to sensitize people regarding the vaccine. At least 28-29 camps were organized for it' (P.6).

A Sarpanch VTF member informed us how in his village the "People used to go to the Primary Health Facility for vaccination but those who were unable to go…were taken on vehicle. First preference was given to BP (Hypertension), Sugar (Diabetes) and the elderly villagers", and those that were physical challenged or having special needs (P.16 MD, P. 19). "80% vaccination was done in the village, 20% people were old and physically handicapped they were taken in the vehicle for vaccination, a camp was there in the village" (ASHA, P.3).

Challenges related to online registration of beneficiaries in the Cowin portal (P.16, medical officer) which was a prerequisite for vaccination was ensured by enlisting the support of digitally literate school and college going youth volunteers from the villages, and occasionally, also from the data entry operators working at the Panchayat office (VTF, P.40).

Community counselling to dispel myths related to impotency due to vaccine especially prevalent in some minority communities was also addressed through specific communication by frontline workers (P.16) No significant difference was observed between the intervention (Pune) and control (Satara) sites in terms of vaccine availability, accessibility and cost of vaccination. This was likely as both the central and state government were working extensively to support universal Covid-19 vaccination services.

Other variables

We also collected information about few other variables like utilization of Aarogya Setu contract tracing cum IEC mobile phone app, affordability and accessibility of hygiene products, and availability of other medical services.

During the COVID-19 pandemic, maintenance of COVID-19 appropriate behaviour in resource-limited setting was hindered by access and affordability of soap, sanitizers, and masks (15). Two percent less people had difficulty in accessing or affording soap, five percent less respondents had difficulty in accessing or affording mask and sanitizer in Pune compared to Satara (Table 5.9).

Table 5.9: **Effect of CFV Program on affordability and accessibility of hygiene products**

	Mean (SD)		Difference (SE)
Indicators	**Intervention**	**Control**	
	N=1321	N= 1,576	
Faced any difficulty in accessing or affording Soap	0.074 (0.262)	0.097 (0.296)	-0.023 (0.012)*
Faced any difficulty in accessing or affording Sanitizer	0.096 (0.295)	0.148 (0.355)	-0.052 (0.014)**
Faced any difficulty in accessing or affording Mask	0.082 (0.274)	0.131 (0.338)	-0.049 (0.013)**

* = p value for the t-test was > 0.01 and ≤ 0.05

** = p value for the t-test was less than 0.01

The Arogya Setu was primarily an IEC driven contact tracing application developed by the Government of India. Acceptability of the app could be influenced by CFV program by promoting its awareness, utility, and supporting with its installation (16).

Table 5.10: **Effect of CFV Program utilization of Arogya Setu app**

	Mean (SD)		Difference (SE)
Indicators	**Intervention**	**Control**	
	N=1321	N= 1,576	
Used Aarogya Setu app for self-assessment and understanding the risk of infection status.	0.188 (0.391)	0.139 (0.346)	0.050 (0.015)*
Used Aarogya Setu app for getting the lists of testing facilities and COVID test results.	0.143 (0.350)	0.106 (0.308)	0.037 (0.014)*
Used Aarogya Setu app for knowing updates, advisory & best practices related to COVID-19.	0.196 (0.397)	0.116 (0.320)	0.080 (0.015)**

* = p value for the t-test was > 0.01 and ≤ 0.05

** = p value for the t-test was less than 0.01

Arogya setu app was used by 5 percent more respondents for self-assessment and understanding the risk of infection status, almost 4 percent more used it for getting the lists of testing facilities and COVID test results and for knowing updates, 8 percent more for advisory & best practices related to COVID-19 in Pune compared to Satara (Table-5.10).

On assessing the use of Arogya Setu app for contact tracing, getting emergency helpline contacts or for any other purpose, we couldn't find any significant difference between Pune and Satara sites.

COVID-19 pandemic hindered the routine functioning of the primary health care system with diversion of health resources for controlling the pandemic. CFV Program helped the government in mitigating the effect of COVID-19, therefore we expect the health system in Pune to be more resilient than in Satara (17).

Table 5.11: **Effect of CFV on other medical services**

	Mean (SD)		Difference (SE)
Indicators	**Intervention**	**Control**	
	N=1321	N= 1,576	
Support & Containment			
Eligible children in your locality/household receive regular under-3 immunization	0.780 (0.415)	0.682 (0.466)	0.098 (0.018)**
Pregnant women in your locality/household receive regular antenatal care service	0.681 (0.466)	0.557 (0.497)	0.124 (0.02)**
Pregnant women in the locality/household have access to ambulance / emergency transport	0.575 (0.495)	0.501 (0.500)	0.074 (0.02)**
Patients with chronic disease has access to medications	0.607 (0.489)	0.435 (0.496)	0.172 (0.02)**

* = p value for the t-test was > 0.01 and ≤ 0.05

** = p value for the t-test was less than 0.01

With regards to other medical services almost 10 percent stated eligible children got regular under-3 immunizations, in Pune, 12.4 percent more respondents informed that ANC check-ups were provided to pregnant women, 17 percent more had access to medicines for chronic diseases, and 7.4 percent more stated that ambulance and emergency transport were available.

5.3 Subgroup Analysis

For the sub-group analysis, we divided the entire sample into two groups on two parameters: i) caste – SC and ST taken together as against non-SC/ST population and ii) education level – using highest education in the family middle and lower as against secondary and above. In general, our findings suggest that less advantaged population groups such as SC/ST and middle and lower education reported largely higher effect of the intervention. As for instance for the vaccination indicator, both the indicators reflect higher (20%, 10.7%) effect on lower education households as against secondary and higher education households (13% and 1.6%). Various awareness indicators such as, vaccination as preventive measure and, severity of COVID infection higher in elderly group was also found higher in both SC & ST group (42%, 21%) and in households with highest education middle and lower (38%,32%). The difficulty in accessibility and affordability of essential hygiene products were less in all groups but was not statistically significant in SC & ST households. Similarly, use of the Aarogya Setu contract tracing app was found insignificant in both Group with SC and ST households and the one with education level as middle or lower.

There was less COVID related stigma witnessed by both SC and ST and non-SC and ST households in Pune but non-SC and ST households in Pune reported witnessing lesser stigma (-21.4%). Though both, households with education less than middle school and secondary and above reported witnessing less stigma in Pune but it was lower in the later (-18.6%, -22%). The other health related services like regular ANC check-up and accessibility of medicines to patients with chronic illness were better in the group with ST and SC households.

Figure 16: **Initial vaccination at vaccination camp in members of <60 years of age in SC & ST and Non-SC & ST families**
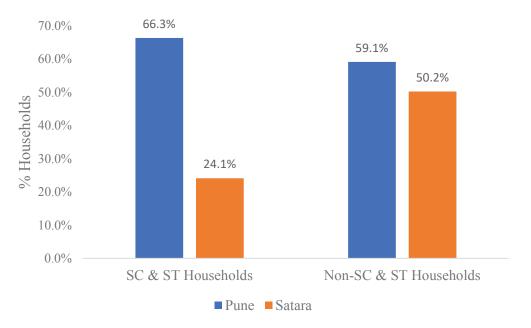
Figure 17: **Comparison of Awareness regarding COVID vaccination as a mean of preventing the COVID-19 infection household members in SC & SC and Non ST & ST households**

6. CONCLUSIONS

People living in rural areas of lower middle-income countries (LMICs) including India experienced major barriers in their pandemic preparedness due to pre-existing challenges like low socioeconomic development, reduced health awareness, poor health literacy, limited means of telecommunication, and overall weak public health infrastructure.

The CFV program applied the principles of village empowerment, volunteerism, and efficient government – citizen partnership interlaced with effective engagement with a vibrant grassroots level partner to achieve community mobilization, behavior change, and augment government and health system efforts.

The assessment of the CFV program in the rural areas of Pune District of Maharashtra conducted nearly 8 months since its inception suggested near universal uptake (enrolment) with high albeit variable utilization in the villages of Pune. The hybrid approach of deployment of traditional IEC platforms in conjunction with social media and instant messaging with WhatsApp were useful in the rapid and complete coverage of the population. Camp based approaches that were facilitated by the CFV-BJS coordinators were particularly effective in reaching the unreached vulnerable populations for both Covid-19 vaccination and testing.

District administrative and health officials also reported on the usefulness of CFV initiatives in helping the government and administration make effective rapport and contact to meet village needs ("Due to CFV-BJS, we could reach all public representatives and Sarpanchs through the village task force"; TMO).

- The lower case burden of Covid-19 in Pune rural observed was expected considering the focus of the CFV program on coordinating contact tracing, testing, and treatment activities in the villages in conjunction with trained VTF members and the frontline health workers (ASHAs) translating into increased house to house surveys and screening of high-risk individuals who were otherwise resistant to testing. (Utilization of village testing camps was 4 percent more in Pune compared to Satara)

- District level data supports the hypothesis that CFV program were effective in reducing caseload of Covid-19 although this finding is subject to several caveats. First, the cumulative Covid-19 testing in the Pune rural area as per district level data was substantially lower compared to Satara (during the period of CFV implementation) which would result in lower recording of cases in the former. The program implementation period also mostly coincided with the period after the peak of the second (Delta) wave when maximum morbidity and mortality occurred across the state and country which is likely to have reduced subsequent case burden. Nevertheless, the household surveys were indicative of significantly low levels of observed stigma associated with Covid-19 infection in the Pune district compared to Satara which could be possibly linked to the focus of the CFV program on stigma reduction that consequently may have promoted adherence to testing in the rural Pune population. (Almost 21 percent fewer respondents reported witnessing the stigma or discrimination).

- Household survey data indicated very low Covid-19 mortality in the surveyed villages that precluded assessment of the statistical significance in the difference in mortality between the Pune and Satara sites. Overall, district level estimates of mortality per 1,00,000 populations in Pune (rural areas) were

substantially lower than in Satara but information on the pre-existing differences in health system infrastructure and accessibility between the districts was lacking and a potential confounder.

- It is well-established that effective health information campaigns have a pivotal role in improving public awareness and promoting preventive and health-promoting behavior. In our assessment, we observed rural households in Pune to have substantially better awareness of multiple aspects of Covid appropriate behavior alongside higher adherence and persistence (even after third wave of the pandemic) with these practices compared to the control (Satara) households. The CFV program extensively utilized social media and instant messaging platforms for circulation of digital IEC material that was complemented with traditional IEC (posters, pamphlets) and face to face awareness generation campaigns. The WhatsApp groups of VTFs were created universally in their respective villages for sharing health education material, regular updates and information regarding Covid testing, treatment access, vaccination, and government schemes. (IEC activities through Poster was used 11 percent, Public announcement 37 percent, home visits 8 percent and Social media platforms like WhatsApp almost ten percent more in Pune compared to Satara).

- District level functionaries also perceived CFV as a major independent Covid-19 awareness campaign *"Raising awareness about Covid was the main task. VTF was involved in the five-point program of Covid, which consisted of the use of masks, social distancing, personal hygiene, testing, and vaccination"* - District Health Officer, Pune. Previously, studies conducted during the early phase of the Covid-19 pandemic in South Asia have reported some evidence of audio messages, and short message service texts to be effective in improving the awareness and practices of rural communities especially amongst women. Although, the improvement in Covid-19 awareness of Pune villages could be attributed to the CFV program, a causal relationship cannot be established since the baseline knowledge, attitude, and practice information of both sites was unavailable accentuating the risk of endogeneity. Furthermore, a potential confounder was Pune district has nearly 60% urban demographics compared to Satara which is mostly ruralized (~80%) so potential interaction of participants from the Pune rural site with urban areas rendered them at advantage of exposure to other urban government/non-government initiated Covid-19 IEC campaigns. However, we tried to minimize this risk by matching the two districts based on large number of sociodemographic indicators at the village and household level.

