HEALING FIELDS FOUNDATION

PARTICIPATORY IMPACT EVALUATION OF CHE PROGRAMME

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Impact Evaluation Report

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Intervention Area Maps

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List of ABBREVIATIONS

SNo.	Abbreviation	Description
1.	ANC	Ante Natal Care
2.	ANM	Auxiliary Nurse Midwife
3.	ASHA	Accredited Social Health Activist
4.	AWW	Anganwadi worker
5.	BCP	Basic Care Provider
6.	CHC	Community Health Centre
7.	CHF	Community Health Facilitator
8.	CHE	Community Health Entrepreneur
9.	FC	Field Coordinator
10.	FGD	Focus Group Discussion
11.	HFF	Healing Fields Foundation
12.	HSC	Health Sub-Centre
13.	IFA	Iron Folic Acid
14.	KG	Kitchen Garden
15.	KII	Key Informant Interview
16.	LFM	Logical Framework Matrix
17.	MIS	Monitoring Information System
18.	MMR	Maternal Mortality Rate
19.	PHC	Primary Health Centre
20.	PRI	Panchayat Raj Institution
21.	QC	Quarantine Centre
22.	SMART	Specific, Measurable, Attainable. Relevant and Time-bound
23.	SPSS	Statistical Package for the Social Sciences
24.	TC	Training Coordinator
25.	TT	Tetanus Toxoid
26	UP	Uttar Pradesh
27	VCCIC	Village level Covid Care Isolation Centre
28	VHNSC	Village Health Nutrition and Sanitation Committee
29.	VHMC	Village Health Committee

Table of Contents

Title Page………………………………………………………………………...........i

Intervention Area Map……………………………………………………........….iii

Acknowledgement……………………………………………………………........…v

List of ABBREVIATIONS...vii

Table of Contents……………………………………………………….........viii

List of Figures………………………………………………………………..........ix

Executive Summary 1

Chapters

Chapter I Terms of Reference………………………………………………….. 9

Chapter II. Introduction……………………………………………………...11

Chapter III. Evaluation Objectives………………………………………….....13

Chapter IV. Project Description…………………………………………………..15

Chapter V. Evaluation Methodology…………………………………………......25

Chapter VI. Findings……………………………………………………......…..30

Chapter VII. Conclusions……………………………………………………..72

Chapter VIII. Recommendations………………………………………………….94

Chapter IX Limitations..99

Chapter X. Appendices…………………………………………..................100

Appendix - 1 Number of Quarantine Centers and Beneficiaries –State wise…..100

Appendix - 2 Number of Village level Covid Isolation Centre and Beneficiaries..101

List of Figures

Figure 1: Adequacy of content in online Covid Training 34

Figure 2: Effectiveness of online Covid Training 35

Figure 3: Protective Materials received by the community 40

Figure 4: FCs observation on CHEs' Skill in using applications/Zoom 42

Figure 5: FCs rating on CHEs' Performance 49

Figure 6: CHEs Increase in average monthly income 52

Figure 7: Changes in CHEs' Freedom, Autonomy and confidence Before and After Health and Covid Training 53

Executive Summary

The assessment on the impact of the work of the Community Health Entrepreneurs (CHEs) in improving the health outcomes of the rural marginalized and poor communities and also supporting them as frontline functionaries during Covid-19 in the states of UP and Bihar was entrusted to external consultants by Healing Fields Foundation (HFF). The purpose of the consultancy was stated under 11 different headings in the Terms of Reference (ToR), which were Training, Benefits of vulnerable, CHEs changes in Roles, Skills and Ability related factors, Building local capacities during Covid-19 and driving sustainable change, Perceptions of the community, Impact of Covid related activities, CHEs and Government Health care delivery system, Quality of life impact of CHEs, Women's empowerment, Supportive supervision and Leadership and Long-term programme sustainability. These topics consisted of specific input, process, output of certain activities and outcome of the CHE programme.

Evaluation Objectives:

1. To assess the outcome of the CHE Health training and online training on Covid-19 provided by HFF to the CHEs and the need for further training so that CHEs could be leveraged to pivot innovations in community health.
2. To analyse the effectiveness of the roles played by CHEs in linking with the government health system and building local capacities during Covid-19 pandemic in delivering relevant health care to the community.
3. To investigate the impact made among the community during the Covid-19 pandemic.
4. To investigate the effectiveness of the supportive supervision and leadership support provided by HFF to render services by the CHEs.
5. To make recommendations for a sustainable change by scaling and leveraging the health livelihood activities so that more CHEs can earn more income through their work as health workers and suggest strategies to leverage these CHEs for improving access to health care in the community working as an effective change agent.
6. To make recommendations, based on the effectiveness of the existing network of CHEs to build a telehealth programme to improve access to quality health care.

Evaluation Methodology: One-group post-test design was chosen for this Participatory Impact Evaluation. This impact assessment adopted a mixed-method approach using both qualitative and quantitative methods, scrutinizing secondary data available from the MIS maintained by the project and content analysis of the curriculum followed in the training of HFF staff. HFF has intervened in 41 districts with 23 and 18 districts in the states of UP and Bihar respectively undertaking Covid-19 activities in 1133 CHE villages with 664 (58.6%) in UP and 469 (41.4%) in Bihar. The main purpose of the sampling was to arrive at a representative sample, hence a multi-stage sampling technique was adopted to carry out the quantitative methods of this evaluation. All the districts intervened were classified into effective, moderately effective and not effective based on the effectiveness of CHEs performance. In the first stage, a total of 13 (29%) districts were selected proportionately with 7 districts for quantitative and 6 for qualitative methods. For the quantitative surveys, 7 districts were selected with 4 from UP and 3 from Bihar proportionately, having the combination respectively of 2 and 1 effective,1 and 1moderately effective and 1 and 1not effective district. For the qualitative methods 6 districts that were different from those selected for the quantitative methods were chosen with 3 from UP and 3 from Bihar, having the combination of respectively 1 and 1

effective,1 and 1 moderately effective and 1 and 1 not effective district. In the second stage, CHEs villages were selected from each of the selected districts. In the third stage, women and men from the community and mothers with 1-3 years children were selected from the villages. Quantitative surveys were carried out among 284 CHEs, 693 community women and men and 427 mothers with 1-3 years children who were from 7 districts. The sample size was 25% for the CHEs. The qualitative methods carried out were FGDs and KIIs. FGDs consisted of 56 CHEs, 103 women and 61 adolescent girls from 6 districts. Among the staff, all Field Coordinators, all Field Senior Staff and HFF leaders participated in questionnaire surveys. Among them, FGDs and KIIs were conducted. Five enumerators were trained to administer the quantitative surveys using the app specially developed for this evaluation and two enumerators were trained to conduct the FGDs. The quantitative data obtained from the app and questionnaires in Excel files were processed. Statistical analyses were performed using the statistical software IBM SPSS Statistics Version 28.0. Diagrams were prepared using Microsoft Excel software. The qualitative information was scrutinized manually.

Findings: Findings are organized based on the 11 headings given in the ToR:

1.Training

CHE training: The salient features of the CHE health training mentioned by the CHEs were providing detailed knowledge on health and equipping them with skills using effective teaching methods. After 6 months of training, they worked as educators in their own communities and carried out projects. They informed that they developed leadership and mobilization skills which were observed among the CHEs but not with all of them.

Covid-19 Training: The salient features of the Covid-19 online training as indicated by CHEs were timely knowledge on Covid and required skills gained through demonstration. After the Covid training a majority learnt the skill of measuring temperature using infrared thermometer and oxygen saturation using a pulse oximeter. All CHEs expressed that they were taught home isolation methods and how to save a life from any pandemic as another salient feature of the Covid-19 Training. A majority of the CHEs surveyed and those who have participated in the FGDs had rated their opinion about the content covered as 'very much adequate' to carry out their Covid response and the remaining said it was 'moderately adequate'. The problems they encountered during online training were, poor internet connectivity, inability to hear and focus on online sessions, could not interact much with the trainer and non-availability of smartphone.

Knowledge Level of CHEs and community: The knowledge level of CHEs was satisfactory. Every CHE is expected to know all facts in detail which was lacking. The knowledge of community on the Covid preventive measures of maintaining social distance, hand washing and using sanitizer was adequate. The other preventive measures of when to isolate in the house or Village level Covid Care Isolation Centre (VCCIC), protection of persons with co-morbidity and using masks were not known to a majority. The reason for home care isolation was known to nearly two-thirds of the community which was good. A majority of adolescent girls knew the first three common preventive measures of Covid, while the other facts were known by only very few. Almost half the adolescent girls knew home care and isolation.

The CHEs expressed to have a refresher training on the same content covered under CHE health training and suggested additional health topics to improve their knowledge on other health aspects. They also expressed to have Covid training again in person and not online.

2. Benefits of vulnerable: Two-thirds of the community women and men have received one or more of protective materials such as masks, sanitizer, soaps, ration, medicines and washing

soaps from CHE. About 35% of them indicated that they did not receive any benefit from CHE. A quarter of them were facilitated by the CHEs to obtain or update their ration cards, one-fifth of them were helped for obtaining LPG gas connection through Ujwala scheme, 17.3% were helped for Jan Dhan scheme. Only very few were helped in getting MNREGA 100 days' work registration and PM Kisan Saman Yojana scheme. However, little more than half of the community women and men did not mention any government entitlements facilitated by CHE. A considerable proportion of them reported that CHE educated the community on Covid prevention, less than a half informed that she helped people access health services, and 19.5% informed that she set up VCCICs in the village. HFF provided ration once in 15 days for 3 times during the three waves of the pandemic to meet their nutritional needs. CHEs distributed ration kits to 9554 families with 3,427 in Bihar and 6,127 in UP.

(Vulnerable households were a sub-population of the marginalized and poor communities covered by each CHE. However the assessment was not done exclusively among them.)

The community women and men conveyed, "If there were no CHEs to offer the services in the field, the community of vulnerable families would have faced problems in their food consumption especially, leading to hunger. They would not have received health services and medicines and could have died from Corona infection".

The CHE's help during Covid was clearly outstanding as the community expressed it however, the variations in percentages were based on the effectiveness of the CHEs.

3. CHEs changes in Roles, Skills and Ability related factors:

CHE changes in Roles: Almost all CHEs have indicated that giving education on Covid to the community was their first role that was changed. Of the 284 CHEs, one-third of them expressed that establishing migrants Quarantine Centre (QC) was the next role to be adopted. Less than half of them said that establishing VCCIC was another role. Half of them informed that distribution of masks, sanitizers, rations etc. were some of the other roles. Almost a third of them said that working with government staff in delivering the Covid response activities were the types of changes in their work that they had to accept. The staff of HFF observed that 75% of the 1133 trained CHEs were able to work effectively which was also confirmed through the data collected using various methods.

CHE Skills and Ability related factors: The online Covid training enhanced the skill of around half of the CHEs to rate as 'Well' their use of 10 out of the 12 skills that were taught related to Covid services. These included using a smartphone, attending the meeting through Zoom, using an infrared thermometer to take temperature, using pulse oximeter, proning position skill for severe breathing difficulties in Covid patients, breathing exercises, using Gram Vaani numbers, organising medical camp, working with the government staff, organising Covid-19 vaccination camp, conducting health education and communication skill. Less than 40% rated that they have gained each of the skills as 'Well'. Another less than half of them indicated that they gained 'Little' of each of the 12 skills. The remaining proportion of CHEs expressed that they had 'Not at all' gained in each of the skills. All CHEs who participated in FGDs voiced that they were able to talk boldly, to display self-confidence, to organise meetings, to build linkages with government agencies, to provide first aid to the community and to increase earnings. Around half of them were able to organize education through auto (Dindoras), little less than half of them had gained the ability for home management of Covid patients, educated people to use Gram Vaani numbers, learnt when to isolate persons with symptoms and learnt to organize community kitchen because of the Covid-19 training.

This was a great achievement on the part of HFF through the online Covid training.