- The CFV Program was effectively in enhancing Covid-19 vaccine coverage through organization of vaccine camps and improving accessibility to vaccination services for the high-risk groups, comorbid, and the elderly. CFV roped in village youth with sufficient knowledge of information technology towards assisting other villagers for registration to the CoWin portal. CFV coordinators developed mechanisms for sensitization, support, and providing the planning and design architecture and organizational support to the VTFs while simultaneously facilitating with the district health officials for provision of the necessary resources (vaccinators, estimating vaccine requirements, and other logistics). The simultaneous IEC campaign also improved the acceptability of the Covid-19 vaccines, evident from the higher proportion of participants in Pune that were aware of the risks of excess Covid-19 mortality in high-risk groups especially the elderly, with most qualitative assessments finding participants irrespective of educational status having trust in Covid-19 vaccination to improve their immunity against serious disease. However, there were some significant limitations in assessment of the Covid-19 vaccination program between Pune and Satara. First, information on monthly vaccination statistics were not available, the current study was unable to compare the rate of change in vaccination coverage between districts that precluded the assessment of the effectiveness of the VTFs in accelerating the pace of Covid-19 vaccination in Pune. Second, information on booster dose utilization was incomplete. Third, there was no information on

phenomenon such as vaccine wastage data that could have possibly reduced from CFV initiatives due to the accurate prior estimation of the beneficiary count in villages preceding vaccine camps. (In Pune, almost 14 percent more eligible household members below the age of 60 years were administered their first dose of COVID vaccine at the village vaccination camp and 2 percent more people were provided with transportation services who had vaccination site at the distance of over 1km.)

- CFV through VTFs targeted improvement in awareness and utilization of government schemes to provide relief during the Covid-19 pandemic especially government compensation for Covid-19 related deaths. CFV coordinators assisted and sensitized VTFs to prepare list of eligible beneficiaries especially migrants and marginalized cases and provided additional assistance with the application and follow-up.

RECOMMENDATIONS

- Potential applicability of the CFV model in rural community and health system strengthening warrants exploration.

- Platforms like the open-access multi-lingual online KMS knowledge portal, one of the core strategies implemented by the program to address access barriers during the pandemic, can be developed for ease of access to accurate and validated health information to avoid infodemics while spreading awareness and scaling up BCC initiatives. Such comprehensive online program resources can also be extensively used for training of grassroots stakeholders as demonstrated by the CFV program.

- Future outbreak and pandemic preparedness: The evidence in this study suggests the applicability of the CFV model in controlling local outbreaks, epidemics, disasters, and future pandemics in rural areas. The broad principles of empowerment of villages, encouragement to volunteerism, and community mobilization can be replicated in emergency like situations. District health administration members believed that "village as a unit", and building "trust" between important village community stakeholders and the administration are crucial steps that facilitated in the pandemic control (THO, DHO, Pune).

- Components of the CFV that have easy replicability for any infective disease condition include development and dissemination of IEC material, community diagnosis – estimation of village health needs although sensitization of the Sarpanch and community mobilization in the creation and successful functioning of VTFs would be dependent on the perceived susceptibility and magnitude of the outbreak/epidemic in the affected population. However, coordination of government/administrative action is likely to be feasible – *"It will undoubtedly be helpful as this is a system. We created this system to fight against a specific kind of infective disease, and this system worked. We have already seen how it brought the pandemic game under control. If we face another pandemic of this kind in future, our system will indeed work. I'm confident about that. There will not be an issue" - Deputy CEO, Zilla Parishad Pune; "If such groups remain active, they can help us fight all kinds of diseases. If we train them to fight diseases like COVID, Dengue, and Malaria and strengthen such groups periodically, it will surely help the system"* – Taluka Medical Officer.

- Sensitization of village panchayat members to threats of disease and their solutions, estimating rapid village health needs and rapid deployment of IEC through community support and mobilization were the cornerstone of the CFV program. Building greater trust in the existing public health system and improving service delivery to meet community health needs and expectations can contribute towards accelerating progress towards desired health indicators and outcomes in rural areas of the country. (There

were 8% more respondents in Pune who reported washing or sanitizing their hands more than four times daily, and 5.3% more respondents reported wearing mask outside home)

- Professionally trained coordinators from non-governmental organizations acting as the interface between government/administration and the village were a key feature of the CFV program. Furthermore, TCs were essential towards sensitization and community mobilization to support exist community health workers in disease specific service provision. Provision of TCs especially non-outbreak periods will be a challenge since the number of volunteers was perceived to be inadequate during the peak periods – *"If the number of (CFV) volunteers were more, it would have been helpful. We had support from volunteers (TCs), of course, but they needed to cater for the entire taluka. So, they were already burdened with work. Generally, it isn't easy to convince local people and extract work from them. Even if we form groups at the village level, all its members may not be active. We need to coax them. So, if we had more volunteers, it would have been better – THO"*

- The potential applicability of the CFV model for chronic lifestyle diseases especially Diabetes and Hypertension and their modifiable risk factors should be explored in future pilot studies. Despite the innate challenges of community mobilization for routine health conditions with low perceived risk in the populations, the CFV model of volunteerism, and awareness drives may have relevance in improving service delivery as per objectives of the NPCDCS program. For instance, the CAMP approaches could be replicated in mass screening for NCDs.

Study Limitations

- Unavailability of the baseline information: COVID-19 spread was high when the project was launched. Due to the dynamic situation and logistical constraints, obtaining baseline data for the entire study population was challenging, which restricted the scope of the assessment. For instance, it was not possible to measure the extent of change in KAP both due to lack of baseline data, and also, the change in risk perception in the communities with subsequent pandemic waves.

- Choice of comparator: The administration's approval and logistical feasibility led to the selection of Satara as the comparator. However, Pune only had 39% rural population compared to Satara which had 81% rural population. Differences in the extent of spread of infection in rural Pune and Satara, which mediated the extent and quantum of work done to prevent and contain the infection may also affect the study findings.

- In general, evaluation of an intervention crucially depends upon comparability of the control groups (counterfactual). Due to lack of baseline data and any prior randomized process of the intervention, we used statistical matching methods to create the counterfactual. However, it is important to note that matching techniques such as propensity score matching (used in this study) are not capable of controlling the role of unobserved heterogeneity. Larger the role of such unobserved factors, lesser may be the reliability of the study estimates. However, to address this issue, we conducted a series of matching exercises with different specifications and confidence levels. Our results across different matched samples that do not differ significantly.

- The CFV portal was a crucial component of the program but the utilization of the portal in terms of access and downloads stratified by village stakeholders was not captured which prevented its assessment.

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ANNEXURE 1
BJS COVID-FREE VILLAGE

Covid-free Village (CFV) was a community-led initiative that took responsibility for protecting villages from the effect of the pandemic. The objective was to empower villages to take ownership and create a people's movement for containing the pandemic through collective action by forming Village Task Forces (VTFs) that take responsibility for specific Covid- containment measures. Few of major steps included:

1. Development of CFV training materials and tool kits.

2. Training of master trainers.

3. Showcasing the program to village Sarpanchs, Gram-sevaks and making them understand their roles.

4. Training of student volunteers.

5. Social mobilization facilitates preparation of the village for collective action led by the Sarpanch and village leaders like Gram-sevak, Talathi and village seniors.

6. Establishment of **Village Task Forces** (VTFs) and their training:

    • After being selected as a VTF member, Sarpanch/Gram-sevak ensured mobilization & organized training sessions in coordination with Taluka administration.

    • They were trained to utilize various program tools and resources.

    • They were trained to use the knowledge management portal (KMS portal).

7. Training of Sarpanchs and Village Task Forces:

Training was conducted by selected trained master trainers, who were trained for a full day on training methods, resources used for training and skills required for undertaking training of VTFs by the BJS CFV team. These master trainers then conducted training of VTFs using an online platform. The training schedule was organized and facilitated by BJS taluka coordinators, who shared the timetable of the training with the Sarpanch and VTFs via WhatsApp messages.

Following key topics were covered during the training:

a. **Theory of Change and importance of the CFV program**

Inputs provided:

    • Program toolkits, audio-visuals and guidebooks
    • Training and capacity building of VTFs using youth power
    • Scaled program management
    • Tech-enabled M&E framework

Activities performed:

    • CFV competition & prizes
    • Program ownership by state government
    • District/Taluka administration support
    • Mobilization of frontline workers and local resources
    • Mobilization of NSS program officers and student volunteers
    • Covid vaccines
    • Making villager aware of COVID appropriate behaviors

b. **Roles and responsibilities of VTFs:**

- Mass messaging via Dawandi/loudspeakers, display of posters/banners & wall paintings, distribution of masks and sanitizers, sanitization of common places, dissemination of messages via WhatsApp, home visits to resistant families etc. were the activities conducted by most of the VTF-1s to create awareness about Covid Appropriate Behaviours.
- VTF2s supports ASHA, ANMs and Taluka administrators in Tracing, tracking, testing and treatment of the Covid cases.
- VTF-3 assists the setting up of Quarantine Centers and Covid Care Centers, guiding the villagers to get admission in these facilities.
- VTF-4 guides the eligible villagers to avail benefits from Covid-related government schemes.
- Ensuring 100% vaccination rates is the duty of VTF-5.

c. Orientation of online platforms designed for **knowledge and program management.**

d. Orientation of **WhatsApp policy** decided while implementing the CFV program:

- WhatsApp policy was adopted by the CFV program to assist in smooth implementation by facilitating effective communication among different stakeholders. WhatsApp groups formed as part of this policy served as the primary mode of real-time communication among stakeholders.

8. Implementation of CFV activities by Sarpanch and VTFs in their villages at 4 levels:

Prevention:

- Vaccination camps in villages
- Addressed vaccine hesitancy, myths and misconception about vaccine
- Provided support for elderly, children, differently-abled, comorbid people.

Preparedness:

- Door to door awareness campaigns.
- BCC/IEC interventions on Covid appropriate behaviors
- Community-led Covid awareness initiatives

Providing Support Services:

- Awareness on Covid-related government schemes
- Identification and counseling of eligible beneficiaries
- Follow-up to ensure utilization of schemes

Containment Measures:

- Active community participation in early-tracing, tracking, testing and treatment of cases
- Support for enhanced patient care services in QC/CCC.

9. Establishment of **Covid Madat Kendras.**

10. Supportive supervision and monitoring using online platforms:

The Program Management Platform supported tech-enabled governance of the ecosystem to achieve scale without dilution in quality, besides integrating online Knowledge/Program Management systems to facilitate capacity building, mentoring, handholding, monitoring and reporting processes.

Roles and Responsibilities

Taluka Coordinator

- Collaborated with BJS District / Taluka Volunteers and continuous engagement for support, advice & problem solving.
- Always a part of meeting(s) organized by Taluka Officials related to CFV program.
- Attended the meetings to keep a track on all latest program developments and share progress reports with stake holders such as District Coordinators, Program Manager, and State Head etc.
- Worked hand-in-hand with Tehsildar & BDO and ensure the overall operational support to all programmatic activities.
- Worked hand-in-hand with NSS Program Officers keeping above point in mind and including showcase, capacity building, student database & allocation of students to villages.
- Supported Sarpanchs &VTF members for CFV program implementation
  - ► Encouraged & ensured that all Sarpanchs participates and contribute to the program to make his/her village Covid free.
  - ► Assisted Sarpanchs & VTF members to their deliverable defined in the guidebooks
  - ► Handled escalation and resolved issues of the villages related to CFV program
  - ► Ensured reporting of villages through PMS application
- Worked closely with master trainers to ensure proper facilitation of all the capacity building programs of all the concerned stakeholders at village level.
- Created and administered WhatsApp groups of all Taluka level stakeholders as per the program's WhatsApp policy.
- Worked with all partners NGO to facilitate program support at Taluka and Village levels.
- Fortnightly reviews & updates
  - ► Taluka Officials along with challenges and support required (if any)
  - ► Implementation NGO partners about the work done and next plan of action
  - ► NSS Program Officers about the students' performance, work done, challenges and next action plan.
- Maintained daily diary in soft copy (daily activities, experiences, learning's etc.) and monthly submit to Program Manager.
- Focused on village level participatory expenditure on establishing Covid Madat Kendra (Covid Help Centre) and dissemination of BCC/IEC material being done by Sarpanchs and VTF members.
- Provided inputs to communication team for dissemination on social media.