4. Building local capacities during Covid-19 and driving sustainable change: The 36 out of 56 CHEs who participated in FGDs informed that the Village Health Monitoring Committee (VHMC)/Gram Nigrani Samiti was formed in the year 2020 in their villages. All these 36 CHEs conveyed that they were part of this committee. In 36 VHMC formed by HFF, there were ≥ 7 members participating. In all 5 FGDs, CHEs informed that ASHA, ANM, AWW, Gram Pradhan, PRI members, teachers and volunteers were members of this committee. The types of facilitation the local leaders provided that were mentioned by CHEs were that they participated in CHE meetings and activities and motivated the people to take the vaccine or immunize their children. They helped in providing AADHAR card, E-Shram card and Ayushman card. They supported in organizing CHE meetings. VHMC was an effective strategy commissioned in the absence of a functioning government VHSNC. This was found to be functioning effectively in less than 25% villages which is not adequate.

5. Perceptions of the community: Almost all the community respondents knew their CHE called as CHE didi working in their villages and knew her by name. The continued need for the services of CHE in a village was indicated by 91.3% of the respondents, reflecting the value of the services according to the perspective of the community. The key limitations of CHE's services were that one-third of the women said that CHE was not available all the time, another one-third informed that she was not having the products and few lacked smartphones.

6. Impact of Covid related activities: HFF intervened by providing 45 buses and 2,475 migrants benefitted. HFF stepped in boldly to prevent the spread and safeguard the migrants. *This can be considered as a valuable contribution by HFF during a critical phase of the pandemic.* The MIS recorded that a total of 105 QCs functioned in 27 districts covering 13 in UP and 14 in Bihar in the months of March, April and May, 2020. Altogether 3505 persons benefitted with 773 and 2732 from UP and Bihar respectively. VCCIC functioned in 85 (7.5%) villages with 37 in UP and 48 in Bihar either in schools or panchayat buildings and 730 persons benefitted with 263 in UP and 467 in Bihar. *These were valuable services and a timely help to the marginalized communities in the identified needy villages to protect them from the spread.*

Covid vaccination coverage: All women who have participated in FGDs informed that they were vaccinated with Covi-shield vaccine. Almost all of the community women and men surveyed informed that they had Covid vaccine with 89.5% having had two doses and only 1.2% having booster dose. Of the 284 CHEs, almost all of them had 2 doses of Covid vaccinations and 7.7% had their booster dose also. Additionally, CHEs during FGDs mentioned that all adults in their villages were vaccinated with Covi-shield. The two doses of Covid vaccine coverage was very good among the CHEs, HFF staff and the community. The CHEs' role of motivating the community was challenging, admirable and excellent.

Effectiveness of CHEs Performance: A considerable proportion (60.6%) of community women and men have reported that CHE educated the community on Covid prevention, 45.6% informed that she helped people access health services, 39.2% said that she distributed ration provided by HFF and 19.5% informed that she set up VCCIC in the villages. The other help during Covid was mentioned by 13.3% that she helped the migrants in quarantine centres4 and 10.4% said that she helped people with symptoms to get teleconsultation

7. CHEs and Government health care delivery system: In the beginning, the ASHAs asked why CHEs were working in their area and "The government staff have not supported us, and community people also did not have faith in our voice or information". "Later they have participated in Covid management meetings, organized by us." However, there were no major conflicts with ASHAs. By discussion with supervisors from both sides, we have solved these

issues”. In many villages, the CHEs had a closer working relationship with the government health staff during the Covid pandemic response than during the earlier phase.

8. Quality of life impact of CHEs: CHEs invested their additional income earned through health livelihood activities to improve their quality of life. More than two-thirds of the CHEs recorded in the survey that they have invested in the education of their girl child. Almost two-thirds have invested on nutrition, one-third on sanitation, more than a quarter in the construction of toilets and more than a quarter in clothing. The other investments informed were soak-pit construction (16.2%) and their children’s marriage (14.4%). This indicates a reasonable increase in monthly income over a period and enhanced their quality of life in the community, however, it may not be sufficient.

9. Women’s empowerment: Because of the education and services of CHE, the changes women in the community demonstrated were participating boldly in discussions, becoming confident and overcoming shyness. Community women indicated that now they have the confidence for talking with men at home. Even if someone makes a wrong statement, they were not afraid to talk back. Some women indicated that they were confident in public speaking and that they participated in the panchayat meetings.

CHE Respect from the community: According to the CHEs, a majority of them got their respect because ‘The community valued her services and respected her’. Two-thirds of them knew that they were respected because ‘The community came to me for any help’. One-third of them indicated that they were getting the respect because ‘The people took her advice on issues related to health’. More than a quarter of them knew that they were respected, because ‘They call me madamji’. The respect for the CHE in the community was impressive and displayed esteemed character as a change agent.

10. Supportive supervision and Leadership: A turnover that occurred among the Field Coordinators (FC) restricted the follow-up of CHEs adequately which in turn reflected in the monitoring process devised by HFF. The Monitoring Information System for the HFF project has been developed with all essential variables by using an app and data from all levels were gathered regularly. However not all CHEs report on each activity regularly. And the process of completeness, updating, periodic use of consolidated data at each level (CHEs, FCs, field senior staffs and leaders), and periodic planning based on the MIS data may be happening partially. The records had many blanks or zeros in the app, making consolidation difficult.

Leadership: Leadership along with supervision and support were considered as contributors to the success of the HFF programme. The leadership support the field senior staff provided for the juniors and CHEs was that they solved issues that were brought to them. The first of the two levels of leadership in HFF is that of the CHEs, who were bound by societal norms and patriarchy all their life were established as leaders and agents of change by the time they graduated. At the second level, it is quite probable that Covid as well as when a number of field senior staff left the organisation, it disrupted much of their apparently smooth, planned working pattern. With Covid now under control they should be able to quickly get back to their original leadership pattern.

11.Long-term programme sustainability: The CHE model promoted by HFF has an inbuilt potential for long term sustainability.

Telehealth: Respondents in FGDs and surveys mentioned a list of diseases that could be brought under telehealth, which have been listed here. The health problems listed by the women from different FGDs and suggested for telehealth include diabetes, TB, skin conditions (fungal infections), bronchial asthma, thyroid, malaria, filaria, diarrhoea, fever, cough, cold,

eye and ear problems, obesity, epilepsy, piles, breast cancer, uterus problems, cervical cancer and prostate cancer. Very specifically Japanese encephalitis was mentioned. Vitals was again indicated by many of them. Blood sugar test was another suggestion.

Based on the assumption, the telehealth would be a strategy that would meet the medical and health requirements of underserved rural areas, an initiative has been taken.

More CHEs earning more income: The evaluation has shown that the income received by CHEs, has increased, but it is not adequate as livelihood income. The existing livelihood activities were education sessions, promoting KGs, committee meetings attended, data being filled, ration distribution, setting up quarantine centers, setting up Isolation centers, organizing health camps, different types of surveys, projects etc. The following is a list of products suggested by different respondents that could be sold by CHEs. SNPs, sanitizers, masks, mosquito killer sticks, pain killer ointment, body soap, hand wash soap and liquid, medicated talcum powder, phynol, medicine for emergencies, first aid medicines and nutrition powder. Grant-based incentives are not sustainable in the long run.

12. Before Covid: The CHEs education reached the community even before the pandemic and enhanced the knowledge level in health and hygienic practices. Most of the CHEs and FCs grew KGs and were shown as a model to the community and the community followed the same practice. However, less than a quarter of the community had a kitchen garden around their houses and two-thirds of them did not have space for a garden and very few were not interested. A little less than three-fourths of the community had sanitary toilets in their homes. Those who did not have toilets had the habit of using nearby fields or roadside. Two-thirds of the community respondents' family members were using SNPs. They declared that they were taught by CHEs along with ASHA and family members. Almost all mothers, had the practice of using cloth before SNP education. After the SNP education by CHEs, around 80% have changed their practice from cloth to SNP. A little more than two-thirds of the mothers informed that CHEs followed by ASHA (43.1%) were the ones who taught on SNP. A drastic change has occurred in the practice of using SNPs as a result of the CHEs' education. Shop was the main source of buying SNP. The data indicates a significant impact in both the states. But the availability was not ensured.

Early ANC registration, the number of AN check-ups and 2 doses of TT vaccination coverage were found to be good partly because of the motivation by the active CHEs. One-third of the children were born with low birth weight below 2.5 kg. Consumption of Vitamin A solution according to the protocol was not followed. Deworming was not done for children by 44.7% of mothers while 46.4% did it once a year. *Almost all the children had BCG and Hepatitis vaccination at birth indicating that the coverage of these at birth was found to be good.* However, coverage of each dose of Pentavalent vaccine was found to be higher in some districts and consistent for all three doses. In few districts, the coverage was three-fourths for the 1st dose and decreased in the second and further decreased in the third dose. A majority of the children had measles vaccination, which was good, while MMR booster dose was given to little more than half of the children which is lacking in complete coverage. This is the area where CHEs can cooperate and ensure all services are reaching the marginalized community to have a healthy generation. It is a challenging area where cooperation with the local government staff is happening and also needs improvement for complete coverage of each.

Strengths and Weaknesses: The overall CHE programme made a trained person available in the villages helping to reach a large number of poor women and to solve health-related issues. *This has led to both social and economic empowerment of women, giving increased self-*

confidence to CHEs and women. The empowerment of women was considered another strength. Preventing the spread of Covid among the rural marginalized and poor communities through education, providing preventable materials, arranging for Covid vaccination in all CHE's villages and establishing 105 quarantine centres, 85 VCCICs *in needed pockets were considered as a strength as it was considered by them as a timely intervention. The program forms a foundation where health is an entry point to development in the community.* The main weakness expressed was that some CHEs found it difficult to learn how to use digital tools and technology like datagram, MIS and Google Sheets. Liaison with the government was found to be weak at the district and state levels. There was inadequate regular income through the livelihood opportunities for CHEs. Partly this is due to unavailability of the livelihood products all the time.

Recommendations: A refresher training covering all topics in CHE health training should be organized and should be in direct contact and not online. A refresher Covid-19 training also refreshes their knowledge, if it is conducted stick to in-person training. All of them would be clarified with all specific messages conveyed through power point and it would be of use for further response to any type of infectious disease. During cluster level review meetings, the messages covered need to be refreshed by conducting quizzes or tests on selected topics every month covering all topics in a year.

Every CHE needs to have the list of vulnerable households among the marginalized and poor community. The monitoring mechanism should be fine-tuned to fill in the gaps in receiving benefits and necessary follow-up needs to be carried out to ensure that as many eligible vulnerable households among the marginalized receive all the intended health and development benefits.

Preferably, identify and make a list of CHEs who were effective, moderately effective and ineffective based on their ability related indicators. All types of skills listed in the conclusion section must be uniformly developed for all CHEs focusing on the moderately effective and ineffective CHEs which should be ensured routinely by the FCs.

If the VHMC started by HFF are actively planed and monitored all health services that are to be reached to the people from the government (mother and child health etc) and by HFF (sanitary toilet, SNP, KG, menstrual hygiene, etc) the health of the rural marginalized and poor can be enhanced. The VHMC agenda should cover the entire activities to be monitored in the villages including the plan and achievement. To strengthen the linkages with the public health system, whatever activities are carried out by the CHEs should be informed to the respective government officers.

CHEs were empowered with ability-related skills of boldness and courage, willingness to work for others, counselling, freedom, autonomy and confidence to make decisions at home and in the community. All this empowerment needs to be displayed by CHEs who were categorized as 'moderate' and 'poor' as it was demonstrated by CHEs who were 'good'.