District Coordinator

- Coordinated and collaborated with BJS District / Taluka Volunteers and continuously engaged for support, advice & problem solving
- Worked hand-in-hand with District Collector & ZP CEO
- Ensured to attend meeting(s) organized by District Officials related to CFV program and kept a track on all latest program developments.
- Showcased CFV program to Taluka officials.
- Coordinated and collaborated with Capacity Building Partners for:

- ▶ Coordination of training programs for program officers
- ▶ Coordination of training programs for VTF members
- ▶ Challenges & action plan on the shortcomings (if any)
- Coordinated and collaborated with NSS district Nodal Officers
- Worked with all partners NGO to facilitate program support at District levels
- Facilitated visits by district/state officials for program review as and when needed.
- Supported Taluka Coordinators for CFV program deliverables
- Created and administered WhatsApp groups of all District level stakeholders as per the program's WhatsApp policy.
- Ensured Taluka Coordinators reports in specific formats on daily basis in designated WhatsApp group.
- Maintained reports of training attendance
- Planned trainings (NSS PO, Sarpanchs & VTF members) and action plan to identify people remained to undergo training
- Reviews & updates:
  - ▶ Fortnightly – District Officials along with challenges and support required (if any)
  - ▶ Monthly – Implementation NGO partners about the work done and next plan of action
  - ▶ Monthly – NSS Nodal Officers about the program officers & students' performance, work done, challenges and next action plan
  - ▶ Monthly – physical meeting with TCs, BJS Volunteers & program officers (optional)
- Reporting:
  - ▶ Reported through WhatsApp to program manager about day-to-day operations
  - ▶ Weekly work done reported with action plans & support required to Program Manager
  - ▶ Monthly progress reported with action plans & support required to State Head & BJS District Volunteers
- Focused on village level participatory expenditure on establishing Covid Madat Kendra (Covid Help Centre) and dissemination of BCC/IEC material being done by Sarpanchs and VTF members
- Created and Maintained district level documentation such as events, photographs, videos, best practices and learning's.
- Maintained daily diary in softcopy (daily activities, experiences, learning's etc.) and monthly submit to State Head.
- Published monthly operations and M&E report validated from State Head and confirming from BJS-HO.
- Provided inputs to communication team for dissemination on social media.

Tehsildar/BDO
- Lead the COVID-free Village program implementation in the taluka.
- Showcased the program with all Gram Panchayats, Sarpanchs and Gram Sevaks through offline/online modes and motivate them.
- Received applications from Gram Panchayats ready to participate in the program.
- Motivated participating Gram Panchayats to create Village Task Forces as prescribed and receive VTF members' data from them.

- Ensured that the Gram Panchayat and Village Task Force data is input into the program's technology platform as prescribed.
- Disseminated project frameworks, training modules, tools, BCC/IEC material and other documents received from the District PMU to all concerned stakeholders.
- Coordinated with NSS Coordinators and Program Officers/Educational Institutions/ Colleges etc. to leverage student interns/NSS student volunteers to support program villages.
- Coordinated with all concerned senior taluka level officials to facilitate maximum utilization of COVID-related government schemes in the taluka through Village Task Forces.
- Conducted offline and online progress reviews with all taluka and village level stakeholders and ensured that progress data is input into the technology platform.
- Created WhatsApp groups in the Taluka as given in the program guidelines and use the same for smooth program implementation.

District Collector
- Lead the COVID-free Village program implementation in the district
- Passed an official order with processes, roles and responsibilities to implement the COVID-free Village program in the district
- Launched the program and competitions, including prizes in the district and ensure district-wide dissemination of the COVID-free Village scheme and competitions
- Identified and selected reputed local NGOs to support the program if needed
- Established District and Taluka-level Program Management Units to facilitate implementation
- Conducted frequent progress reviews with all stakeholders to ensure effective implementation.

Village task forces and their roles

Village task force-1
(Awareness and Covid appropriate behavior)
- Organized awareness sessions on Covid appropriate Behavior.
- Used various tools like social media, local TV channels, posters, and wall paintings, street plays, home visits etc. to increase mass awareness on Covid prevention.
- Arranged funds for material printing like finding local sponsors, local donations.
- Reviewed and reported to Sarpanch, Gramsevak, taluka administration.

Village task force-2
(Trace, Track, Test and Treat)
- Supported the administration, village workers like ASHA, ANM, Anganwadi Sevika etc, in the early tracing, tracking and testing of all suspected Covid cases in the village.
- Encouraged villagers to undergo testing and counsel them on measures to be taken after the results.
- Counseled villagers to fight misconception, stigma and discrimination.
- Provided assistance in shifting people to CCC and made arrangements for the transport facilities for the same.

Village task force-3
(Quarantine Centers & Covid Care Centers)
- Assisted the Taluka administration in setting up quarantine centers and Covid care centers when needed in schools, hostels, community halls etc.

- Ensured that CCCs have proper provision for food, tea, entertainment, beds, clean water and transport.
- Assisted villagers for admission in quarantine centers and CCC located at village, cluster or taluka levels.
- Made provision for medical staff, medicines and volunteers to manage the center.
- Ensured proper documentation of patients admitted and treatment provided as per guidelines.

Village task force-4
(Government schemes)
- Supported all eligible persons in the village to avail benefits of various Covid-related government schemes in coordination with Taluka administration.
- Ensured all documents of eligible people are ready before application.
- Followed up with concerned government department until the applicant receives the benefit.
- Escalated issues and concerns to district administration.

Village task force-5
(Vaccination)
- Addressed vaccine hesitancy and ensures all eligible people in the village get vaccinated and achieve 100% vaccination with support of Taluka administration.
- Created awareness of vaccination program in village through notice boards at Covid Madat Kendra, social media, home visits, use of BCC/IEC material.
- Made villagers aware of the eligibility criteria for getting vaccinated.
- Made villagers aware of the dos and don'ts of vaccination.

Highlights of Work Done:
- Supported govt by providing the details about logistic need such as vaccine, test kits, hospital beds etc.
- Identification of hotspots.
- Organized the vaccine camps in village (provided technical support and helped in building proper infrastructure required for the camps)
- Mobilization of the reluctant groups for the vaccination.
- Helping in daily household work if a family is in quarantine
- Catered the need-based demand related to overcome the COVID-19 spread.
- Using WhatsApp to send updates.

ANNEXURE 2

Table 1: **List of Variables used for Matching Villages**

Serial no	Variables
1	No of house hold per hectare
2	Percentage of female population
3	Population per hectare
4	Percentage of ST & SC population
5	Any School (government/private) providing education at secondary level and above
6	Sub centre or Primary Health centre
7	Non-governmental health care centres
8	Community toilets with or without bathing facilities
9	No proper drainage system
10	Kuchha roads in the village
11	Agriculture Credit Societies
12	Self Help Groups
13	1st quartile
14	2nd quartile
15	3rd quartile

Table 2: **List of Variables used for Matching Households**

Serial no.	Variables
1	Number of family members
2	Square of number of family members
3	General Category
4	OBC
5	SC & ST
6	Nuclear family
7	Hindu
8	Christian, Jain, Sikh & Muslim
9	Education graduation or above
10	Education: High School & intermediate
11	Education: Primary or middle school
12	Household with member over 60years of age
13	Household with member of age 6-18
14	Household with a child/children under 5year
15	Household with pregnant women
16	Household has a smartphone
17	Household with 1 or more comorbidity
18	Female respondent
19	Age of the respondent
20	Occupation of respondent: agriculture
21	Room per member of house hold

Table 3: Summary statistics of Socio-economic variables used in p-score

Variables	Mean (SD), Pune	Mean (SD), Satara
Number of family members	4.894 (2.524)	4.412 (2.232)
Square of number of family members	30.316 (56.879)	24.442 (46.294)
General Category	0.652 (0.476)	0.514 (0.5)
OBC	0.155 (0.362)	0.234 (0.424)
SC & ST	0.183 (0.387)	0.178 (0.383)
Nuclear family	0.518 (0.5)	0.821 (0.383)
Hindu	0.935 (0.247)	0.84 (0.367)
Christian, Jain, Sikh & Muslim	0.009 (0.095)	0.03 (0.17)
Education graduation or above	0.361 (0.48)	0.387 (0.487)
Education: High School & intermediate	0.429 (0.495)	0.394 (0.489)
Education: Primary or middle school	0.188 (0.39)	0.176 (0.381)
Household with member over 60years of age	0.52 (0.5)	0.587 (0.492)
Household with member of age 6-18	0.494 (0.5)	0.461 (0.499)
Household with a child/children under 5year	0.225 (0.418)	0.187 (0.39)
Household with pregnant women	0.02 (0.138)	0.008 (0.088)
Household has a smartphone	0.062 (0.242)	0.105 (0.306)
Household with 1 or more comorbidity	0.065 (0.247)	0.105 (0.307)
Female respondent	0.579 (0.494)	0.425 (0.494)
Age of the respondent	42.559 (19.11)	46.795 (13.976)
Occupation of respondent: agriculture	0.037 (0.188)	0.214 (0.41)
Room per member of house hold	0.74 (0.521)	0.779 (0.512)
N=	1637	2043

Table 4: Logistic results: Dependent variable is households in Pune district (Comparison group household in Satara district)

Variables	Odds Ratio (95% CI)
Number of family members	0.828 (0.752, 0.911)
Square of number of family members	1.005 (1.001, 1.008)
General Category	17.213 (9.628, 30.773)
OBC,	8.920 (4.912, 16.199)
SC & ST	35.546 (18.834, 67.089)
Nuclear family	0.116 (0.090, 0.150)
Hindu	7.155 (4.858, 10.538)
Christian, Jain, Sikh & Muslim	2.889 (1.342, 6.218)
Education graduation or above	1.344 (0.810, 2.230)
Education: High School & intermediate	1.566 (0.951, 2.580)
Education: Primary or middle school	2.009 (1.218,3.316)
Household with member over 60years of age	0.553 (0.463, 0.660)
Household with member of age 6-18year	0.744 (0.616, 0.898)
Household with a child/children under 5year	0.909 (0.727, 1.137)
Household with pregnant women	1.803 (0.878, 3.704)
Household has a smartphone	0.637 (0.469, 0.865)
Household with 1 or more comorbidity	0.723 (0.536, 0.975)
Female respondent	3.326 (2.792, 3.961)
Age of the respondent	0.984 (0.977, 0.990)
Occupation of respondent: agriculture	0.056 (0.040, 0.078)
Room per member of house hold	1.041 (0.859, 1.262)
Pseudo R-sq	0.2705
N	3680

Table 5: Final list of Intervention and control villages

Serial no	District Name	Village Name	Intervention	Number of Household to be covered per village
1	Pune	Vegre	Intervention	54
	Satara	Ghatmatha	Control	71
2	Pune	Satesai	Intervention	54
	Satara	Marloshi	Control	71
3	Pune	Shiraswadi	Intervention	54
	Satara	Patilmala	Control	71
4	Pune	Kolavadi	Intervention	54
	Satara	Virewadi	Control	71
5	Pune	Moroshi	Intervention	54
	Satara	Karvat	Control	71
6	Pune	Sukalwedhe	Intervention	54
	Satara	Pachgani	Control	71
7	Pune	Dakhane	Intervention	54
	Satara	Bhivadi	Control	71
8	Pune	Shindewadi	Intervention	94
	Satara	Pargaon	Control	125
9	Pune	Kanase	Intervention	94
	Satara	Bopegaon	Control	125
10	Pune	Kodit Kh.	Intervention	94
	Satara	Atoli	Control	125
11	Pune	Ambavane	Intervention	94
	Satara	Shahapur	Control	125
12	Pune	Shiroli T Ale	Intervention	125
	Satara	Malavadi	Control	167
13	Pune	Jaradwadi	Intervention	125
	Satara	Solashi	Control	167
14	Pune	Shaha	Intervention	125
	Satara	Songaon	Control	167
15	Pune	Bhivari	Intervention	188
	Satara	Sarade	Control	250
16	Pune	Varale	Intervention	188
	Satara	Bhuinj	Control	250