Leadership: Field senior staff and FCs should identify and prepare a list of moderately effective and ineffective CHEs and take steps to improve their level of services for their communities. Vacant positions of staff should be filled up as quickly as possible to ensure the continuity of leadership functions across the whole organisation. A Liaison Officer should be appointed for HFF to deal with the issues and problems with the district and state level government officials

Telehealth: A set of Specific, Measurable, Attainable, Relevant and Time-bound (SMART) telehealth project objectives is essential as that has indicators to measure and would facilitate

the monitoring and evaluation. The training on telehealth to CHEs and all levels of staff should follow a curriculum that is developed with 6 components of systems approach, needs assessment, learners based SMART educational objectives, content materials, education methods for KAP and assessment package (pre-post and process evaluation). As HFF considers telehealth as a leading intervention, a Logical Framework Matrix (LFM) can be developed to have clarity on the input, process (activities), output and outcome with clear verifiable indicators, means of verification and risks/assumptions for each of these. This would guide to clearly monitor the program.

The list of vitals, diseases and investigations given as part of telehealth under the section 'Conclusions' could be considered for its development.

MIS: Formats for consolidation from MIS data at each level should be prepared. A consolidated CHE wise and FC wise reports need to be made available during cluster level meetings, to focus on the subsequent month's planning. The MIS data should be analysed district wise and state wise and can be circulated among field senior staff and FCs for further planning. Creating a database of the CHEs right from the inception, the community households that they serve, the vulnerable households and the various benefits received by them could be the base from which valuable research information could be obtained.

I. Terms of Reference for Program Assessment

Healing Fields Foundation, a non-profit organization implemented a community health intervention termed as Community Health Entrepreneurs Program in a number of states. HFF intended to carry out an evaluation of the program in UP and Bihar. Hence the Terms of Reference devised by them was entrusted to the external consultants Dr. Rajaratnam and Dr. Jolly Rajaratnam. The Terms of Reference for Program Assessment indicating the need for consultancy for a qualitative assessment of impact of the work of the CHEs in improving the health outcomes of the rural marginalized and poor communities and also supporting them as frontline functionaries during Covid-19.

Purpose of Consultancy

The objectives of the study would be to assess the outcome of the overall training and supportive supervision and leadership offered by HFF to the CHEs. They will also look at the following aspects of the health program:

- The role of CHEs in supporting the vulnerable in their communities during the pandemic and beyond.
- Changes in roles and skills experienced by CHEs during the Covid-19 pandemic; Influences on the ability to undertake Covid-19 response role; Influences on willingness to work in supporting during Covid-19.
- Covid-19-related training needs of CHEs
- Quality of life impact of CHEs engagement during Covid-19 pandemic; (comparison with areas with no CHE engagement).
- Analyzing the perception of the community of CHEs during the Covid-19 measures.
- The impact of Covid response-related activities and the facilitation offered by CHEs to strengthen the existing health care system.
- The role of the CHEs in building local capacities and driving sustainable change.
- Assess how the CHEs could be leveraged to pivot innovations in community health.

Secondary project outcomes that should also be considered include:

1. Women's empowerment, using measures such as:
    a. Participation in decision making at home and at community as a part of pandemic response
    b. Autonomy in moving out of the house and involving in community activities
    c. Village discussions
    d. Confidence / Respect
2. Long-term program sustainability:
    What recommendations exist for
    a. Leveraging the network of CHEs to build a telehealth program to improve access to quality care.
    b. scaling and leveraging the health livelihoods activities so that more CHEs can earn an income through their work as a health leader.

Expected Outputs and Deliverables

The expected deliverables of this assessment are

(1) The Evaluation proposal, presenting the design of the evaluation methodology. The external evaluator is expected to conduct a desk review of documented material on the CHE

project in addition to primary research via data collection in the field and analyses. The external evaluator is expected to document the results of his/her research in

(2) A well-articulated Evaluation Report in English language, clearly outlining the evaluation methodology, evaluation findings and recommendations

(3) A presentation for dissemination of the results

(4) A paper for publishing in a reputed journal

1. Conclusions and recommendations (based on evidence and insight). Conclusions are to be presented in the form of a compact synthesis that builds on the answers to the evaluation questions and goes a step further in the assessment – not an abridged version of the facts as presented. Recommendations should focus on the essentials in order to give the follow-up a realistic chance.
2. Annexes: Terms of Reference (ToR); evaluation matrix; timetable; list of documents and secondary data consulted; data collection tools; list of individuals and stakeholder groups interviewed; 1 electronic file containing the qualitative and quantitative data collected; short biographies of the evaluator(s) and any other relevant material.

Tentative Timeline for HFF evaluation

No.	Task	Date
1	Signing of MOU	12.05.2022
2	Consultant's visit to Bangalore: Discussion with COO, Executive Director Strategy and the field team. Observation of Telehealth training for field team	11-12.05.2022
3	Preparation of data collection tools- Quantitative	13-20.05.2022
4	Preparation of data collection tools- Qualitative	18-26.05.2022
5	Translation and formatting of Apps	21.05.2022 onwards
6	Consultant's Visit to UP/Bihar	13-19.06.2022
7	Training of data collectors- qualitative	13-15.06.2022
	Training of data collectors- quantitative	14-15.06.2022
8	Data Collection qualitative	15-21.06.2022
9	Data collection quantitative	25.06.2022- 27.07.2022
10	Data processing	27- 07 2022- 28.08.2022
11	Data analysis	29.08.2022-24.09.2022
12	Writing of draft report	26.7.2022 – 30.09.2022
13	Submission of draft report	03.10.2022
14	Submission of final report	22.12.2022

The tentative timeline planned initially was modified as based on the realities during the assessment with mutual understanding and acceptance.

II. Introduction

Healing Fields Foundation, a non-profit organization was registered in 2000, bearing registration number 9879, registered under the Public Societies Registration Act, 1350 Fasli (Act 1 of 1350 F), in the State of Telangana, having its registered office at– Municipal No.8-2-310/B/18/A, "A .A. Villa " Navodaya Colony, Road No 14 Banjara Hills, Hyderabad Telangana 500034, India. The vision of HFF is 'Build an ecosystem that ensures access to affordable and quality healthcare for all, especially women from rural and resource-poor communities.' It is recognized as a pioneer in Community Healthcare, Community Health Education and Health Financing. HFF is an Ashoka Fellow led organization and has created benchmarks and evaluation measures for improving accessibility and affordability of health care services to the poor. The core values guiding HFF are, care, compassion and sensitivity. HFF focuses its activities on the improvement of health care with no bias against any caste, creed, religion, or gender. The mission of HFF is to achieve our vision by seeding and strengthening once voiceless women as Community Health Entrepreneurs who build and scale.

- Locally-led preventive health education solutions
- Technology-driven health access
- Economic empowerment through health microenterprises
- Community level health infrastructure development

Healing Fields did a proof of concept of the program in 2005 with a group of community animators from MV Foundation. Based on the impact from this the first pilot was rolled out in Telangana in 2008. The program scaled in Bihar and UP among other States in 2011. Initially the focus of the program was percolation of health education in the remote rural communities through the trained women Community Health Facilitators (CHF). As sustainability of the women came as a challenge, entrepreneurship training was included and health products were introduced for sale by the CHEs. This act as health entrepreneurs changed their title as Community Health Entrepreneurs in the year 2017. After they became CHEs, this was the first assessment on their work. Hence this Impact evaluation focussed to assess the effectiveness of their work before and during Covid-19, though the main concentration was on the impact made as a result of Covid-19 response.

Objectives of the CHE program:

The following are the HFF Program objectives to serve the marginalised communities in selected states of India where HFF works:

1. To develop a continuum of health care model by increasing access by the presence of Community Health Entrepreneurs as first responders, and building logistics chains to connect rural communities with health resources among marginalised communities.
2. To decrease the prevalence of gender inequality and empower women and adolescent girls to overcome social and patriarchal barriers (SDG 5) among marginalised communities.
3. To enhance the health of the pregnant women and under-five children by supporting the government 1000 days care programme and contribute to the reduction of under-five mortality and MMR (SDG 3) among marginalised communities.

4. To increase knowledge of preventable health issues in selected states of India ensuring quality health education among marginalised communities.
5. To enhance the health care of the marginalised communities by implementing preventive and promotive program of health, including providing first aid.
6. To increase access to affordable health solutions by providing health livelihood opportunities for women (CHEs) so that marginalised communities receive better health products and services in selected states of India.
7. To increase the access to the government health care by enhancing the knowledge about the organization and management of healthcare delivery systems and services and facilitating referral.
8. To increase access to affordable health care by introducing telehealth services among marginalised communities.

Consultancy was commissioned for a qualitative assessment of impact of the work of the CHEs in the states of UP and Bihar in improving the health outcomes of the rural marginalized and poor communities before and during Covid-19.

III. Evaluation Objectives

Evaluation Questions

Mostly evaluation begins with the set of questions raised in the minds of the implementors or donor agency or this would have been planned while designing the programme itself. These evaluation questions will lead to framing evaluation objectives adopting SMART. This facilitates to frame only questions that were directly related to the evaluation objectives in every data collection tool that will be developed. Hence an attempt was made to convert the purposes stated in the Terms of Reference given by HFF into Evaluation Questions and then into respective Evaluation Objectives. These were shared with HFF leaders and got their concurrence.

1 How effective was the overall CHE Health training and online training on Covid-19 given to CHEs to perform their task of health care delivery during Covid-19 pandemic and the need for further training so that CHEs could be leveraged to pivot innovations in community health?

2 How well have CHEs changed their role and carried out the activities to handle Covid-19 pandemic in delivering relevant health care to the community?

3 What were the impacts made among the community during the Covid-19 pandemic?

4 How best were the supportive supervision and leadership support provided by HFF for the CHE program?

5 What are the recommendations for a sustainable change by scaling and leveraging more CHEs with earning more income and effective functioning to improve the health of the community working as effective change agents?

6 What are the recommendations, based on the effectiveness of the existing network of CHEs to build a telehealth programme to improve access to quality health care?

Evaluation Objectives

1. To assess the outcome of the CHE Health training and online training onCovid-19 provided by HFF to the CHEs and the need for further training so that CHEs could be leveraged to pivot innovations in community health.
2. To analyse the effectiveness of the roles played by CHEs in linking with the government health system and building local capacities during Covid-19 pandemic in delivering relevant health care to the community.
3. To investigate the impact made among the community during Covid-19 pandemic.
4. To investigate the effectiveness of the supportive supervision and leadership support provided by HFF for the CHE program.
5. To make recommendations for a sustainable change by scaling and leveraging the health livelihood activities so that more CHEs can earn more income through their work as health worker and suggest strategies to leverage these CHEs for improving access to health care in the community working as an effective change agent .
6. To make recommendations, based on the effectiveness of the existing network of CHEs to build a telehealth programme to improve access to quality health care.

Specific Evaluation Objectives (Purpose of the evaluation)

Evaluation Objective 1:

1. To determine the effectiveness of the CHE Health training and Covid-19 online training provided so far and the additional training needed to function as CHEs

Evaluation Objective 2:

2. To identify the appropriateness of the role played by CHEs in supporting the vulnerable in their communities during the pandemic and beyond.
3. To document the changes in roles and skills experienced by the CHEs during the Covid-19 pandemic by identifying the ability related factors of the CHEs to undertake Covid-19 response and the factors that influenced the CHEs willingness to work in Covid-19 role.
4. To describe the effectiveness of the role played by CHEs in building local capacities and driving sustainable change.

Evaluation Objective 3:

5. To analyse the perception, satisfaction, limitation and expectation of the community about the work of CHEs contribution during Covid-19 measures.
6. To document the impact of Covid-19 response related activities in the community and the effectiveness of the facilitation offered by the CHEs to strengthen the existing health care system.
7. To assess the ways and means by which CHEs could be leveraged to pivot innovations in community health.
8. To assess the quality-of-life impact of the program on the CHE and her family.

Secondary Program Outcome

9. To assess the type of women empowerment achieved as part of pandemic response using measures such as
    a. Participation in decision making at home and at community
    b. Autonomy in moving out of house and involving in community activities
    c. Confidence in performing community activities and the respect gained by women

Evaluation Objective 4:

10. The effectiveness of the supportive supervision and leadership support provided by HFF to render services by the CHEs.

Evaluation Objective 5 &6:

11. To make recommendations for long term programme sustainability
    a. Based on the effectiveness of the existing network of CHEs to build a telehealth programme to improve access to quality health care
    b. By scaling and leveraging the health livelihood activities so that more CHEs can earn an income through their work as health worker.
    c. By leveraging these CHEs for improving access to health care in the community

IV. Project Description

The need for creating awareness among the people in the community on health issues was identified during the HFF initial pilot project on community-based health insurance in the undivided Andhra Pradesh. As part of this pilot in 2004-05, 39 Community Organisers (CO) were trained, over a 9-month period, in association with MV Foundation. The introduction of this grassroots level health workers was seen to have an impact on the health behaviour in the community with increased knowledge and referrals to Government health providers. Hence a similar model with some changes was expanded from 2009 onwards in Andhra Pradesh supported by SDTT. In 2011, Cashpor approached HFF to incorporate a health component within its existing support to Micro Finance Groups. The initial model of 9-month training was modified to a 12-month training programme for the Community Health Leaders. It was designed with four-day weekly contact programme for 6 months followed by a 6 month internship with Cashpor. The Community Health Leaders were called Community Health Facilitators (CHF) under the revised programme.

Context for CHEs covered in 2021: Until 2020, HFF worked with partners to identify CHEs among their clients or beneficiaries and then trained these CHEs and graduated them through an internship program. Through this method, 5,000 CHEs (4108 with 2180 and 1928 from UP and Bihar) were trained over the course of 11 years in ten states. Healing Fields decided to focus work during the pandemic on the states of UP, Bihar and Jharkhand, as these states had the greatest need, the greatest population, and the least resources. In February of 2021, HFF launched an activation survey of all CHEs in UP, Bihar and Jharkhand to reconnect with CHEs who had been trained previously and assess interest in re-engaging with Healing Fields actively and gain more training, especially related to Covid response. Out of the 3500 trained Community CHEs from UP, Bihar and Jharkhand, a sample of 1589 CHEs participated in the survey. 95% of these CHEs were interested in receiving further training from HFF. Due to funding constraints, only 1200 CHEs could be selected for continuing training and support from UP, Bihar & Jharkhand. These 1200 (1133 from UP and Bihar) received Covid-19 training to act as village-level first responders and have been supported and monitoring in their village health work since selection. Out of these 1200, an initial set of 115 from UP and Bihar was chosen to be upskilled as Basic Care Providers. HFF began the selection of new CHEs at the end of 2021 to begin foundational training in blocks where the entire block could be saturated.

End term Impact assessment of this HFF's Community Health Facilitator Project was carried out by Deloitte Touche Tohmatsu India LLP in September to October, 2016. According to the CHF impact assessment report, there were 2619 trained CHFs on field in 5 states. In the state of UP a total of 1226 CHFs from 2013-2016 (4 years) and in the state of Bihar a total of 929 CHFs from 2011-2016 (6 years) were trained. The staff strength in 2016 was recorded as 28 Field Coordinators, 13 Training Coordinators, 4 APM and 1 Program Manager (operations) and 1 Program Manager (training). Health education, water and sanitation projects, construction of soak pits, promoting KGs and health finance schemes were the main activities during that period.

The main strategy of HFF was contributing to the health of the community through the selection, intensive training and placement of a new cadre of community level functionaries initially known as Community Health Leaders, then changed to CHF in 2011 and from 2017 they were called Community Health Entrepreneurs as they have been involved in health related livelihood activities to earn additional income. They were women from underprivileged communities who were trained to become health entrepreneurs and empowered as "change

agents of health" to promote health care delivery in select areas. The Foundation aims to work with other NGO's, the private sector, the government and semi-government sectors by leveraging its extensive knowledge of healthcare management.

Earlier Evaluations: Several assessments have been carried out over the years to upgrade the CHE's Programme. At every stage, remarkable impacts have been observed and documented encouraging to continue to see the changes among the community, CHEs and government health staff in their knowledge, attitude, practice and skill to improve the health care services of the community.

1. CASHPOR Micro Credit, 2014
2. End-term Impact Assessment Report (Deloitte, 2016)

The main objectives of the CHF project were 1. To create access to health care facilities to foster health behavior change in the community through preventive education 2. To develop a relevant and efficient health education model. 3. To effectively intervene and empower the women at the grassroots to take responsibility for the health and wellbeing of their community. "The evaluation aimed to assess the impact made by achieving the CHF project objectives. Though it was planned to assess the impact in all 6 states, Assam, Bihar, Jharkhand, Chhattisgarh, Odisha and Uttar Pradesh where the project was implemented, the samples were studied from 2 states UP and Bihar selecting districts across Bihar and UP with the highest numbers of CHF trained during the project period from 2011-2014 using purposive sampling. 10% sample of CHFs from the 2100 CHFs trained during the period were selected. The CHFs included in the study were residents of 13 districts across Bihar and Uttar Pradesh with 78 from Balia and 31 from Buxar. Hence the findings of the evaluation were applicable to represent only UP and Bihar states. However, the selected subjects were not representative and hence could have brought in biased information as there was sampling error". (Deloitte)

3. Community Health Facilitator Programme, Livelihood Experiences Report (HFF, 2015)
4. An Independent evaluation of the CHE programme conducted in Bihar, UP and Assam 2016. By Prof Dr. Jeyaprakash Muliyil, Former Principal CMC Vellore.

Limitation of the study given in the report by Dr. Jeyaprakash Muliyil was "the sample was restricted to only 3 districts of the program covering 129 CHEs. However we plan to do this evaluation in all locations going forward. Depending on the data for some impact indicators was a challenge because we were not certain of its accuracy", (JP Muliyil)

5. "Evaluation of Community Health Facilitator's project And Water and Sanitation programme in Ballia, Buxar and Sasaram" Supported by Opportunity International. A REPORT BY NATIONAL CSR HUB Tata Institute Of Social Sciences (August, 2017)

The programme trains and deploys women, who are CASHPOR's MFI clients to lead their own communities toward better health through education, improved access and affordability of quality care and delivery of products and infrastructure. Empowerment of the CHFs and providing them with income-generation opportunities was also an important goal of the programme. The limitation of the study done by TISS was mentioned by the evaluators themselves as, **"**Due to budget and time constraints, in each district, a convenience sample of the villages was taken in which villages were selected from 2 consecutive blocks to reduce travel time. Moreover, only villages that were close to the highway were selected and no control group was selected. Hence, the findings are not representative of all intervention villages and CHFs**"**.

In order to avoid the limitations mentioned in the previous evaluation reports, an attempt was made to select a representative sample for this evaluation.

Training: The Training coordinators had an extensive Training of Trainers (ToT) with a well-developed curriculum and comprehensively prepared ToT manual which is for two weeks. This equipped them to conduct trainings for CHEs, Field Coordinators (FC) and other HFF staff periodically. The manual takes them through the CHF training protocols. The recruits are provided field experience for three weeks followed by four days training in the head office at Hyderabad. They are taken through the organization processes, reporting system, monitoring processes and are mentored by experienced employees. The staff should have a Smart phone as MIS and monitoring is done via dedicated mobile apps created specifically for HFF.

Women with minimum 12th pass, good communication skills, previous work experience and having local references are recruited as FC. Induction training included field level orientation for two week's period followed by one week training at their Head Quarters. During the induction period, the FCs also develop basic computer skills. Training on operating the mobile app for daily reporting is also provided.

The CHF initial training was spread over 6 months following a need based set curriculum contextualised to local customs. This was followed by a 6 months' internship. A detailed manual was prepared with six sections as follows. 1. Community health facilitator training program. 2.Health scenario in India and levels of health care. 3. Basics of communication. 4. National health programs. 5. Convergence of services at the community through Village Health Sanitation & Nutrition Committees (VHSNCs) & their functions. 6. Personal and environment hygiene. Training materials included a CHE workbook and flip book. Training coordinators and Assistant Training Coordinators were responsible for such training. Each section has a number of sessions in each month. Each session were covered with various relevant topics. At the completion of every session a number of practical sessions to develop their skill were listed to be taken by the FCs. During internship of the second 6 months the projects to be carried out under specific titles were given in the manual.

The sessions for each month are: **Month 1:** Basics of Communication, Conduct a baseline survey, Personal & Environmental Hygiene, Water & Sanitation and Nutrition. **Month 2:** Basic Human Anatomy, Understanding disease and prevention of disease, WATSAN & CLTS and Project Planning and discussion of project topics. **Month 3:** Common Illnesses – Children, Mother and Child Health, Health of an Adolescent Girl, Women's Health and Reproductive Health and Kitchen Gardens. **Month 4:** Men's Health, Geriatric health, Health Financing and Methods of Health Education. **Month 5:** First Aid, Structuring the community health fund and management of the fund and Lifestyle Illnesses. **Month 6:** Diseases related to nutrition and food intake, Low cost nutritious recipes with commonly available foods, Administration of drugs, Home remedies to common health problems, Gender, Mental Illnesses and Domestic violence and Sexual abuse.

Sessions to be Conducted by the Field Coordinators: Month 1: Food pyramid display using samples of locally available foods and explanation, Demo on hand wash. Month 2: Demonstration of ORS, Discussion on home remedies to treat dehydration, Discussion on menstrual hygiene, and use and disposal of SNP. Month 3: Demo on MESA SNP. Month 4 and Month 5: Demonstration of cooking nutritious complementary foods for children using locally available foods – one recipe to be made like peanut and gud roti etc, Discussion on locally available foods which are good for diabetics and Discussion on domestic violence and

sexual abuse and how women can seek support. Month 6: Discuss ways of preventing domestic violence like knocking on door when you hear violent discussion.

Project title : Handwash Project, Menstrual hygiene survey, Pregnancy - Care and Nutrition, Breastfeeding, Soak Pit, Kitchen gardens(KG), Complementary Feeding, Anaemia, Enrolment to Government Insurance scheme like RSBY, Toilets and Clean drinking water

Refresher courses on a yearly basis were designed as per specific needs emerging in the field and the Project Manager nominated project staff for the same. Interactive methods such as role play, games, PowerPoint presentations followed by small group discussions were employed. Capacity building was conducted at their Head Quarters in Hyderabad once in six months and included issues such as gender sensitization, technical understanding about kitchen garden/soft pits, handling community queries, convergence with government schemes, etc. Interactive pedagogy such as role play and PowerPoint presentations are used.

As of 2018, almost 4108 underwent CHEs Health training, of whom 2180 and 1928 were from UP and Bihar states respectively. During the Covid pandemic, of the 4108 CHEs, only 1133 with 664 and 469 from the states of UP and Bihar respectively were selected to intervene for Covid-19 response based on the availability of funds. These CHEs were further trained online with a specific curriculum to lead the Covid response in their communities. The training covered the 6 weapons namely 1. Wear mask when going out. 2. Hand wash with soap and water for 30 seconds. 3. Sanitize when returning from outside. 4. Maintain social distance of 3 metres. 5. Clean surfaces inside house with Lysol, phenyl, surf or soap. 6. Isolate yourself if you have symptoms suspicious of Covid-19 that are to be educated to the community. The training also covered the topics such as the key premise of Covid-19 care on which the Covid Isolation center will be operated, Early Identification, facility overview, patient care requirements, emergency medicines, community kitchen, self proning, monitoring temperature, monitoring oxygen level, serious symptoms, facility requirements, patient protocols, infection control protocols, caregiver protocols and biomedical waste management. Gram Vaani helpline for doctor consultation was introduced in both the states.

A total of 115 CHEs have been upskilled as Basic Care Providers (BCP) in partnership with Stanford Emergency Medical Services Department and trained in diagnostics in order to bring basic health services to too hard to reach communities. The additional skills the BCPs have, like taking patient vitals and using simple medical equipment, made them especially prepared to lead during the pandemic.