Table 6: **Balancing property**

Variable Name		Mean		%bias	%reduct bias	t-test	
		Intervention	Control			t	p>t
Number of family members	Unmatched	4.894	4.412	20.2		6.14	
	Matched	4.894	4.991	-4.1	79.7	-1.09	0.275
Square of number of family members	Unmatched	30.316	24.442	11.3		3.45	0.001
	Matched	30.316	31.645	-2.6	77.4	-0.69	0.49
General Category	Unmatched	0.652	0.514	28.3		8.5	0
	Matched	0.652	0.687	-7	75.2	-2.08	0.037
OBC	Unmatched	0.155	0.234	-20.3		-6.06	0
	Matched	0.155	0.154	0.2	99.2	0.05	0.961
SC & ST	Unmatched	0.183	0.178	1.3		0.4	0.69
	Matched	0.183	0.148	9.2	-595.7	2.73	0.006
Nuclear family	Unmatched	0.518	0.821	-68.1		-20.83	0
	Matched	0.518	0.514	0.8	98.8	0.21	0.834
Hindu	Unmatched	0.935	0.84	30.3		8.94	0
	Matched	0.935	0.941	-2.1	92.9	-0.8	0.426
Christian, Jain, Sikh & Muslim	Unmatched	0.009	0.03	-15		-4.4	0
	Matched	0.009	0.009	0	100	0	1
Education graduation or above	Unmatched	0.361	0.387	-5.4		-1.63	0.104
	Matched	0.361	0.398	-7.7	-42.5	-2.2	0.028
Education: High School & intermediate	Unmatched	0.429	0.394	7.2		2.16	0.03
	Matched	0.429	0.398	6.3	11.7	1.81	0.07
Education: Primary or middle school	Unmatched	0.188	0.176	3.1		0.93	0.355
	Matched	0.188	0.173	3.6	-18.9	1.04	0.296
Household with member over 60years of age	Unmatched	0.52	0.587	-13.5		-4.07	0
	Matched	0.52	0.439	16.4	-21.4	4.67	0
Female respondent	Unmatched	0.579	0.425	31.2		9.41	0
	Matched	0.579	0.586	-1.4	95.6	-0.39	0.697
Age of respondent	Unmatched	42.559	46.795	-25.3		-7.76	0
	Matched	42.559	43.456	-5.4	78.8	-1.56	0.119
Occupation of respondent : agriculture	Unmatched	0.037	0.214	-55.6		-16.18	0
	Matched	0.037	0.042	-1.7	96.9	-0.81	0.419
Room per member of house hold	Unmatched	0.74	0.779	-7.7		-2.32	0.021
	Matched	0.74	0.714	4.9	35.9	1.66	0.096
Household with member of age 6-18	Unmatched	0.494	0.461	6.5		1.96	0.05
	Matched	0.494	0.505	-2.2	66.2	-0.63	0.529
Household with a child/children under 5year	Unmatched	0.225	0.187	9.4		2.84	0.005
	Matched	0.225	0.208	4.4	53.3	1.23	0.219
Household with pregnant women	Unmatched	0.02	0.008	10.1		3.12	0.002
	Matched	0.02	0.031	-10	0.9	-2.11	0.035
Household with 1 or more comorbidity	Unmatched	0.065	0.105	-14.3		-4.26	0
	Matched	0.065	0.049	5.7	60.2	1.95	0.051
Household has a smartphone	Unmatched	0.062	0.105	-15.4		-4.58	0
	Matched	0.062	0.081	-6.6	56.8	-2.04	0.042

Sample	Ps R2	LR chi2	p>chi2	Mean Bias	Median Bias	B	R	%Var
Unmatched	0.269	1357.86	0	19	14.3	136.2*	0.82	75
Matched	0.014	64.17	0	4.9	4.4	28.1*	1.07	75

ANNEXURE 3
DESCRIPTIVE RESULTS AT BASELINE

Table 1: **Sociodemographic characteristics of study households**

	CFV	NON-CFV
	(N = 1637)	(N = 2,043)
Age of the respondent		
Mean±SD	42.6± 19.11	46.8±13.97
Median(IQR)	41(31,52)	46(36,59)
18- 30 years	398(24.31%)	302(14.78%)
31-45 years	616(37.63%)	715(35.00%)
46-60years	454(27.73%)	618(30.25%)
61 years and above	169(10.32%)	408(19.97%)
Sex of respondent		
Female	948 (57.9%)	868 (42.5%)
Male	689 (42.1%)	1175 (57.5%)
Religion		
Buddhist	92 (5.6%)	266 (13.0%)
Christian	0 (0.0%)	2 (0.1%)
Hindu	1530 (93.5%)	1716 (84.0%)
Jain	1 (0.1%)	0 (0.0%)
Muslim	13 (0.8%)	59 (2.9%)
Sikh	1 (0.1%)	0 (0.0%)
Caste		
General	1068 (65.2%)	1051 (51.4%)
OBC	253 (15.5%)	479 (23.4%)
SC	132 (8.1%)	359 (17.6%)
ST	168 (10.3%)	5 (0.2%)
Other/Prefer not to say	16 (1.0%)	149 (7.3%)
Education status		
Illiterate	234 (14.3%)	339 (16.6%)
Primary school certificate	308 (18.8%)	417 (20.4%)
Middle school certificate	438 (26.8%)	464 (22.7%)
High school (Matric) certificate	378 (23.1%)	474 (23.2%)
Intermediate or diploma	378 (23.1%)	474 (23.2%)
Graduate	138 (8.4%)	178 (8.7%)
Post-Graduate	27 (1.6%)	21 (1.0%)
Professional	1 (0.1%)	2 (0.1%)
Educational status – member with the highest educational qualification		
Primary school certificate	31 (1.9%)	36 (1.8%)
Middle school certificate	130 (7.9%)	105 (5.1%)
High school (Matric) certificate	311 (19.0%)	310 (15.2%)
Intermediate or diploma	189 (11.5%)	285 (14.0%)
Graduate	348 (21.3%)	519 (25.4%)
Post Graduate	111 (6.8%)	117 (5.7%)
Professional	9 (0.5%)	14 (0.7%)
NA	508 (31.0%)	650 (31.8%)
Employment		
Professional	56 (3.4%)	46 (2.3%)
Government Service	51 (3.1%)	42 (2.1%)
Private Job	209 (12.8%)	120 (5.9%)
Business / Shop owner	58 (3.5%)	43 (2.1%)

Agriculture	1036 (63.3%)	947 (46.4%)
Skilled agricultural or craft worker	29 (1.8%)	104 (5.1%)
Unskilled agricultural or craft worker	103 (6.3%)	203 (9.9%)
House Wife	60 (3.7%)	437 (21.4%)
Unemployed	16 (1.0%)	78 (3.8%)
Other	19 (1.2%)	23 (1.1%)
Household member a healthcare worker		
Yes	32 (2.0%)	39 (1.9%)

Sociodemographic characteristics of respondents in Pune: The mean age of the respondents was 42.55± 19.11 years, with about 37.63% of respondents between 31 to 45 years of age, followed by 27.73% of respondents between 46 to 60 years, and 10.32% of elderly. 93.5% of the households were Hindus, followed by Buddhists, around 5.6%. The majority of households (65.2%) belonged to the general category, followed by the other backward classes (15.5%) and the SC and ST (18.3%). Only 10% were graduates or held a higher education, while the majority of respondents (68.7 percent) had education from primary to high school. Around 14.3% of the respondents were illiterate. About 21.3% of families had members with the highest education up to graduation. The majority of the households were engaged in farming (63.3%). 2% of households had family members who worked in the healthcare sector.

Sociodemographic characteristics of respondents in Satara: The mean age of the respondents was 46.8±13.97 years, with around 35% of them being between the ages of 31 and 45, 30.25% being between the 46 to 60 age range, and 19.97% being over the age of sixty. 84% of the households were Hindus followed by Buddhists who were around 13%. The 51.4% of households belonged to the general category, followed by the other backward classes (23.4%) and the SC and ST (17.9%). Only 9.9 % were graduates or held a higher education, while the majority of respondents (66.3%) had education from primary to high school. Around 16.6% of the respondents were illiterate. About 25.4% of the families had members with the highest education upto graduation. The majority of the households were engaged in farming (46.4%). 2% of households had family members who worked in the healthcare sector.

Table 2: **Characteristics of the households**

	CFV	NON_CFV
	N=1637	**N=2043**
Household type		
Joint	789 (48.2%)	365 (17.9%)
Nuclear	848 (51.8%)	1678 (82.1%)
Total number of rooms in the household		
Mean±SD	3.06±1.93	2.95±1.63
Median (Q1, Q3)	3.0 (2.0, 4.0)	3.0 (2.0, 3.0)
Household composition		
Elderly	852 (52.0%)	1200 (58.7%)
Under-5 children	369 (22.5%)	383 (18.7%)
Children- 6-18years	808 (49.4%)	942 (46.1%)
Pregnant women	32 (2.0%)	16 (0.8%)
Functional Toilet		
Present	1538 (94.0%)	1923 (94.1%)
Comorbidities (present)		
Diabetes	185 (11.3%)	312 (15.3%)
Hypertension	228 (13.9%)	462 (22.6%)
Heart Disease	35 (2.1%)	45 (2.2%)
Cancer	5 (0.3%)	4 (0.2%)
Chronic respiratory illness	27 (1.6%)	60 (2.9%)

The majority of the families in the study were nuclear, with 51.8% of the households in Pune and 82% in Satara, respectively. 52% of the population living in the study households in the Pune region were above the age of 60, and 49.4% were between the ages of 6 and 18. In Satara district households, 58.7% of the population was elderly, with 46.1% aged 6 to 18. In both districts, nearly 94% of the houses had functional toilets. Diabetes and hypertension were the most common comorbid diseases among household members in both study groups.

Table 3: **Awareness regarding Village Task Forces**

	CFV	NON_CFV
	N=1637	**N=2043**
Awareness regarding Village Task Force		
Yes	954 (58.3%)	1816 (88.9%)
No	587 (35.9%)	167 (8.2%)
NA	96 (5.9%)	60 (2.9%)
Are you or any members of your household a member of village level committee or Taskforces for COVID-19 prevention/Management		
Yes	71 (4.3%)	74 (3.6%)
No	1560 (95.3%)	1948 (95.3%)
NA	6 (0.4%)	21 (1.0%)

About 58.3% of the households in Pune and 88.9% in Satara were aware of Village Task Forces. And, just 4.3% of the families in the Pune group and 3.6% of families in the Satara group had family members who were part of VTFs.

Table 4: **Covid-19 vaccination-related information**

	CFV	NON_CFV
	N=1637	**N=2043**
Total number of household members aged ≥12 years (eligible for vaccination)		
Mean (SD)	4.02 (1.84)	3.67 (1.66)
Median (Q1, Q3)	4.0 (3.0, 5.0)	4.0 (2.0, 4.0)
Site of initial vaccination of elderly/comorbid household members		
Government facility	515 (31.5%)	1195 (58.5%)
Government vaccination camp	411 (25.1%)	731 (35.8%)
Private facility	3 (0.2%)	6 (0.3%)
Not Applicable	708 (43.2%)	111 (5.4%)
Site of initial vaccination of other household members		
Government facility	794 (48.5%)	1397 (68.4%)
Private facility	39 (2.4%)	10 (0.5%)
Government vaccination camp	985 (60.2%)	935 (45.8%)
The cost incurred in getting vaccination in a private facility		
Yes	59(6.46%)	52(5.14%)
The cost incurred in getting vaccination in the private facility(average)		
Mean±SD	370±810.57	870.83±749.07

In both the study groups, on average, 4 members in each household who were at least 12 years old were eligible for vaccination. In the Pune group, 56.57% of the elderly or comorbid participants, and in the Satara group, 94.2%, received their first dose of the Covid vaccination at government institutions. In a similar vein, most other family members in both groups also received their initial vaccinations in government facilities, including government vaccination camps (above 90%). In Pune, only 3 households with elderly or comorbid members and 39 households with other members (apart from elderly/comorbid) reported receiving initial vaccinations in private facilities. Only six households in Satara with elderly or comorbid patients and 10 households with other family members reported getting their initial vaccines at private hospitals. Among those who received their vaccination at private institutions, approximately, 6.46% of households in the Pune group and 5.14% of the households in Satara reported paying mean of 370±810 INR and 870±749 INR, respectively, for vaccines.

Table 5: **Accessibility to vaccination centers**

	CFV	NON_CFV
	N=1637	N=2043
Distance of the vaccination site from your household?		
< 1 km	938(57.30%)	1731(84.73%)
2-3 km	352(21.50%)	227(11.11%)
4-5 km	83(5.07%)	22(1.08%)
>5 km	57(3.48%)	8(0.39%)
Outside the village	207(12.65)	55(2.69)
Transport / pick and drop facility for Covid-19 vaccination	N=699	N=312
No	603(86.27%)	226(72.44%)
Yes	96(13.73%)	86(27.56%)

Around 57.3% of the households in the Pune group and 84.73% in the Satara group were located within one kilometre of the vaccination centre. Those who resided more than a kilometre from the immunization centres could use the transportation service. Even so, just 13.73% of Pune families and 27.56% of Satara households reported using the transportation service.

Table 6: **Home visits by health workers to increase awareness about Covid-19 vaccination**

	CFV	NON_CFV
	N=1637	N=2043
Covid-19 vaccination awareness related home-visit		
Yes	1318(80.51%)	1870(91.53%)

Healthcare workers in both districts appeared to be making great efforts to raise awareness about Covid 19. 80.51% of families in Pune and 91.53% in Satara reported that health workers had visited their homes to inform them about the covid-19 immunization.