Staffing Pattern: Each CHE covers a range of 250-350 rural marginalized and poor households. Each FC was in-charge of an average of 50 CHEs. Each Training Coordinator (TC) was responsible for 2 FCs and an average of 75 CHEs who comes under them. Overall, there were 21 FCs, 15 TCs for the total of 1133 CHEs.

Activities Before Covid-19:

SNo.	Activities Before Covid-19
1	Health Education in the community- Personal and environmental hygiene. Hand washing and menstrual hygiene. Nutrition, Safe water Sanitation Toilets and other topics. Demonstrations on Nutrition, Handwash, ORS, Sanitary napkins and Others. Organizing Dindoras to give health education.
2	Conducting Health camps
3	Health Education in schools: Personal and environmental hygiene. Hand washing and menstrual hygiene.

4	Facilitating construction of toilets and utilization of the same
5	Village sanitation activities and promotion of soak pits.
6	Sanitary napkin pads (SNP) were sold from 2012 to the community. Sale of products SNP, handwash, toilet cleaners etc.
7	Facilitating Government Entitlements: Ration cards, Jan Dhan accounts for pension, MNREGA job cards, Ujjwala Yojana and PM Kisan Saman Yojana
8	Facilitating to utilize timely ANC, Referring and helping to reach hospital for delivery. Education on Health and nutrition and care during pregnancy and during lactation
9	Facilitating childcare by referring them for timely immunization. Education on Breast feeding and complementary feeding, Health of 0-3 years children, malnutrition, and effects.
10	Facilitation in forming or revitalizing Village Health Sanitation and Nutrition Committees (VHSNC)
11	Kitchen gardens promoted and started
12.	First Aid intervention: poisoning, snake bite, burn cases cuts and wounds, scorpion byte, accidents, minor fractures
13.	MIS: Reporting their activities through mobile app. CHEs attending monthly review meeting organized by FC. Other field senior staff also participate based on their schedule

Each CHE conducts 12 health education sessions in any place available- usually school, with 25 in each, educating 250 women. School children were covered in schools.

Entitlement Facilitation: CHEs facilitated those who did not have cards to get them. They helped families procure ration cards in order to get access to rations, Jan Dhan accounts in order to receive pensions, MNREGA job cards for access to livelihood opportunities, as well as other schemes like Ujjwala Yojana and PM Kisan Saman Yojana. A total of 9735 families from UP and Bihar were provided access to entitlements.

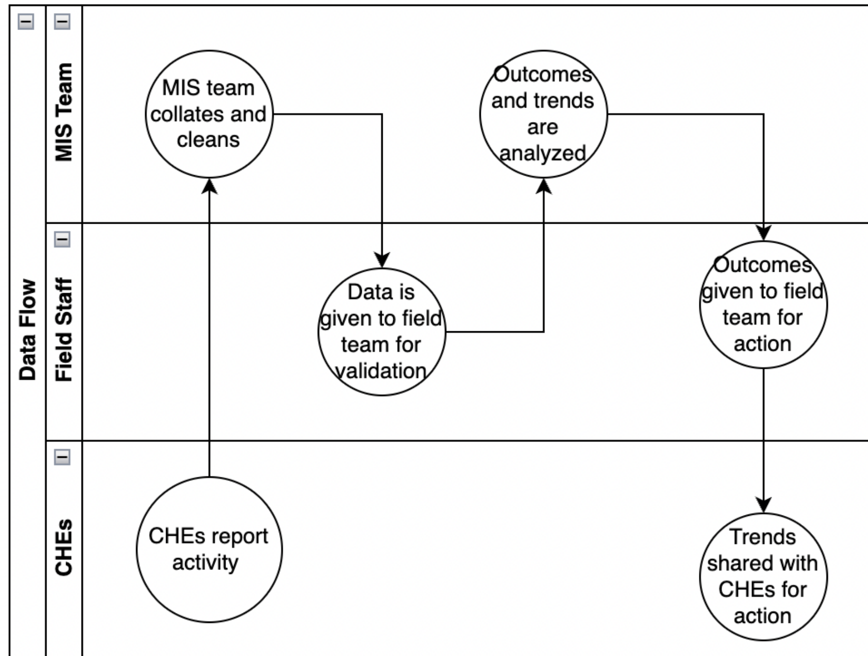
Formation of VHMC: Given the scale of need, response to Covid-19 had to be localized in order to ensure communities are prepared for future waves or new types of disaster, without being reliant on outside intervention. HFF have seen that support from traditional public health infrastructure can be easily cut off if the system is overwhelmed by pressing needs in urban areas or if lockdowns restrict movement. The key to this local response was the orchestration of local stakeholders and leaders like Gram Pradhans, ASHAs, Anganwadi workers, community intermediaries, and local volunteers. Therefore, Community Health Entrepreneurs catalysed the formation Village Health Monitoring Committee (VHMC) that included local leaders, frontline functionaries, and an equitable cross-section of village members. These committees led pandemic responses by leading education through sessions and media like posters, banners and dindoras, tracking vulnerable community members, mapping health resources, planning vaccination camps and monitoring Covid-19 safe behaviours. As the urgency of response has waned, these committees have transitioned to play a more general role in the health and well-being of the communities. They are poised to take on projects like village clean-up and sanitation, coordination with government officials for village-level health camps, and toilet construction. Thus HFF started VHMC in 1059 CHE villages with 588 in UP and 471 in Bihar.

Sustainability of financing the CHEs was built into the programme right from the beginning. They received payments according to the services rendered. They were also given health and sanitation products that they could sell to the community in need and earn a livelihood income. The CHEs had access to multiple income of sources – monthly stipend of Rs. 500, profit earned from sales of sanitary pads (at the rate of Rs. 3 per packet sold), and incentives (from Cashpor) for mobilizing families for construction of toilets. As part of the livelihood component of the project, HFF had set up a semi-automatic manufacturing unit in 2012 in Buxar district in Bihar that employed eight local women (8 non CHFs and 1 CHF). The product - Mesa SNP (pack of 6) were purchased by the CHEs at Rs.18 and sold to the community at the rate of Rs. 25 per packet.

A Logical Framework was submitted in August, 2018 with the overall purpose, "To train and deploy women and adolescents to lead their communities toward better health through education, improved access and affordability of quality care and delivery of products and infrastructure that promote healthcare; and to empower women with opportunities for income-generation and financial self-sustainability through sales and distribution of health products and services to their communities" could not take its shape because of Covid-19. Later the Foundation decided to function without involving MFIs, SHGs and other such organization as HFF wanted to reach out to the whole community not just the MFI and SHG members only – to make it more inclusive.

Program Monitoring through MIS: A monitoring format covering all activities of the previous month must be filled by each of the CHE and the information gets uploaded. The CHEs are monitored by FCs. The FC was responsible for direct supervision of CHEs assigned to each of them. CHEs were monitored by FCs and TCs and provided support to the CHEs in her district. Each FC has 45-50 CHEs under supervision and visits were made on a rotation basis. She reviews the registers being filled out by the CHEs and gives feedback in cases where tasks are not completed effectively. Monthly review meetings were held by FCs on rotation basis on a particular day of the week in which the following month's planning was done and the previous month's work was reviewed, and issues were handled for the CHEs under her care. The Programme Manager (operations) oversees the work of the FCs – on a daily and weekly basis. The FCs were required to share with the PM (Operations) their plan for the day at the start of a working day and the status of planned activities at the end of the day through WhatsApp. Further inputs about the weekly plan along with a daily update on every CHE's progress were made into a mobile app-based MIS. The app had a checklist for health education, vaccination, KGs, village illnesses and deaths, committee meetings, product sales, referrals, first aid, toilets etc. The MIS was reviewed by the internal MIS monitoring team at HO in Hyderabad on a regular basis. In addition to the above, conference calls were scheduled once a week both at field level and senior management level. Field visits were conducted by senior management on monthly and quarterly basis. Every staff had a 90 day plan prepared by the Program Manager operations which was further divided into monthly, weekly and daily plan. These plans were monitored by the Assistant Program Managers for their respective regions.

HFF devised a MIS Flow chart to depict the flow of information between CHEs, MIS team, and field staff. HFF leaders team shared outcomes regularly.



Monitoring Format: The following were the indicators used for monitoring the different activities of CHE program.

1. Topics of health education sessions covered: Safe water, sanitation toilets, menstrual hygiene, nutrition, personal and environmental hygiene, water-borne, air-borne, vector borne and seasonal illnesses, women's health and common illnesses in women, health and nutrition during pregnancy and lactation, breast feeding and complementary feeding, health of 0-3 years children, malnutrition and effects, common illnesses in children, health of school going children, kitchen gardens, lifestyle illnesses, addiction, age at marriage, domestic violence, diabetes, hypertension, anaemia, cancer(s) and Covid-illness.
2. Demos done in the month: Nutrition, handwash, ORS, SNPs and others
3. Number of families reached by CHE through education in the month
4. Committee formed: Yes/No. Number of committee meetings and committee activities
5. Kitchen gardens built in the month : Yes/No Number of KGs made. Add KG photo
6. Number of people receiving Covid-vaccination
7. Number of people needing Covid-vaccine
8. Number of Dindoras in the last month
9. Sale of products: Number of SNP, number of handwash and toilet cleaners sold
10. First Aid intervention. Yes/No. Type of first aid intervention, Number of incidents of
    1. Poisoning, 2. Snake Bite, 3. Burn cases cuts and wounds 4.Scorpion byte
    5. Accidents, 6. Minor fractures
11. Number of children referred for routine vaccination
12. Women referred for antenatal check-up
13. No of people with illness referred to hospital
14. No of institutional deliveries referred and supported

Activities related to Covid: While they appeared to be developing in the area of community health, the advent of Covid-19 appeared to disrupt their plans, instead it brought forward the gaps in the system and the need for support to communities. This provided an opportunity for the CHEs to raise in their role as health leaders. During the first wave of Covid-19, the trained CHEs started educating their communities on best practices. They started educating the community on preventive measures of Covid and the messages were considered as 6 weapons. 1. Wear mask when going out. 2. Wash hand with soap and water for 30 seconds. 3. Sanitize when returning from outside. 4. Maintain social distance of 3 metres. 5. Clean surfaces inside house with lysol, phenyl, surf or soap. 6. Isolate yourself if you have symptoms suspicious of Covid-19. These messages were broadcasted through a mike attached to an auto rickshaw which went around in the village. These were called Dindoras.

They worked to prevent Covid-19 stigma. In May 2020 during the first wave, HFF partnered with Gram Vaani's Interactive Voice Response (IVR)-enabled Mobile Vaani to ensure that CHEs could use this digital platform to amplify information on Covid-19 prevention, identification of symptoms and referral to local hospitals across UP and Bihar. Through this platform they educated the Gram Panchayat leaders on building quarantine centers in their villages. This platform has an IVR enabled quick test to determine if the villagers were high risk for Covid -19. Total calls received were 18,652 and 360 high risk cases identified. These CHEs coordinated with the frontline functionaries and local leaders to support their communities during Covid. The CHEs played a major part in the response to the poor in the areas served by HFF.

Quarantine Centres: When the lockdown was announced with little warning, trains and buses were frozen across India. Millions of migrant workers were left stranded, and many resorted to dangerous means of transport, like walking, cycling or hitchhiking, to try and reach their homes. HFF intervened by providing 45 buses and 2,475 migrants benefitted. HFF also had to coordinate with District Magistrates in home districts and the Disaster Relief Agencies in the destination states to ensure a smooth journey.

Their first response for Covid was in setting QC for returning migrants. A total of 105 (9.3%) QCs functioned in 27 districts with 13 from UP and 14 from Bihar in the months of March, April and May, 2020. A total of 3505 persons benefitted with 773 persons from 58 QCs in UP and 2732 persons from 47 QCs in Bihar. In villages where there was a sizable number of returning migrant labour, CHEs and staff engaged Gram Panchayat leaders to convert the village school or panchayat buildings into a quarantine centre with access to a clean toilet, provision for water, mattresses, soap for washing and bathing for the returning labour force. Breakfast was provided with egg and channa. They were provided a sanitation kit with toothpaste, brush, body soap, washing soap, towel, bucket, mug and mask for fifteen days duration. HFF worked with district governments to support these quarantine centres. CHEs set up community kitchens with the support of HFF and Gram Pradhan to feed migrants in the centres, nutritious, protein rich meals. After observing that migrants were experiencing severe depression, HFF facilitated mental health helpline Let's Talk and trained CHEs to counsel individuals needing support and facilitate access to the helpline.

Village-level Covid Isolation Care Centres. The VCCIC were planned and established only after taking a greater effort by HFF to identify the needed villages where the pandemic was spreading fast. The VCCIC functioned in 26 districts having 85 centres (7.5% Villages) with 37 from UP and 48 from Bihar. A total of 730 persons benefitted with 263 from UP and 467

from Bihar as the next response during the second and third waves for high risk and symptomatic individuals.

This catered to those with no isolation facility in their homes, patients whose families could not afford isolation and patients who were mildly ill and who were afraid to go to the hospital. The VCCIC provided breakfast and the other meals were to be provided by the family. Medicines, access to free remote consultation by doctors and mental health helpline were also provided. Pulse oximeters, infra-red thermometers, BP machines were provided at the Covid Care Centres. Personal protection gear was provided to the CHEs and ASHAs. Posters and banners of isolation and information on Covid were also provided. For those with low risk, health education was provided by door-to-door visits. High risk individuals were referred to the government hospital.

The CHEs were trained with new skills for Covid care. For the first time many CHEs learnt to use the smart phones and used them for online learning. CHEs used the pulse oximeter to measure the oxygen concentration and make decision on the follow up treatment that should be provided either at these centres or by referral. Other skills were checking temperature, teaching breathing exercises, promoting proning position of breathing and communication skills. The CHE educated the community also on Covid vaccination. They also provided telemedicine services through telephonic contact with health professionals.

The following table shows the quantum of Covid-19 treatment equipment and materials provided through HFF.

State	Pulse Oximeter	CHE Medicine Kits	Individual Medicine Kits
UP	569	623	3115
Bihar	405	463	2315
Total	974	1086	5430

CHAAV project of IIMA distributed pulse oximeter, gloves, masks, soap, sanitizer, hand towels and kits. Give India provided oxygen concentrator and pulse oximeter to CHC/PHC.

Ration: In their areas of operation, ration distribution was done in selected districts based on the availability of resources. HFF provided ration once in 15 days for 3 times during the three waves of the pandemic. They would identify the list of the poor and vulnerable and provided them a ration kit consisting of 2 masks, 200 ml of sanitizer, 1 body soap, 4 washing soaps and ration worth Rs 1000 (Dhal, mustard oil, channa, soybean, salt, tea,) CHEs provided ration to meet their nutritional needs. CHEs distributed ration kits to 9554 families 3,427 in Bihar and 6,127 UP. They were also facilitated access to get their rice and wheat from the ration shop.

The Future: Now with Covid under control, the CHEs are being shifted back to their original priority of health care delivery. During Covid they were incentivized for the services from the organisational grants. Effort has been taken to expand the tele-health consultations in a larger manner to improve the health services among marginalized and poor in the rural communities. A total of 9 batches of new CHEs will be trained with 50 in each batch. There is a plan for refresher training of the old CHEs. Telehealth consultation is being planned for the next phase. Newer livelihood approaches are also being identified to ensure a sustainable income.

Telehealth: HFF developed content for training and protocols for teleconsultations. The required training manuals for trainers and CHEs were created, and master trainers were

recruited and trained. HFF identified point-of-care devices and rolled out training for Master Trainers for these tools. Remote doctors have been recruited and trained based on the prepared protocols. Alongside these program developments, the digital platform for teleconsultation has been developed alongside National Digitial Health Mission guidelines. Hospitals, pharmacies and labs have been identified, assessed, and onboarded in Muzaffarpur, Ballia, Gaya, Aurangabad, and Palamau. 180 CHEs have been identified from existing CHEs and are in training to be upskilled as telehealth facilitators.

Awards and recognition: The work of HFF has been recognised with national and international awards over time as listed below.

1. Ashoka Fellow 2007
2. Finalist for the Social Entrepreneur of the year 2019 (Schwab Foundation)
3. Wego Award 2020 (Opportunity International)
4. +Global Fund awardee 2020
5. Top Last Mile Responder to Covid-19 2021 (World Economic Forum)
6. The Roux Prize 2022

Roux Prize22 was awarded to Mukteshwari 'Mukthi" Bosco, CEO and Founder of Healing Field Foundation. Roux Prize is awarded annually to an individual who has used health evidence in 'bold' ways to make people healthier.

V. Evaluation methodology

1. **Evaluation design:** One-group post-test design was adopted for this Participatory Impact Evaluation. This evaluation design was chosen for this impact evaluation of the programme as this assessment was done only in the intervention area and it was not intended to have a control area. Also, there was no pre-assessment carried out prior to the onset of the Covid intervention programme. Though other evaluation findings are available, however, those were focused on the particular interventions at that point in time.
2. **Evaluation Methods:** The project documents were thoroughly reviewed to understand the qualities of the implementation models and the outputs/outcomes expected from the project. This impact assessment adopted a mixed-method approach using both qualitative and quantitative methods, scrutinizing secondary data available from the MIS maintained by the project and content analysis of the curriculum followed in the training of HFF staff.

   a. Qualitative methods: Focus Group Discussions (FGD) were carried out with community women, adolescent girls in the community, the Community Health Entrepreneurs (CHE), and Field Coordinators (FC). One FGD was conducted with Training Coordinators (TC), Assistant Program Managers (APM) and field senior staff of HFF. Key Informant interviews (KII) were held with HFF senior staff, Gram Pradhan, PHC doctor, ASHA, VHN and AWW. Interviews were carried out with Project Managers and with Covid Isolation Centre beneficiaries. Case studies of Covid Isolation Centre, CHE and FC were documented.

   b. Secondary data: Monitoring data maintained through MIS by the project was scrutinized. The current annual report was reviewed. Also reports of previous evaluation were reviewed.

   c. Quantitative methods: Sample surveys were carried out separately among CHEs, community women and mothers with 1-3 years children. Questionnaire surveys were administered among FCs and field senior staff. A mailed questionnaire survey was conducted by sending the questionnaire to the Senior Leaders of HFF.

   d. Content analysis of curriculum: The ToT manual used for training coordinators, the 1-year training manual developed to train CHEs and the manual to train on Covid-19 response for the staff and CHEs were reviewed extensively.

As the beneficiaries of the intervention were more than one category, the unit of analysis covered under various surveys was community woman or man, adolescent girl from the community, mother with 1-3 year child and CHE. As the implementors' effectiveness was assessed, the unit of analysis was the Field Coordinator and Field Senior Staffs. However, the findings were comprehensively brought together to make the appropriate recommendations.

3. Data collection tools

The data collection tools used for the qualitative (a,b) and quantitative methods (c,d) were

a. Ethnographic guides for FGD, KII
b. Guidelines with open-ended questions for interviews and case studies
c. Interview schedules for the surveys among community, mothers and CHEs
d. Questionnaire for the survey among FCs, Field Senior Staff sand HFF leaders

Quantitative Methods: Interview schedules consisting of structured questions for each target group of community women, mothers with 1-3 year children and CHEs were designed for the respective surveys. The questions were framed to cover the evaluation indicators selected for each objective and sub-objectives. The options for every question were prepared and provision for other answers were also given. These three interview schedules were reviewed by the project leaders to confirm the proper clarity and appropriateness. After a thorough discussion, all three interview schedules were given for designing an app using the KoboCollect software to be used in the electronic device. The consultants and the project leaders have gone through the questions one by one and the options for each question . Five enumerators were trained for 2 days on the 14th and 15th of June during the consultants field visit, along with HFF Chief Operating Officer and those who uploaded the interview schedules into the app. Each of the interview schedule was pre-tested by the enumerators during their training and based on the feedback, they were further modified and the tools were ready for data collection.

Questionnaires for FCs and Senior staff were prepared to elicit their feedback focussing on the relevant indicators among the selected ones for the effectiveness of the CHE programme. A questionnaire to administer through a mailed survey also was designed for the key leaders of HFF to obtain a clear understanding of the working of HFF and to know the future directions that are being discussed at the leadership levels for HFF.

Qualitative Methods: Ethnographic guides were prepared separately to conduct the FGDs with CHEs, FCs and Senior Staffs focussing on the relevant indicators. FGDs were conducted by independent assessors without the presence of HFF team

General guidelines were adopted to obtain the salient features of the functioning of Covid Isolation Centre, effective CHE and FC for documenting through case study.

4. Sampling design

a. Sample frame: HFF has intervened in 41 districts with 23 and 18 districts in the states of UP and Bihar respectively. The list of all 41 districts where Covid-19 activities were carried out was used as the sample frame for the study. The total number of villages covered under CHE programme ranged from 2 to 97 villages in each district in UP and 1 to 83 villages in Bihar totalling 1133 villages with 664 (58.6%) in UP and 469 (41.4%) in Bihar.

These districts of each state were classified as effective, moderately effective and ineffective according to the CHEs' performance indicators taken from MIS. This resulted in 8 effective, 7 moderate and 6 ineffective districts in UP and 2 effective, 7 moderate and 8 ineffective districts in Bihar. The list of CHEs villages was the second sample frame for the selection of villages from the sampled districts. The list of target groups from the selected villages formed the third sample frame for the selection of individuals.

b. Sampling technique: The main purpose of the sampling was to arrive at a representative sample, hence a multi-stage sampling technique was adopted to carry out the quantitative methods of this evaluation. In the first stage, districts were selected proportionately based on the effectiveness of performance. A total of 7 districts, 4 from UP and 3 from Bihar were selected proportionately from the states, having the combination of 2 effective,1 moderately effective and 1 not effective district from the state of UP and 1 effective,1 moderately effective and 1 not effective from Bihar. In the second stage CHEs

villages were selected from each of the selected districts. In the third stage, women and men from the community and mothers with 1-3 years children were selected from the villages.

CHE Survey: All CHEs from the selected 7 districts were chosen except half of them from one district as the number of CHEs was more than what was identified for the sample size for the CHEs survey. Thus 25% (284 out of 1133) of the CHEs who had undergone Covid training were covered under the survey.

Community Survey: Two villages from each of the selected 7 districts were selected whose CHEs were not part of the FGDs. Then one village that had a Covid Isolation centre and another village that did not have a Covid Isolation centre were selected from each of these selected 7 districts. From each of the villages with a Covid Isolation centre, a list of households was prepared where there were at least one or more persons admitted in the Covid Isolation Centre. From this list, 25 households were selected. (If there were an inadequate number of households, then households which had Covid cases were included). The remaining 25 households were selected from the rest of the households with no Covid cases. From each of the villages where there was No Covid Isolation centre, a list of households where there were at least one or more Covid cases was made. From this list, 25 households were selected. The remaining 25 households were selected from the rest of the households. Thus 50 households were selected from each village. The respondent was an adult woman but many men have also been sampled in the survey

Mothers with 1-3 years children Survey: These villages were selected by leaving the villages selected for the community survey. If one village did not have 50 mothers with 1-3 year children, then a neighbouring village was included.

The data collected for the quantitative surveys were on digital tools using an existing survey platform - KoboCollect.

Qualitative Methods

A multi-stage sampling technique was adopted to carry out the qualitative methods of this evaluation. In the first stage, districts were selected proportionately based on the effectiveness of performance which was different from that of the districts selected for quantitative surveys. The purpose of selecting different districts was to increase the coverage. A total of 5 districts 3 from UP and 2 from Bihar were selected having the combination of 2 effective and 1 moderately effective district from the state of UP and 1 effective and 1 moderately effective from Bihar. In the second stage, CHEs villages were selected from each of the selected districts. In the third stage, households and adolescent girls were selected using convenient sampling based on the respondents' availability from the selected villages. One village was selected from each of these districts whose CHEs were not part of the FGDs. FGDs among the community women and adolescent girls were done in the same villages.

c. **Sample size:** As the intervention covered more villages in UP than in Bihar, the samples were also picked up proportionately. The sample size was 29% for the selection of districts and 25% for the CHEs. The number of samples selected is furnished below.