Table 7: **Perceptions towards Covid 19 vaccination**

	CFV	NON_CFV
	N=1637	N=2043
Your thoughts/ perceptions regarding Covid vaccine		
Vaccine is good	1541(94.14%)	1953(95.59)
Increases immunity	1296(79.17%)	1609(78.76%)
Prevents severity of Covid	1171(71.53%)	974(47.67%)
Less chances of death	929(56.75%)	668(32.70%)
Less risk for other HH members	615(37.57%)	351(17.18%)
Side-effects of the vaccine	59(3.60%)	46(2.25%)
Decreases immunity	41(2.50%)	23(1.13%)
No use of vaccines	30(1.83%)	13(0.64%)

Families from both study groups had a small proportion who believed that vaccination would not be beneficial. Few were concerned about its side effects and thought that it reduced immunity. Nevertheless, the majority of the study participants in both districts appeared to think favourably about Covid-19 vaccines.

Tables 8: **Reasons for not getting the vaccination**

Reasons for unvaccinated status		
Have concern over side effects	159(9.71%)	157(7.68%)
Have concerns over the efficacy of the vaccine	103(6.29%)	127(6.22%)
The vaccine is not always available	145(8.86%)	93(4.55%)
Unable to access the vaccine site	26(1.59%)	42(2.06%)
Medical contraindications	64(3.91%)	79(3.87%)
Pregnant Women	56(3.42%)	34(1.66%)
No specific reason	254(15.52%)	222(10.87%)
Not Applicable	987(60.29%)	1535(75.13%)

The study participants reported several reasons why they did not get the vaccination, including concerns about the vaccine's side effects or effectiveness, a lack of vaccine availability, and difficulty accessing vaccination facilities. Pregnant women and those who had medical contraindications did not get the vaccination. Few respondents did not provide any particular explanations.

Table 9: **Awareness of measures to prevent Covid-19 spread**

	CFV	NON_CFV
	N=1637	**N=2043**
Awareness of measures for Covid-19 prevention		
Wearing a mask outside	1607(98.17%)	1989(97.36%)
Maintaining distance	1459(89.13%)	1822(89.18%)
Handwashing with soap / sanitizer	1581(96.58%)	1731(84.73%)
Taking immunity-boosting drugs	771(47.10%)	677(33.14%)
Vaccination	1307(79.84%)	907(44.40%)
None	5(0.31%)	5(0.24%)

With no difference between the two groups, the majority of the study population in both groups were aware of common precautions against Covid-19, such as wearing masks, keeping a safe distance, and washing hands. However, the groups' levels of knowledge regarding vaccination and immunity-boosting drugs varied. Covid vaccination awareness was higher among individuals from the Pune district (79.84%) than it was among those from the Satara district (44.4%). Only five households each from Pune and Satara reported being unaware of any Covid 19 preventative measures.

Table 10: **Awareness of the seriousness and severity of Covid-19 disease**

	CFV	NON_CFV
	N=1637	**N=2043**
The Covid-19 disease can be a serious illness		
Strongly Agree	360(21.99%)	394(19.29%)
Agree	995(60.78%)	1205(58.98%)
Neutral	189(11.55%)	233(11.40%)
Disagree	87(5.31%)	194(9.50%)
Strongly Disagree	6(0.37%)	17(0.83%)
The Covid-19 disease is more serious in which population groups?		
Elderly	1405(85.83%)	1474(72.15%)
Heart patients	627(38.30%)	757(37.05%)
Diabetes	667(40.75%)	843(41.26%)
Hypertension patients	749(45.75%)	472(23.10%)
Cancer patients	158(9.65%)	95(4.65%)
Lung disease / Asthma	548(33.48%)	455(22.27%)
Children	529(32.32%)	973(47.63%)
Pregnant women	452(27.61%)	632(30.93%)
Weak/ People with Less immunity	910(55.59%)	623(30.49%)
Don't know	117(7.15%)	81(3.96%)

The majority of families in the Pune group (82.77%) and the Satara group (78.17%) agreed that Covid-19 is a serious illness. According to around 85.83% of respondents in the Pune district and 72.15% in Satara, the elderly population was at a higher risk of contracting Covid-19 followed by comorbid people.

Table 11: **Awareness of Coronavirus variants**

	CFV	NON_CFV
	N=1637	**N=2043**
Covid variant awareness		
Alpha	190(11.61%)	524(25.65%)
Delta	258(15.76%)	949(46.45%)
Omicron	595(36.35%)	1396(68.33%)
Don't know	1011(61.76%)	455(22.27%)

While 61.76% of respondents in the Pune district were unaware of any covid-19 variants, 68.3% of respondents in the Satara district were familiar with omicron, followed by Delta and Alpha. Omicron was known to 36.35% of respondents in Pune, but just a small number of people knew about Delta and Alpha.

Table 12: Information about Covid-19 awareness campaigns in the villages

	CFV	NON_CFV
	N=1637	**N=2043**
Covid awareness campaigns in village		
Yes	1486(90.78%)	1880(92.02%)
Focus of the awareness campaign	N=1486	N=1880
Covid Testing	1063(71.53%)	1450(77.13%)
Covid Vaccination	1441(96.97%)	1770(94.15%)
Nutrition & Medicines	765(51.48%)	869(46.22%)
Covid-Appropriate Behaviour	897(60.36%)	906(48.19%)
Covid-related Government Schemes	170(11.44%)	93(4.95%)
Don't know	3(0.20%)	1(0.05%)
Methods of Covid-19 awareness Experienced	**CFV**	**Non-CFV**
Posters	886(59.62%)	935(49.73%)
Street Play	95(6.39%)	62(3.30%)
Public Announcement	1162(78.20%)	760(40.43%)
Influential People	324(21.80%)	394(20.96%)
Religious Leaders	71(4.78%)	140(7.45%)
Kirtan	63(4.24%)	31(1.65%)
Prabhat pheri	174(11.71%)	89(4.73%)
Bachat Gat	121(8.14%)	88(4.68%)
Tarun Mandal	235(15.81%)	257(13.67%)
Home Visits	1301(87.55%)	1444(76.81%)
Social Media (WhatsApp, Facebook etc.)	816(54.91%)	765(40.69%)
TV/Radio/Newspaper	993(66.82%)	1121(59.63%)

According to responders, more than 90% of the camps in both districts focused on Covid vaccination. In addition to vaccination, Covid testing, Covid-appropriate behaviour, nutrition and medication, and Covid-related government programs were the main areas of emphasis at awareness camps.

The most common awareness-raising strategies identified by households in the Pune districts were home visits, mass media, posters, public announcements, and social media. Home visits and media like TV, radio, newspapers, and newspapers were common in the Satara district, and they were followed by posters. Street play, influential persons and religious leaders, kirtan, Prabhat pheri, bachat gat, and Tarun Mandal were some more mediums used to raise awareness.

Table 13: Adherence to precautionary habits against Covid-19 spread

	CFV	NON_CFV
	N=1637	**N=2043**
How often do you wash your hands with soap/ sanitizer?		
Always (6/more times)	463(28.28%)	482(23.59%)
Mostly(4-5 times)	707(43.19%)	824(40.33%)
Occasionally (3 times)	294(17.96%)	497(24.33%)
Rarely (2 or less)	157(9.59%)	218(10.67%)
Never	16(0.98%)	22(1.08%)
How often do you wear masks while going out of home		
Always (~6 or more times)	426(26.02%)	379(18.55%)
Mostly (~4-5 times)	595(36.35%)	827(40.48%)
Occasionally (3 times)	306(18.69%)	536(26.24%)
Rarely (2 or less)	272(16.62%)	270(13.22%)
Never	38(2.32%)	31(1.52%)

While compared to participants from the Satara region, people from the Pune district reported more consistently using the standard precautions to stop the spread of Covid, such as always wearing masks when going outside, always washing hands, and always using sanitizer.

Table 14: **Access to soaps/sanitizers/masks**

	CFV	NON_CFV
	N=1637	N=2043
Difficulty in accessing or affording soap for handwashing		
Often	16(0.98%)	12(0.59%)
Sometimes	110(6.72%)	229(11.21%)
Never	1511(92.30%)	1802(88.20%)
Difficulty in accessing or affording sanitizer for hand hygiene		
Often	18(1.10%)	9(0.44%)
Sometimes	144(8.80%)	327(16.01%)
Never	1475(90.10%)	1707(83.55%)
Difficulty in access or affording masks		
Often	14(0.86%)	12(0.59%)
Sometimes	128(7.82%)	287(14.05%)
Never	1495(91.33%)	1744(85.36%)

In Satara and Pune, respectively, 11–16% and 6–8% of households, respectively, said they occasionally had trouble getting access to soaps, hand sanitizers, and masks.

Table 15: **Usage of Arogya Setu application**

	CFV	NON_CFV
	N=1637	N=2043
Installed Arogya Setu application		
Yes	374(22.85%)	508(24.87%)
No	1161(70.92%)	1321(64.66%)
Don't have a smartphone	102(6.23%)	214(10.47%)
For what purpose, the Arogya Setu application was used/ installed	N=374	N=508
Identify potential hotspots/ contact tracing	155(41.44%)	301(59.25%)
Self-Assessment Test	140(37.43%)	209(41.14%)
Understand the risk of infection status	262(70.05%)	198(38.98%)
Know about Covid-19 test status	213(56.95%)	214(42.13%)
Understand hygiene and social distancing protocols	176(47.06%)	156(30.71%)
Apply/ Get E-pass	78(20.86%)	122(24.02%)
Get Updates, advisory, and best practices related to Covid-19	100(26.74%)	100(19.69%)
Get a list of COVID-19 testing facilities and ICMR-approved Labs	38(10.16%)	32(6.30%)
Get Emergency Helpline contacts	66(17.65%)	22(4.33%)
None	6(1.60%)	6(1.18%)

The Arogya Setu app was installed by 22.85% of respondents in the Pune district and 24.87% of respondents in the Satara district. Installing the Arogya Setu app was frequently motivated by the need to locate potential hotspots and trace down contacts, perform self-assessment tests, learn the results of Covid-19 tests, understand hygiene and social distancing protocols, obtain an E-pass, and stay up to date on Covid-19 best practices.

Table 16: **Information on Covid-19 testing**

	CFV	NON_CFV
	N=1637	**N=2043**
Any member of your household been ever tested (Antigen/RTPCR) for Covid-19		
Yes	914(55.83%)	1011(49.49%)
Any cost incurred in getting tested for Covid-19	N=914	N=1011
Yes	59(6.46%)	52(5.14%)
Average money was spent on testing		
Mean±SD	2193.22±2568	1459.61±1469
Has any member of your household been ever tested in a Covid-19 village test camp		
Yes	308(33.70%)	837(82.79%)
No	588(64.33%)	158(15.63%)
No testing camp was available	18(1.97%)	16(1.58%)
How many members of the household contracted Covid-19		
0	1560(95.30%)	1900(93.00%)
1	39(2.38%)	82(4.01%)
2	16(0.98%)	29(1.42%)
3	7(0.43%)	20(0.98%)
4	7(0.43%)	8(0.39%)
5	5(0.31%)	2(0.10%)
More than 5	3(0.18%)	2(0.10%)

Members of families in the Pune region (55.63%) and Satara (49.54%) had undertaken Covid testing. Of those, about 59 families in Pune and 52 families in Satara reported spending money on Covid tests. Approximately, a mean of 2193 INR and 1459 INR was spent on Covid testing by families in Pune and Satara respectively.

At least one family member was reported to have contracted the Covid-19 infection by 2.38% of families in Pune and 4% of families in Satara.

Table 17: **Support received by families with Covid-19 infected members**

If any member contracted Covid-19, what support did you or your family member receive from Gram Panchayat & VTF	CFV (N=77)	NonCFV (N=143)
Food	10(12.99%)	34(23.78%)
Medicine	24(31.17%)	78(54.55%)
Counselling/ Guidance	18(23.38%)	75(52.45%)
Testing support for other HH members	14(18.18%)	52(36.36%)
Transport facility for testing or treatment	10(12.99%)	30(20.98%)
Facilitation of Dairy or farm produce to the market	0	0
Other	1(3.33%)	0
None	43(55.84%)	26(18.18)

55.84% of the families with Covid-19 infected members in Pune and 18.18% in Satara stated they did not receive any help from gram panchayats or VTFs. The majority of the help the family received was in the form of food, transportation, medication, counseling/guidance, and testing support for other members of the home.

Table 18: **Facilities at Covid-19 isolation care centre**

	CFV (N=77)	CFV (N=143)
Has any member of your household been isolated in a village Covid-19 isolation/care centre		
Yes	12(15.58%)	47(32.87%)
No	49(63.64%)	95(66.43%)
No village isolation centre was in existence	16(20.78%)	1(0.70%)
Facilities available at Covid-19 isolation/care centre	N=12	N=47
Food	11(91.67%)	37(78.72%)
Hot Water	11(91.67%)	31(65.96%)
Sanitation	11(91.67%)	34(72.34%)
Electricity	10(83.33%)	28(59.57%)
Masks	10(83.33%)	38(80.85%)
Sanitizers	10(83.33%)	41(87.23%)
Toilet	7(58.33%)	29(61.70%)
Entertainment resources (TV, Books etc.)	2(16.67%)	8(17.02%)
None	0	4(8.51%)

At the village Covid-19 isolation facility, infected members of 12 households in the Pune study group and 47 households in the Satara group were quarantined. The isolation centres of both districts were equipped with the necessities.

Table 19: **Hospitalization due to Covid-19**

	CFV (N=77)	CFV (N=143)
Number of members of the household were hospitalized due to Covid-19		
0	23(29.87%)	56(39.16%)
1	34(44.16%)	58(40.56%)
2	12(15.58%)	20(13.99%)
3	2(2.60%)	4(2.80%)
4	1(1.30%)	2(1.40%)
5	3(3.90%)	0
More than 5	2(2.60%)	3(2.10%)
Hospitalization facility	**N=54**	**N=87**
Government Hospital at block/ district level	5(9.26%)	33(37.39%)
PHC/CHC with in village	3(5.56%)	9(10.34%)
PHC/CHC outside village	7(12.96%)	13(14.94%)
CCC within village	0	2(2.30%)
CCC outside village	3(5.56%)	1(1.15%)
Private	33(61.11%)	28(32.18%)
Aided Hospitals	3(5.56%)	1(1.15%)
The average amount of money spent on the treatment of Covid-19 illness in your household		
Mean±SD	58907.41±68006.39	17525.3±23635.05
Any member of your household requires oxygen support at home to recover from Covid-19		
Yes	14(25.93%)	19(21.84%)

In Pune, 54 families and about 87 families in Satara, respectively, reported needing hospitalization for the care of afflicted family members. In Pune, 61.11% of infected family members were hospitalized in private institutions, 9.26% in the block- or district-level government facilities. In Satara, 37.39% of households hospitalized their infected members in a government facility, compared to 32.18% of households who had to admit their members to private facilities. The average cost of Covid therapy for households in Pune was 58907.41 INR, while families in Satara paid 17525 INR.

Table 20: **Satisfaction among study participants with Covid-19 treatment**

	CFV (N=54)	CFV (N=87)
How satisfied were you with the treatment received for Covid-19		
Very satisfied	13(24.07%)	10(11.49%)
Satisfied	30(55.56%)	67(77.01%)
Neutral	7(12.96%)	4(4.60%)
Dissatisfied	3(5.56%)	4(4.60%)
Very dissatisfied	1(1.85%)	2(2.30%)

Families in the Pune district were content with the received care in 55.56% of cases, compared to 5.56% who were not. Families in Satara were dissatisfied with the care to a lesser extent—4.6 percent as opposed to 77%.

Table 21: **Death due to Covid**

	CFV (N=54)	CFV (N=87)
Any death in the household due to Covid-19		
Yes	5(9.26%)	12(13.79%)

Five families in the Pune region and twelve families in the Satara district are said to have lost family members due to Covid-19 infection. In the Pune region 24.7% of cases and in the Satara district 52.87% of cases, families who had a relative hospitalized for a Covid-19 infection experienced stigma or discrimination.

Table 22: **Gram Panchayat or VTF support for applying for Covid-related government schemes**

List of Covid-related government schemes	CFV (N=5)	Non-CFV (N=12)
Financial Support for children in the age group of 0 to 18 years who have lost both parents		
Aware and applied	2 (40.0%)	1 (8.3%)
Aware but not applied	0 (0.0%)	2 (16.7%)
Not aware	3 (60.0%)	9 (75.0%)
Ex-gratia assistance to Anganwadi/staff who die due to COVID-19 while performing covid-19 related duties		
Aware and applied	1 (20.0%)	0 (0.0%)
Aware but not applied	1 (20.0%)	1 (8.3%)
Not aware	3 (60.0%)	11 (91.7%)
Mission Vatsalya Yojana		
Aware and applied	1 (20.0%)	0 (0.0%)
Aware but not applied	0 (0.0%)	1 (8.3%)
Not aware	4 (80.0%)	11 (91.7%)
50,000/- INR Financial help if any family member dies due to Covid		
Aware and applied	2 (40.0%)	4 (33.3%)
Aware but not applied	1 (20.0%)	0 (0.0%)
Not aware	2 (40.0%)	8 (66.7%)
If applied to the government scheme, then did you get the benefit	N=2	N=5
Yes	1(50.00%)	3(60.00%)
No	1(50.00%)	2(40.00%)
If applied, what support did you receive from Gram Panchayat & VTF in registering for government schemes		
Provided information of the scheme	2	5
Helped in filling the form	2	4
Helped in arranging documents	1	2
Others	0	0

Among families who lost a family member due to infection, families in the Pune district were more aware of Covid-19-related government schemes and applied for them more frequently than families in the Satara district. These schemes include providing financial support to children in the age group of 0 to 18 years who have lost both parents, ex-gratia assistance to Anganwadi/staff who die from Covid-19 while performing Covid-19-related duties, Mission Vatsalya Yojana, and receiving 50,000/- INR if any family member dies due to Covid. The Gram Panchayat and VTFs assisted participants in signing up for government schemes by providing information on the Covid-related schemes, assisting with form completion, and organizing necessary documents.

Table 23: **Stigma or discrimination because of covid-19 infection**

Has any member of your household experienced Covid-19-related stigma or discrimination?	CFV (N=54)	CFV (N=87)
Yes	13(24.07%)	46(52.87%)
No	39(72.22%)	41(47.13%)
Not Sure	2(3.70%)	0
Have you observed any resident of the village facing Covid-19 related stigma or discrimination		
No	1415(86.44%)	1271(62.21%)
Not sure	77(4.70%)	183(8.96%)
Yes	145(8.86%)	589(28.83%)

In the Pune region 24.7% of families and in the Satara district 52.87% of the families who had a relative hospitalized for a Covid-19 infection experienced stigma or discrimination

Table 24: **Household surveys by Asha workers**

	CFV	NON_CFV
Did the ASHA come for a household survey at your home?		
Frequently	638 (39.0%)	1149 (56.2%)
Sometimes	779 (47.6%)	841 (41.2%)
Rarely	158 (9.7%)	45 (2.2%)
Never	62 (3.8%)	8 (0.4%)
Received soap from the government/PHC/panchayat committee/NGO		
Frequently	64 (3.9%)	38 (1.9%)
Sometimes	386 (23.6%)	316 (15.5%)
Rarely	305 (18.6%)	274 (13.4%)
Never	882 (53.9%)	1415 (69.3%)
Received sanitizer from the government/PHC /panchayat committee/NGO		
Frequently	108 (6.6%)	94 (4.6%)
Never	750 (45.8%)	406 (19.9%)
Rarely	349 (21.3%)	651 (31.9%)
Sometimes	430 (26.3%)	892 (43.7%)
Received masks from the government/PHC/panchayat committee/NGO		
Frequently	140 (8.6%)	98 (4.8%)
Never	713 (43.6%)	246 (12.0%)
Rarely	413 (25.2%)	715 (35.0%)
Sometimes	371 (22.7%)	984 (48.2%)

In Pune, 86.56 percent of families reported having frequent visits from Asha workers, compared to 97.41 percent of families in Satara who claimed the same.

Table 25: Support from village panchayat / CFV Village Task Force in management of Covid-19 illness

	CFV	NON_CFV
	N=1637	**N=2043**
Support from village panchayat / CFV Village Task Force in management of Covid-19 illness		
Testing	885 (54.1%)	1301 (63.7%)
Vaccination	1446 (88.3%)	1824 (89.3%)
Hospitalization	46 (2.8%)	230 (11.3%)
Oxygen support for home management	7 (0.4%)	30 (1.5%)
Oximeter for home isolation	56 (3.4%)	9 (0.4%)
Thermometer for home isolation	52 (3.2%)	8 (0.4%)
Drugs for home isolation	41 (2.5%)	264 (12.9%)
None	179 (10.9%)	202 (9.9%)

In Pune, 54.1% of households said they received assistance for Covid testing, while 88.3% said they received assistance for immunization. In the Satara region, aid was provided for testing and vaccination in 63.7% and

89.3% of households, respectively. Additionally, some families received support for hospitalization, home oxygen support, a thermometer, an oximeter, and drugs throughout isolation. 9.9% of families in Satara and 10.9% of families in Pune, respectively, reported receiving no support.

Table 26: Availability of Covid-19 testing camps and care centres in the villages

	CFV	NON_CFV
	N=1637	**N=2043**
Covid-19 testing camps available in the village		
Always	48 (2.9%)	324 (15.9%)
Mostly	291 (17.8%)	1000 (48.9%)
Occasionally	249 (15.2%)	305 (14.9%)
Rarely	404 (24.7%)	187 (9.2%)
Never	645 (39.4%)	227 (11.1%)
Covid-Care centres available in the village		
Always	47 (2.9%)	83 (4.1%)
Mostly	75 (4.6%)	879 (43.0%)
Occasionally	120 (7.3%)	400 (19.6%)
Rarely	173 (10.6%)	194 (9.5%)
Never	1222 (74.6%)	487 (23.8%)

The availability of Covid-19 testing camps and care facilities differed significantly. Covid-19 testing camps were only reported to be available in the village by 20.71% of respondents in Pune, compared to 64.8% in the Satara district. Similar results were seen for care facilities, where 7.45% of participants in Pune reported the presence of Covid care facilities, compared to 47% in the Satara group.

Table 27: Routine immunization services at PHC/HWC

	CFV	NON_CFV
	N=1637	**N=2043**
Eligible children in your locality/household receive regular under-3 immunization services in the PHC/HWC		
Always	832 (50.8%)	377 (18.5%)
Mostly	447 (27.3%)	1023 (50.1%)
Occasionally	62 (3.8%)	150 (7.3%)
Rarely	100 (6.1%)	178 (8.7%)
Never	196 (12.0%)	315 5.4%)

The Pune district was found to provide routine immunization services more promptly than Satara. Approximately 78.13% of households in Pune and 68.53% of families in the Satara group stated that their children had received routine immunizations at government centres promptly.

Table 28: **Access to emergency transport and medications**

	CFV	NON_CFV
	N=1637	N=2043
Pregnant women in your locality/household have access to ambulance/emergency transport		
Always	500 (30.5%)	216 (10.6%)
Mostly	433 (26.5%)	851 (41.7%)
Occasionally	287 (17.5%)	426 (20.9%)
Rarely	340 (20.8%)	350 (17.1%)
Never	77 (4.7%)	200 (9.8%)
Patients with chronic diseases (DM/HTN/COPD/etc.) in your locality/household have access to medications		
Always	382 (23.3%)	212 (10.4%)
Mostly	615 (37.6%)	701 (34.3%)
Occasionally	284 (17.3%)	617 (30.2%)
Rarely	299 (18.3%)	389 (19.0%)
Never	57 (3.5%)	124 (6.1%)

The majority of pregnant mothers had access to antenatal care and emergency transportation services in both Satara and Pune. Most of the participants of both groups who had comorbidities had access to drugs, though not always.

Table 29: **Participation of households in Covid-related activities in the villages**

	CFV	NON_CFV
	N=1637	N=2043
You or any members from your household participated in any of the following activities in the village		
Household Survey- Tracing	82 (5.0%)	117 (5.7%)
Covid Testing	74 (4.5%)	273 (13.4%)
Covid Vaccination	147 (9.0%)	403 (19.7%)
Awareness generation	140 (8.6%)	134 (6.6%)
Facilitation of govt. schemes etc.	38 (2.3%)	18 (0.9%)
Provided funds for formation of Corona Village Committee or formation of Covid care centre or awareness generation	25 (1.5%)	52 (2.5%)
Arrange transport facility for testing, vaccination, treatment etc.	52 (3.2%)	110 (5.4%)
Ration/ Medicine/ Kit distribution	110 (6.7%)	137 (6.7%)
Others	1 (0.1%)	0
None	1409 (86.1%)	1564 (76.60%)

Some families in both regions participated in contact tracing, testing, vaccination, awareness campaigns, government scheme facilitation, provision of funds for the formation of Covid care centres or other related programs, setting up transportation facilities for the needy, and distributing rations, medications, and kits.