Table M: Sample size for surveys and FGDs

Districts Selected	Quantitative Surveys			Districts selected	Qualitative FGDs		
	CHE	Community	Mother		CHE	Women	Adolescents
UP	**169**	**393**	**245**	**UP**	**47**	**69**	**40**
1.Ghazipur	49	102	60	1.Azamgarh	10	12	12
2.Basti	36	101	61	2.Pratapgarh	11	13	12
3.Jaunpur	50	90	61	3.Mirzapur	13	20	16
4.Chandauli	34	100	63	4.Mau	13	24	
Bihar	**115**	**300**	**182**	**Bihar**	**9**	**34**	**21**
5.Gaya	27	100	61	5.Kaimur		14	8
6.Muzaffarpur	51	99	60	6.Saran	9	20	13
7.Rohtas	37	101	61	**Total FGDs**	**5**	**6**	**5**
Total respondents	**284**	**693**	**427**	**Total respondents**	**56**	**103**	**61**

Among the staff, 8 Field Coordinators and 10 Field Senior Staff participated in the questionnaire survey. FGDs were conducted with 8 FCs and 10 Field Senior staffs. KIIs were held with one CHC Doctor in Bihar, one Gram Pradhan each from Bihar and UP respectively, one ASHA and one VHN. Case studies were made with one CHE and one Village level Covid Isolation Centre

5. Data Collection Method:

During the consultants' field visit from 13th to 18th of June, 2022, five enumerators were trained to administer the survey interview schedules prepared for the community, mothers with 1-3 year children and CHEs in the selected villages using the app. They used the app and recorded the responses using their smartphones. The questionnaires for FCs and field senior staffs were administered by the consultants during their field visit. The questionnaire for the HFF leaders was sent to them to be filled in by them and got a soft copy of their responses. The quantitative surveys data collection took more than a month from 25.6.22 to 27.7.22.

Of the planned number of FGDs, KII and Case studies among different target groups and stakeholders, one FGD each among CHEs, community women and adolescent girls and one KII among CHC Doctor, Gram Pradhan, ASHA, and one case study were carried out by the consultants during their field visit which was observed by the two other experienced enumerators. They were trained by the consultants during their field visit to carry out the remaining interviews. They conducted the FGDs, KIIs and case studies in the respective selected villages over a period of one week (15-21.6.22) in the month of June. They sent the filled-in formats (Ethnographic guidelines) with the detailed expanded notes entered in a word file as well as the recordings done during each of the discussions and interviews.

The instruction given to all the seven enumerators was that they should not allow any HFF project staff or volunteers to be with them during data collection time as a quality control

procedure. They could be allowed to facilitate gathering the groups and identifying the individuals but not during the interview.

6. Data Processing:

The Excel file obtained from the app was sent to the consultants for analysis. All the ethnographic expanded notes were sent to the consultants for comprehension. All quantitative data Excel files were checked for consistency and uniformity. Thus they were made ready for analysis. Qualitative data from FGDs and KIIs were jotted down notes and the information from electronic recordings. These were elaborated to get the complete responses of the respondents. Responses for certain questions obtained through FGDS with the same cadre were carefully summed up so that quantification was possible. Open responses were brought into the convergence of themes. Information was translated into English wherever they were recorded in Hindi.

7. Data Analysis:

Descriptive statistics of frequencies and percentages were performed to describe each of the nominal variables used in the evaluation study. Required cross-tabulation of the nominal variables was done with the district variables. Univariate analysis was undertaken to detect differences in mean income using analysis of variance. The statistical tests used were the proportion test and t-test. Statistical analyses were performed using the statistical software IBM SPSS Statistics Version 28.0. Diagrams were prepared using Microsoft Excel software.

Qualitative data obtained through FGDs and KIIs were consolidated manually and the respective results were attached with the corresponding indicators. Information obtained through various methods and from different target groups was brought together and interpreted for each indicator.

Representative Sample: The sample selected for this evaluation represent the population covered by HFF in UP and Bihar. One evidence is confirmed as the number of CHEs upgraded with Basic Care Provider (BCP) training was 115 in total which is 10% of the total CHEs There were 9.3% CHEs who had this training in the sample for the survey and an addition of 13 CHEs in the FGDs which again is 10%.The selection of districts were also done by covering the geographical entire area. Hence the findings of this evaluation represent the population covered under HFF CHE programme.

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VI. Findings

This section on findings started with briefing the profile of the respondents who participated in the surveys, FGDs and KIIs. The findings of this evaluation is presented under 11 headings with a few sub-headings that were given by HFF in the ToR. Indicators were developed after framing the evaluation objectives based on the purpose given in the TOR to design the data collection tools with questions specifically focusing on the objectives. Findings are presented in line with the indicators.

The 11 headings are:

1. Training
2. Benefits of vulnerable
3. CHEs changes in Roles, Skills and Ability related factors
4. Building local capacities during Covid-19 and driving sustainable change
5. Perceptions of the community
6. Impact of Covid related activities
7. CHEs and Government Health care delivery system
8. Quality of life impact of CHEs
9. Women's empowerment
10. Supportive supervision and Leadership
11. Long-term programme sustainability

Profile of the respondents participated in surveys and FGDs

CHEs - Survey: A representative sample of 284 frontline workers called the CHEs were interviewed who were distributed from 7 districts with 169 CHEs from 4 districts of UP and 115 CHEs from 3 districts of Bihar. The 284 CHEs respondents were selected from 68 blocks of both the states with 42 blocks from 4 districts of UP and 26 blocks from 3 districts of Bihar. A little less than two-thirds of CHEs (63.4%) fall in the age group of 35-49 years and a little less than a third (32.7%) were in the age group of 25-34 years with very few (3.2%) being above 50 years. Less than half (43.7%) had completed secondary education, about a third (29.9%) had completed higher secondary education and 12.3 % were graduates. Housewives formed the biggest category of occupation prior to becoming CHEs at 81.0%. Private jobs came a low second with 7.7%. Other categories were very few. Less than half lived in semi pucca houses (43.3%) and pucca houses (41.5%) respectively while the remaining 15.1% lived in kutcha houses. All CHEs possessed their AADHAAR cards. Ration cards were owned by 93.7% of CHEs with 62.0% holding BPL, 20.1% APL and 11.6% holding Antyodaya cards. Nearly one third (32.7%) had enrolled in Kisan Samman Yojana. Registration in MNREGA was completed by 28.5%. There were 54.6% who had access to Jan Dhan and almost half (48.2%) of CHEs had Ujwala gas connections.

CHEs – FGD: A total of 56 CHEs working in HFF with 47 from UP and 9 from Bihar participated in the discussions in 4 FGDs conducted 3 in UP and 1 in Bihar. Almost two-thirds of them were in the age group of 20-39 and the remaining were between 40-59 years. A little more than a third had higher secondary education, little more than a quarter had 9-10th standard and 8.9% were graduates. A majority (80.4%) of them had working experience of 7-9 years with HFF and the rest had only 3 years. More than a quarter of the CHEs (28.5%) had experience of 8 to 10 years who joined during 2012-2014. A little more than a third (35.9% and 35.6%) of CHEs had 5-7 years and 3-4 years of experience respectively who joined during 2015-2017

and during 2018-2019. There were more CHEs with longer experience of above 5 years from Bihar (76.5%) than from UP (56.2%).

Community Women and Men - survey: A total of 693 community members were interviewed who were distributed in 7 districts with 393 from 4 districts of UP and 300 from 3 districts of Bihar. The 693 respondents from the community were spread out in 9 blocks of both the states with 6 blocks from 4 districts of UP and 3 blocks from 3 districts of Bihar. They were dispersed in 14 villages of both the states with 8 villages from 4 districts of UP and 6 villages from 3 districts of Bihar. All these 693 respondents were from 67 different castes. One third (34.1%) of the respondents were from Scheduled Caste, 15.6% were from Most Backward Caste and 42.3% from Backward Caste. Very few were from Schedule Tribe and few from Forward Caste. This caste composition of the respondents indicates the marginalised community the CHEs are serving. A similar proportion of mothers (43.6%, 43.9%) were in the age group of 20-39 years and 40-59 years respectively with few below and above these age groups. Little less than two-thirds were women and little more than one third were men. Little less than two-thirds (61.1%) had no education or primary level education. Little less than one third (31.7%) have completed either secondary or higher secondary education. Only half of the respondents were living in pucca houses while the other half were living in either kutcha or semi pucca type of houses. A majority (87.9%) of them had their ration card with 60.2% holding 'below poverty' card and 17.3% Antyodaya card indicating their poverty status. Only 10% had 'above poverty' category ration card. Almost all (99%) of them had AADHAR card. There were 60% who had access to Jan Dhan and little more than half (58.7%) of them had Ujwala gas connections. Little more than a quarter (28.6%) had registration in MNREGA and 26.4% had enrolled in Kisan Saman Yojana.

Community Women - FGD: A total of 103 women from the community with 69 from UP and 34 from Bihar participated in 5 FGDs conducted in 4 villages from 4 districts of UP and 2 villages from 2 districts of Bihar.

Mothers with 1-3 year child - Survey: A total of 427 mothers who have at least one child in the age group of 1-3 year were covered from 14 villages in the 10 blocks of 7 districts from both the states. From UP, 245 mothers were from 8 villages in the 6 blocks of 4 districts and from Bihar, 182 mothers were from 6 villages in the 4 blocks of 3 districts. Three-fourths of the mothers were in the age group of 19-29 years, 21% in the 20-39 years age group and only a few were above these ages. The children in the age of 1-2 years constituted 61.8% while those in the 2-3 years were 38.2%. Half (49.2%) of the children were boys and the other half (50.8%) were girls. These indicators confirm the representation of the community.

The mothers were from 41 different castes. The caste composition of the respondents was that Schedule Caste consisted of 40.7%, Schedule Tribes only 3.3%, Most Backward Caste (Mahadalits) 8.9%. Other Backward Caste (OBC) were 41.5% and 5.6% were General.

Caste being the vital indicator for social status, data evidently projects that HFF works among the downtrodden community.

Adolescent Girls - FGD: A total of 61 adolescent girls from the community with 40 from UP and 21 from Bihar participated in 5 FGDs conducted in UP and 2 in Bihar. Adolescent girls who participated in all the 5 FGDs from both the states were in the age group of 14-15 years (21.3%) and 16-19 years (78.7%). All of them were studying either in school or college while one had no education.

Field Coordinators - Survey: There were 8 Field Coordinators who participated in the survey. Two of them had experience of 8 years and one had experience of 7 years. The other 5 had

only one year of experience. Half of the 8 were in the age group of 25-29 years and the other half being in the 30-38 years. Half of them had completed only 10-12th standard, 2 had completed GNM course and the other 2 were graduates. Except 1 person all were married. Six of them were housewives, with 1 studying and the other doing WDC work. Seven of them had independent houses with one person having the first floor.

Field Coordinators - FGD: All 8 of them who participated in the survey were also the respondents for the FGD.

Field Senior Staff - Survey: Ten of the senior staff of HFF working in the fields were participants in the survey. They were between the age of 25 to 44 years with 7 males and 3 females, 8 of them were holding post-graduate degrees and 3 were graduates. Of the 10, 7 of them were married and 3 unmarried. Half of them had 8-13 years' experience in HFF while 2 had 5-6 years and 3 had 1-2 years.

Field Senior Staff - FGD: All 10 of them participated in the FGD also.

Field Senior Staff – KII: The two senior staff the Reginal Manager and the Programme Manager (Training) who participated as key persons were in the age of 44 and 39 years, having the qualification of master's degree in social work joined in HFF 2010 and 2013 having an experience of 13 and 9 years respectively.