Table 30: Overall Covid vaccination status in Pune and Satara

COVID-19 VACCINATION STATUS	N=3312	N=3679
Number of eligible household members vaccinated with 1st dose	352(10.63%)	272(7.39%)
Number of eligible household members vaccinated with 2nd dose	2627(79.32%)	3253(88.42%)
Number of eligible household members vaccinated with 3rd dose	92(2.78%)	62(1.69%)

78% of the eligible household members in the Pune district received all three doses of the vaccine, 79.32% had received two doses, and 10.63% of the members had received only the first dose. In Satara, 1.69% had received all three doses, followed by 88.42% who received two doses and 7.39% who had only one.

ANNEXURE 4
OUTCOME INDICATORS WHERE CONTROL SITE HAD IMPROVED PERFORMANCE

Indicator	Mean (SD)		Difference(SE)
	Intervention	Control	
	N=1321	N= 1,576	
Awareness about Village Task Force			
Are you aware of Village level committee or Taskforces formed at the village	0.570 (0.495)	0.874 (0.332)	-0.304 (0.017)**
Are you or any members from your household is member of Village level committee or VTF	0.038 (0.191)	0.036 (0.187)	0.001 (0.008)
Vaccination			
Initial Site of administration of COVID-19 vaccination for the Elderly in the household - Government facilities	0.317 (0.466)	0.580 (0.494)	-0.263 (0.02) **
Initial Site of administration of COVID-19 vaccination for the Elderly in the household - Govt camps	0.254 (0.436)	0.354 (0.478)	-0.100 (0.478) **
Initial Site of administration of COVID-19 vaccination for the Elderly in the household - Private Facilities	0.002 (0.048)	0.004 (0.064)	-0.002 (0.002)
Initial Site of administration of COVID-19 vaccination for members between 12-60years in the household - Government facility	0.485 (0.500)	0.667 (0.472)	-0.182 (0.02) **
Initial Site of administration of COVID-19 vaccination for members between 12-60years in the household -Private	0.020 (0.142)	0.009 (0.095)	0.011 (0.005) *
Difficulty and challenges faced when at the site of vaccination - Non Availability	0.051 (0.220)	0.052 (0.222)	-0.001 (0.009)
Difficulty and challenges faced when at the site of vaccination - Delay	0.317 (0.466)	0.100 (0.300)	0.217 (0.016)**
Difficulty and challenges faced when at the site of vaccination- No Challenges	0.656 (0.475)	0.878 (0.327)	-0.222 (0.016)**
Reason for being unvaccinated-Concerned about side effects	0.098 (0.297)	0.077 (0.267)	0.021 (0.012)*
Reason for being unvaccinated- Concerned about Efficacy	0.064 (0.244)	0.061 (0.239)	0.003 (.7548)**
Reason for being unvaccinated - Vaccine unavailable	0.083 (0.276)	0.051 (0.221)	0.032 (0.01)**
Have negative perception regarding COVID-19 vaccine	0.046 (0.210)	0.026 (0.159)	0.020 (0.008)**
Have positive perception regarding COVID-19 vaccine	0.965 (0.183)	0.983 (0.129)	-0.018 (0.007)**
Awareness regarding preventive measures			
Awareness of preventive measures- wearing a mask outside	0.983 (0.131)	0.974 (0.159)	0.009 (0.006)
Awareness of preventive measures -maintaining distance	0.898 (0.303)	0.880 (0.326)	0.018 (0.013)
Awareness regarding the COVID-19 infection			
Covid-19 disease can be a serious illness	1.163 (0.369)	1.204 (0.403)	-0.041 (0.016)**
Awareness regarding variant	0.386 (0.487)	0.746 (0.435)	-0.360 (0.019)**
Awareness Campaigns			
There were Covid-19 awareness campaigns conducted in your village	1.898 (0.303)	1.914 (0.280)	-0.016 (0.012)
Focus of awareness campaigns was on Covid Testing	0.632 (0.482)	0.716 (0.451)	-0.084 (0.019)**

Influential people were used to spread COVID related awareness	0.193 (0.395)	0.187 (0.390)	0.006 (0.016)
COVID-19 Prevention measures			
Has installed Aarogya Setu application	0.226 (0.418)	0.239 (0.427)	-0.013 (0.017)
Purpose of using the Arogya Setu app was Contact tracing	0.094 (0.292)	0.140 (0.347)	-0.046 (0.013)**
Used Arogya setu app for other purposes	0.075 (0.263)	0.062 (0.241)	0.013 (0.011)
Preparedness			
Received COVID related support from Gram Panchayat & VTF	0.051 (0.221)	0.061 (0.240)	-0.010 (0.009)
Support & Containment			
ASHA come for a household survey	0.865 (0.342)	0.970 (0.170)	-0.105 (0.011)* *
Received sanitizer from the government / PHC / panchayat committee/ NGO	0.341 (0.474)	0.540 (0.499)	-0.199 (0.02)**
received mask from the government / PHC / panchayat committee/ NGO	0.329 (0.470)	0.513 (0.500)	-0.184 (0.02)**
received AYUSH immunity boosters from the government / PHC / panchayat committee/ NGO	0.326 (0.469)	0.541 (0.498)	-0.215 (0.02)**
VTF/ GP provided support regarding COVID-19 Vaccination	0.880 (0.326)	0.903 (0.295)	-0.024 (0.013)*
VTF/ GP provided support regarding hospitalization, providing oximeter etc.	0.070 (0.256)	0.253 (0.435)	-0.183 (0.015)**
Covid-19 testing camps were available in the village	0.201 (0.401)	0.620 (0.485)	-0.420 (0.018)**
Household member participated in activities regarding COVID-19 related awareness generation	0.078 (0.268)	0.076 (0.265)	0.002 (0.011)

* = p value for the t-test was > 0.01 and ≤ 0.05
** = p value for the t-test was less than 0.01

Table 1: **Subgroup Analysis in in ST& SC households**

Vaccination	Caste: ST & SC			Others		
	Mean (SD)		Difference (SE)	Mean (SD)		Difference (SE)
	Treated	Control		Treated	Control	
	N=95	N= 103		1050	1238	
Initial Site of initial vaccination of other household members/Camp	0.663 (0.475)	0.241 (0.429)	0.422 (0.064) **	0.591(0.491)	0.502(0.500)	0.089 (0.021)**
Were you or any HH member or anyone from the village provided with any transport	0.053 (0.224)	0.008 (0.087)	0.045 (0.024)	0.064 (0.244)	0.047 (0.211)	0.017 (0.009)
Awareness regarding preventive measures						
Awareness regarding handwash as a mean of preventing the COVID-19 infection	0.958 (0.202)	0.872 (0.335)	0.086 (0.040)*	0.969 (0.172)	0.851 (0.356)	0.119 (0.012)**
Awareness regarding immunity boosting drugs as a mean of preventing the COVID-19 infection	0.432 (0.498)	0.481 (0.502)	-0.049 (0.071)	0.496 (0.500)	0.309 (0.462)	0.186 (0.020)**
Awareness regarding COVID vaccination as a mean of preventing the COVID-19 infection	0.81 (0.394)	0.391 (0.490)	0.419 (0.063)**	0.789 (0.408)	0.491 (0.500)	0.298 (0.019)**
Awareness regarding the COVID-19 infection						
Covid-19 disease is more serious in Elderly	0.937 (0.244)	0.729 (0.446)	0.208 (0.052)**	0.858 (0.349)	0.731 (0.444)	0.127 (0.017)**
Covid-19 disease is more	0.442 (0.499)	0.248 (0.434)	0.194 (0.066)**	0.431 (0.495)	0.231 (0.422)	0.200 (0.019)**

serious in people with Hypertension						
Covid-19 disease is more serious in people with lung disease	0.347 (0.479)	0.278 (0.450)	0.069 (0.066)	0.319 (0.466)	0.205 (0.404)	0.114 (0.018)**
Covid-19 disease is more serious in people with low immunity	0.537 (0.501)	0.459 (0.501)	0.078 (0.071)	0.536 (0.499)	0.277 (0.447)	0.260 (0.020)**
Awareness Campaigns						
Subject/ focus of awareness campaigns was Nutrition & Medicines	0.432 (0.498)	0.496 (0.502)	-0.064 (0.071)	0.473 (0.499)	0.418 (0.493)	.05 5(0.021)**
Subject/ focus of awareness campaigns was COVID Appropriate Behaviour	0.505 (0.503)	0.571 (0.497)	-0.066 (0.071)	0.526 (0.499)	0.422 (0.494)	0.104 (0.021)**
Subject/ focus of awareness campaigns was Govt Scheme	0.136 (0.345)	0.015 (0.122)	0.121 (0.036)**	0.108 (0.311)	0.047 (0.211)	0.061 (0.011)**
Method used to spread of Covid-19 awareness was Poster	0.684 (0.467)	0.466 (0.501)	0.218 (0.069)**	0.518 (0.499)	0.431 (0.495)	0.087 (0.021)**
Method used to spread of Covid-19 awareness was Public Announcement	0.768 (0.424)	0.301(0.46 1)	0.467 (0.063)**	0.686 (0.464)	0.332 (0.471)	0.354 (0.019)**
Method used to spread of Covid-19 awareness was Home Visit	0.789 (0.410)	0.842 (0.366)	-0.052 (0.55)	0.782 (0.413)	0.692 (0.461)	0.089 (0.018)**
Method used to spread of Covid-19 awareness was Social Media	0.431 (0.497)	0.398 (0.491)	0.033 (0.070)	0.488 (0.500)	0.39(0.488)	0.098 (0.021)**
COVID-19 Prevention measures						
Wash your hands with soap/ sanitizer at least 4 times a day	0.653(0.47 9)	0.677 (0.470)	-0.024 (0.067)	0.706 (0.456)	0.624 (0.485)	0.082 (0.020)**

Wear the mask while leaving the house	0.547 (0.500)	0.473 (0.502)	0.074 (0.071)	0.625 (0.484)	0.578 (494)	0.047 (0.020)*
Faced any difficulty in accessing or affording Soap	0.063 (0.244)	0.068 (0.252)	-0.004 (0.035)	0.080 (0.270)	0.104 (0.305)	-0.025 (0.021)*
Faced any difficulty in accessing or affording Sanitizer	0.063 (0.244)	0.112 (0.318)	-0.049 (0.040)	0.101 (0,301)	0.153 (0.360)	-0.051 (0.014)**
Faced any difficulty in accessing or affording Mask	0.053 (0.224)	0.105 (0.308)	-0.053 (0.039)	0.088 (0.283)	0.132 (0.338)	-0.044 (0.013)**
Used Arogya Setu app for self-assessment and understanding the risk of infection status.	0.158 (0.367)	0.18 (0.386)	-0.226 (0.054)	0.191 (0.394)	0.128 (0.109)	0.063 (0.015)**
Used Arogya Setu app for getting the lists of testing facilities and COVID test results.	0.126 (0.334)	0.12 (0.327)	0.006 (0.047)	0.148 (0.355)	0.098 (0.298)	0.050 (0.014)**
Used Arogya Setu app for knowing updates, advisory & best practices related to COVID-19.	0.168 (0.376)	0.128 (0.335)	0.041 (0.050)	0.2 (0.012)	0.109 (0.009)	0.904 (0.15)**
Preparedness						
Any member of your household been ever tested (Antigen/RTPCR) for Covid-19 in village testing camp	0.474 (0.502)	0.383 (0.357)	0.090 (0.070)	0.553 (0.497)	0.535 (0.498)	0.017 (0.21)
observed any resident of the village facing Covid-19 related stigma or discrimination	0.116 (0.332)	0.249 (0.434)	-0.132 (0.055)*	0.091 (0.288)	0.306 (0.460)	-0.214 (0.016)**
Support & Containment						
Received soap from the government / PHC /	0.390 (0.490)	0.120 (0.327)	0.270 (0.589)**	0.25(0.433)	0.203(0.403)	.047 (0.175)**

panchayat committee/ NGO					
eligible children in your locality/household receive regular under-3 immunization	0.726 (0.448)	0.797 (0.404)	-0.070 (0.060)	0.79 (0.407)	0.661 (0.473)	0.130 (0.019)**
pregnant women in your locality/household receive regular antenatal care service	0.726 (0.448)	0.481 (0.502)	0.245 (0.0678)**	0.683 (0.465)	0.570 (0.495)	0.113 (0.020)**
Pregnant women in the locality/household have access to ambulance / emergency transport	0.568 (0.498)	0.533 (0.501)	0.034 (0.071)	0.585 (0.493)	0.489 (0.500)	0.096 (0.021)**
Patients with chronic disease has access to meds	0.610 (0.490)	0.391 (0.490)	0.219 (0.070)**	0.608 (0.488)	0.439 (0.497)	0.169 (0.021)**

* = p value for the t-test was > 0.01 and ≤ 0.05; ** = p value for the t-test was less than 0.01

Table 2: Subgroup Analysis in the households with highest level of education up to middle School

	Education level up to middle school			Education level 0ver middle school		
	Mean (SD)		Difference (SE)	Mean (SD)		Difference (SE)
	Treated	Control		Treated	Control	
Vaccination	136	162		979	1,144	
Initial Site of initial vaccination of other household members/Camp	0.625 (0.486)	0.421 (0.495)	0.203 (0.057)**	0.604 (0.489)	0.474 (0.499)	0.129 (0.021)**
Were you or any HH member or anyone from the village provided with any transport	0.125 (0.332)	0.018 (0.133)	0.107 (0.028)**	0.053 (0.224)	0.037 (0.190)	0.016 (0.009)
Awareness regarding preventive measures						
Awareness regarding handwash as a mean of preventing the COVID-19 infection	0.934 (0.249)	0.825 (0.381)	0.109 (0.038)**	0.977 (0.148)	0.879 (0.327)	0.099 (0.011)**
Awareness regarding immunity boosting drugs as a mean of preventing the COVID-19 infection	0.470 (0.501)	0.193 (0.396)	0.277 (0.0520)**	0.506 (0.500)	0.375 (0.484)	0.131 (0.021)**
Awareness regarding COVID vaccination as a mean of preventing the COVID-19 infection	0.801 (0.400)	0.421 (0.495)	0 .380 (0.053)**	0.803 (0.398)	0.506 (0.500)	0.297 (0.019)**
Awareness regarding the COVID-19 infection						
Covid-19 disease is more serious in Elderly	0.882 (0.323)	0.560 (0.498)	0 .322 (0.050)**	0.878 (0.327)**	0 .754 (0.431)	0.124 (0.017)**
Covid-19 disease is more serious in people with Hypertension	0.493 (0.502)	0.108 (0.311)	0.385 (0.047)**	0.444 (0.497)	.267 (0.442)	0.177 (0.020)**
Covid-19 disease is more serious in people with lung disease	0.323 (0.469)	0.117 (0.322)	0.207 (.046)**	0.343 (0.475)	0.228 (0.420)	0.115 (0.012)**
Covid-19 disease is more serious in people with low immunity	0.618 (0.488)	0.179 (0.385)	0.438 (0.050)**	0.548 (0.498)	0.335 (0.472)	0.212 (0.021)**
Awareness Campaigns						
Subject/ focus of awareness campaigns was Nutrition & Medicines	0.471 (0.501)	0.327 (0.471)	0.143 (0.056)**	0.486 (0.500)	0.449 (0.498)	0.038 (0.0217)

Subject/ focus of awareness campaigns was COVID Appropriate Behaviour	0.5 (0.502)	0.269 (0.445)	0.231 (0.055)**	0.534 (0.499)	0.488 (0.500)	0.046 (0.022)*
Subject/ focus of awareness campaigns was Govt Scheme	0.088 (0.285)	0.040 (0.197)	0.048 (0.028)	0.118 (0.323)	0.047 (0.211)	0.072 (0.012)**
Method used to spread of Covid-19 awareness was Poster	0.537 (0.500)	0.305 (0.462)	0.232 (0.056)**	0.545 (0.498)	0.465 (0.499)	0.080 (0.022)**
Method used to spread of Covid-19 awareness was Public Announcement	0.713 (0.454)	0.318 (0.467)	0.395 (0.054)**	0.717 (0.451)	0.334 (0.472)	0.383 (0.020)**
Method used to spread of Covid-19 awareness was Home Visit	0.743 (0.439)	0.556 (0.498)	0.187 (0.055)**	0.789 (0.408)	0.754 (0.431)	0.034 (0.018)
Method used to spread of Covid-19 awareness was Social Media	0.338 (0.475)	0.314 (0.466)	0.024 (0.055)	0.527 (0.500)	0.419 (0.494)	0.108 (0.022)**
COVID-19 Prevention measures						
Wash your hands with soap/ sanitizer at least 4 times a day	0.632 (0.484)	0.534 (0.500)	0.099 (0.057)	0.722 (0.448)	0.657 (0.475)	0.065 (0.020)**
Wear the mask while leaving the house	0.618 (0.488)	0.484 (0.501)	0.133 (0.058)*	0.625 (0.484)	0.584 (0.493)	0.040 (0.021)
Faced any difficulty in accessing or affording Soap	0.066 (0.250)	0.166 (0.373)	-0.100 (0.037)**	0.076 (0.264)	0.072 (0.259)	0.003 (0.011)
Faced any difficulty in accessing or affording Sanitizer	0.096 (0.295)	0.220 (0.415)	-0.124 (0.042)**	0.091 (0.288)	0.120 (0.324)	-0.029 (0.013)*
Faced any difficulty in accessing or affording Mask	0.088 (0.285)	0.211 (0.410)	-0.122 (0.042)**	0.080 (0.271)	0.107 (0.310)	-0.027 (0.013)*
Used Arogya Setu app for self-assessment and understanding the risk of infection status.	0.044 (0.206)	0.013 (0.116)	0.031 (0.019)	0.216 (0.412)	0.178 (0.382)	0.039 (0.017)*
Used Arogya Setu app for getting the lists of testing facilities and COVID test results.	0.015 (0.121)	0.018 (0.133)	-0.003 (0.015)	0.165 (0.372)	0.132 (0.339)	0.033 (0.015)*
Used Arogya Setu app for knowing updates, advisory & best practices related to COVID-19.	.044 (0.206)	0.013 (0.116)	0.031 (0.019)	0.226 (0.418)	0.147 (0.354)	0.079 (0.017)**
Preparedness						

Any member of your household been ever tested (Antigen/RTPCR) for Covid-19 in village testing camp	0.390 (0.489)	0.332 (0.472)	0.058 (0.056)	0.566 (0.496)	0.556 (0.497)	0.010 (0.022)
observed any resident of the village facing Covid-19 related stigma or discrimination	0.110 (0.314)	0.296 (0.458)	-0.186 (0.046)**	0.085 (0.279)	0.304 (.460)	-0.219 (0.017)**
Support & Containment						
Received soap from the government / PHC / panchayat committee/ NGO	0.309 (0.464)	0.247 (0.432)	0.062 (0.052)	0.264 (0.441)	0.177 (0.381)	0.087 (0.018)**
eligible children in your locality/household receive regular under-3 immunization	0.743 (0.439)	0.614 (0.488)	0.128 (0.054)*	0.787 (0.409)	0.699 (0.459)	0.088 (0.019)**
pregnant women in your locality/household receive regular antenatal care service	0.566 (0.497)	0.484 (0.501)	0.082 (0.058)	0.700 (0.459)	0.574 (0.495)	0.126 (0.021)**
Pregnant women in the locality/household have access to ambulance / emergency transport	0.507 (0.502)	0.471 (0.501)	0.037 (0.058)	0.589 (0.492)	0.520 (0.500)	0.070 (0.022)**
Patients with chronic disease has access to meds	0.566 (0.497)	0.404 (0.492)	0.162 (0.058)	0.604 (0.489)	0.436 (0.496)	0.167 (0.021)**

* = p value for the t-test was > 0.01 and ≤ 0.05;
** = p value for the t-test was less than 0.01

ANNEXURE 6
RESEARCH PROJECT PARTICIPANT INFORMATION SHEET

Title of Research: Assessment of The Covid-Free Village Program (CVP) For Covid-19 Risk Reduction

Name of Principal Investigator: Dr. Saurav Basu

PI Contact address: Indian Institute of Public Health – Delhi, Public Health Foundation of India(PHFI), Plot No. 47, Sector 44, Institutional Area, Gurgaon (Haryana) – 122002

Why are you doing this study?

This research project is looking to investigate the awareness, preparedness (adherence to behaviour, Covid-19 vaccine acceptance, health facility preparedness, government scheme utilization) and the impact of COVID 19 in the rural population of Pune and Satara districts in Maharashtra.

Who is doing this study?

The study is being done by the Indian Institute of Public Health – Delhi in collaboration with Bharatiya Jain Sanghatana (Pune).

Do I have to take part in this study?

Your participation in this study is completely voluntary. You may refuse to take part or choose to stop taking part, at any time.

What information will be collected from me and how?

The survey will take 40-50 minutes for completion.

What are the possible disadvantages/ risks of taking part?

We do not expect that you will experience any risks due to participation in this study.

Benefits of the study?

The study will try to gather evidence which will help to contextualize the knowledge and practices of rural households during COVID-19 pandemic and overall impact of the interventions used.

How will the privacy and confidentiality of my information be maintained?

All the responses to the survey will be kept COMPLETELY CONFIDENTIAL and ANONYMOUS. Participant identification will be kept only with the study staff and will not be used elsewhere. In our reports and publications, we will be using the information but without using your or any other participant's name. No personal identifier other than a numerical identification number for the participants will be used to identify the participants. Your name, contact information, etc will be stored separately from other study data that will not be shared with anyone outside the study team.

Will I get any compensation or reimbursement for participating?

No compensation will be provided for participation in this study or during the course of this study.

Will I get any compensation for injury, if any caused due to my participation in this study?

There is no risk from participation in this study.

Who has reviewed the project?

The study has been reviewed and approved from the Institutional Ethics Committee of Indian Institute of Public Health, Delhi (ECR/124/Inst/HR/2014).

If you are dissatisfied with the way the research is conducted, please contact the principal investigator in the first instance.

Who can I contact for additional information?

If you have additional questions about the study at any point in time, please contact the below mentioned persons:

Dr Saurav Basu Indian Institute of Public Health - Delhi Public Health Foundation of India Plot No. 47, Sector 44, Institutional Area Gurgaon – 122002 Phone: 8447527452 saurav.basu@iiphd.org	Ms. Meghana Desai Bharatiya Jain Sangathana Mutha Chambers Senapati Bapat Marg, Pune – 11 Mutha Chambers II, Senapati Bapat Marg, Pune - 411 016, Maharashtra. Phone: mdesai@mutthafoundation.org Ph: 9822936922

Informed Consent

TITLE OF STUDY

Assessment of The Covid-Free Village Program (CVP) For Covid-19 Risk Reduction

I agree to participate in a research project led by Dr. Saurav Basu from the Indian Institute of Public Health, Delhi, Public Health Foundation of India. The purpose of this document is to specify the terms of my participation in the project through being interviewed.

1. I have been given sufficient information about this research project. The purpose of my participation as an interviewee in this project has been explained to me and is clear.

2. My participation as an interviewee in this project is voluntary. There is no explicit or implicit coercion whatsoever to participate.

3. Participation involves being interviewed by an interviewer. The interview will last approximately 30 min. I allow the researcher(s) to take written notes during the interview. I also may allow the recording (by audio/video tape) of the interview. It is clear to me that in case I do not want the interview to be taped I am at any point of time fully entitled to withdraw from participation.

4. I have the right not to answer any of the questions. If I feel uncomfortable in any way during the interview session, I have the right to withdraw from the interview.

5. I have been given the explicit guarantee that, if I wish so, the researcher will not identify me by name or function in any reports using information obtained from this interview, and that my confidentiality as a participant in this study will remain secure. In all cases subsequent uses of records and data will be subject to standard data use policies at the Indian Institute of Public Health, Delhi (Data Protection Policy).

6. I have been given the guarantee that this research project has been reviewed and approved by the Institutional Ethics Committee of Indian Institute of Public Health, Delhi .

7. I have read and understood the points and statements of this form. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.

Participant's signature _____ Date _____

Investigator's signature _____ Date _____