1 Training by HFF

1.1 CHE Health Training: HFF selected eligible women from the rural marginalized and poor communities and offered CHE Health training and once they graduated by completing the training, then HFF selected them to serve as CHEs. All 264 CHEs who were interviewed for the survey (9.5% CHEs in the years 2010-2013, 20.8% in 2014-2015, 28.5% in 2016-2017 and 40.8% in 2018-2021) and all 56 who participated in the FGDs attended the 6-month training followed by 6 months internship. Among them 9.5% CHEs and 13 (1.1%) CHEs from FGDs attended a further training called the Basic Care Programme (BCP) held in 2016, 2017 and 2018. As of 2021, almost 4108 underwent CHEs Health training of whom 2180 and 1928 were from UP and Bihar states. On an average, 10% of CHEs drop out during CHE health training and internship due to various reasons and the remaining were on job in UP and Bihar. Out of them 1133 underwent Covid-19 training as of June, 2022.

Content covered: In 4 FGDs almost all CHEs informed that they remember the content that were taught and covered in the first CHE health training. They listed the topics covered under the health training, however not all topics were remembered by most of them. These included, nutrition (4FGD), malnutrition and sanitation (2FGD), cleanliness, air/vector/water borne diseases (2 FGD), hand washing with soap, kitchen gardening (2 FGD) and soak pit. Menstrual hygiene (2 FGD), health of pregnant women (2 FGD), lactating mothers of 0-3 years children, adolescent girls' health (2 FGD), children disease, immunization, child marriage, family planning, mother and children's health and substance abuse were some of the topics covered. Very specifically Japanese encephalitis, cervical cancer and breast cancer (2 FGD) were also listed. CHEs could not answer information related to Vitamin A solution and deworming for U5 children. Almost all the CHEs from 1 FGD mentioned that they don't remember everything from the training programme and that they need refresher training. Before training CHEs were not aware of the above contents. After training, they became aware and were able to work in the community. The reasons stated by the CHEs for the adequacy of the content of the training were because all the needed educational materials were used during training, and they were able to understand the topics. This helped them to gain

knowledge and gave them the confidence to work in the community and helped them to adopt positive health and nutrition practices. It was the knowledge received during this training that helped them to work during the Covid pandemic.

Effectiveness of the CHE training: In all 5 FGDs almost all CHEs rated the effectiveness of the CHE training as "Very effective ". They used the knowledge they gained during training in their own families and also educated the community. They were respected in the community and even the government health workers (ASHA) call the CHEs to support in their programmes. The CHEs from one FGD informed that they started preparing and consuming nutritious food in their homes. They prepared ORS and provided it to the community. They adopted positive practices toward health and hygiene and built soak pits in their homes. They developed leadership and mobilization skills. These give evidence for the effectiveness of the CHE training They have learnt more issues and were made aware of health information.

All CHEs (56) who participated in FGDs reported that two salient features of the CHE Health training were that it provided them with detailed knowledge on health and equipped them with skills through demonstration. From two FGDs, they mentioned that the 6 months internship, projects at community, nutrition demonstration and video presentation were the salient features of the health training. Other salient features mentioned were demonstration of BP, menstrual hygiene, sanitation, personal hygiene and first aid treatment. Using their own words they expressed the following salient features about the training. "This training had encouraged us to improve ourselves. The behaviour of the trainers was cordial and they were knowledgeable. The teaching methods (Pedagogy) were very appreciable. After training, we have worked as trainers in our own communities and educated the people. Some sessions were also facilitated by hired doctors". All CHEs from one FGD felt that the training programme was very effective and animation video content of training programme was very good while one CHE explained that demonstration was a very effective feature. Explanations given, practical demonstration and the involvement of resource persons were some of the good features.

Need and types of additional training expressed by CHEs: A little more than half (56%) of the CHEs expressed their desire to have more training and this was similar in both states. Almost half the CHEs from both the states expressed to improve their knowledge on other health aspects. In supporting the above facts consistently in all 5 FGDs almost all CHEs expressed their need for additional health information to effectively serve as a CHE. CHE participants of both the survey and FGD expressed the need for more detailed information and additional skill development in first aid treatment, They also expressed the need for other health knowledge, vitals, communication skill, entrepreneurship and accounting. Invariably, almost all CHEs from all 5 FGDs expressed their desire to learn the same content again to refresh their knowledge and skill, except 3 of them.

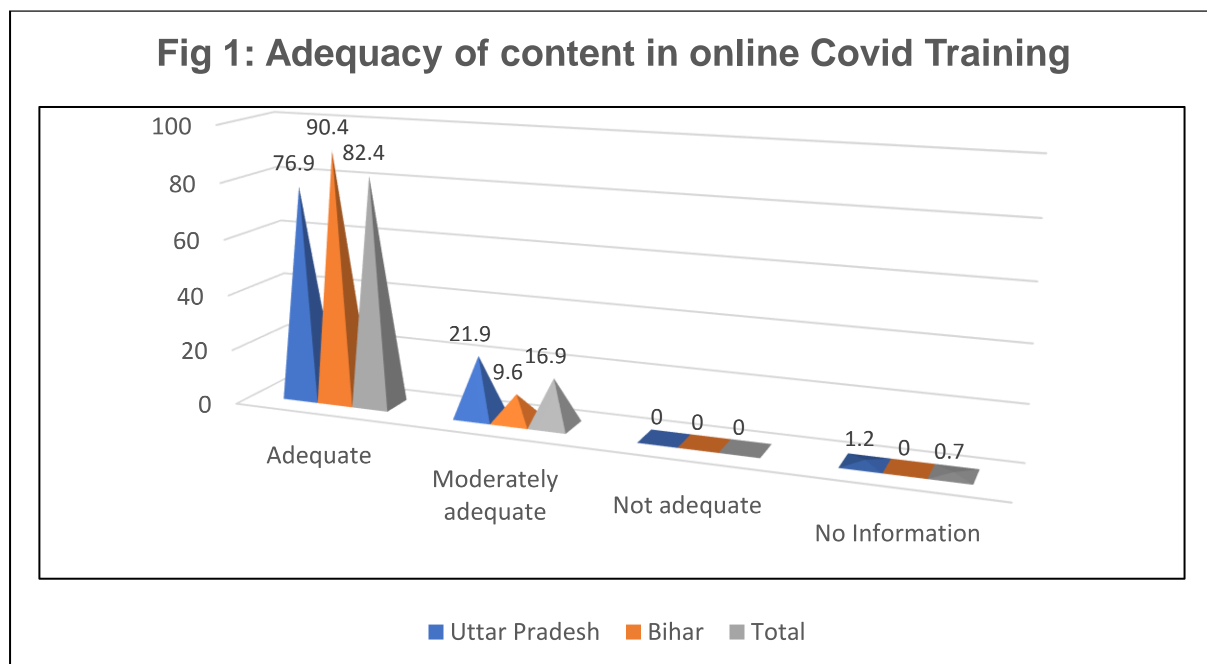
According to CHEs, the following are the areas that can be improved in future health training based on the training they received. They are neonatal health, ANC, nutrition during pregnancy and TT immunization and immunization schedule. Vitamin A solution and deworming should be covered as none of them were sure when to give them. They wanted training on airborne diseases and ARSH, probably referring to piles. Refresher training is required on new and updated knowledge and information on health. Training should be organized each month and doctors should be involved. The other health information needed but not covered in the CHE training were adolescent health, uterus related issues / problems, referral knowledge and immunity boosting foods could be handled at their level. Diabetes, checking of blood sugar and HB testing, kidney stone, measuring BP, Joint pain, skin disease,

constipation, leucorrhoea, cataracts and eye care and knowledge on heart problems and tiredness may need additional help. The additional health topics they mentioned were breast and other cancers, RTI / STI and HIV /AIDS.

1.2 Covid-19 Training: A total of 1139 CHEs with 664 from the state of UP and 473 from Bihar were trained by HFF to work for taking up Covid-19 response activities. All 284 CHEs who were selected and interviewed were distributed from 7 districts with 169 CHEs from 4 districts of UP and 115 CHEs from 3 districts of Bihar. Almost two-thirds of the CHEs attended Covid online training in the year 2020, little more than a third (35.6%) had it in the year 2021 and very few (1.8%) had it in the year 2022. The 55 CHEs who participated in all FGDs conveyed that they were able to receive Covid-19 training through online even during Covid and lockdown restrictions, except one CHE because of the non-availability of smart phone.

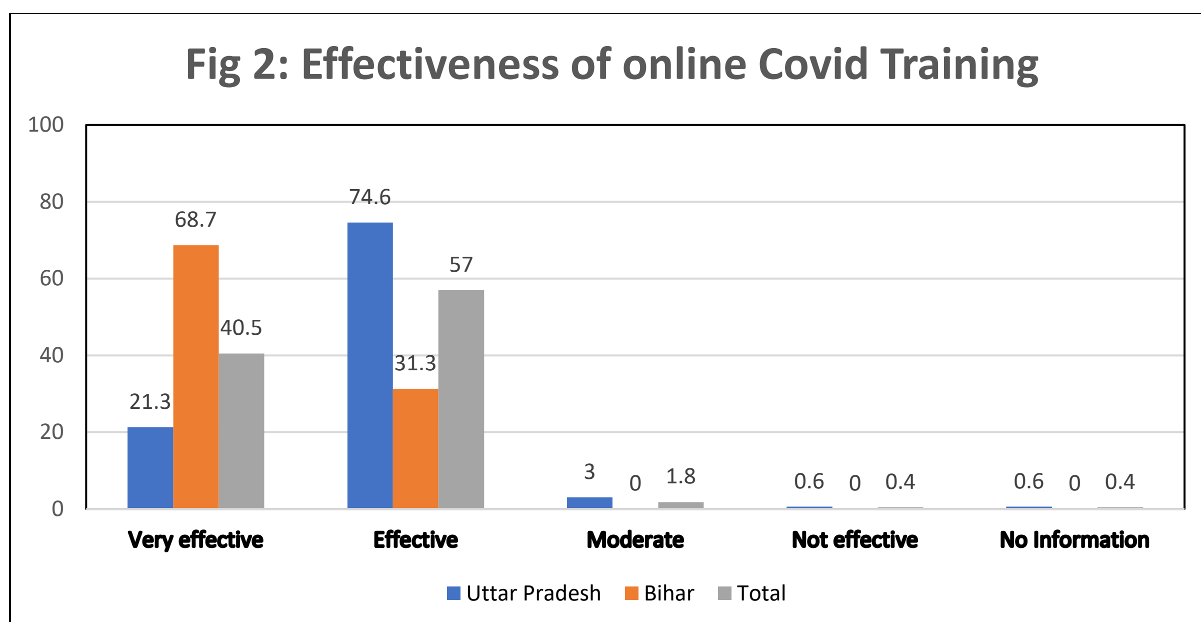
Content adequacy: A majority (82.4%) of the CHEs had rated their opinion about the content covered as 'adequate' to carry out their Covid response and the remaining said it was moderate. There was little variation in the responses given between the two states with 90.4% expressing adequate in Bihar and only 76.9% from UP. Of those who participated in FGDs, the adequacy of the content of the Covid-19 Training to perform all the services in the community was rated 'Very much adequate' by 27 and 'moderately adequate' by 29.

Fig 1: Adequacy of content in online Covid Training



The reasons for stating the adequacy of the content were that the training "created awareness about quarantine center and village level isolation center and they educated the community to protect themselves from Covid infections. They were able to serve the vulnerable clients/people and to protect them from Covid infection. In their own words, "Because we have learnt from this training, we have followed all instructions and we have motivated the community people to take vaccination and to protect themselves from Covid infection". The reason for some CHEs stating 'moderately adequate' was because they attended online Covid19 training, but they prefer a classroom training. They also indicated the need for more information about breathing, oxygen management and heartbeat.

Effectiveness of Covid training: The Covid training given to the CHEs was rated as either 'Very effective' (40.5%) or 'Effective' (57%) by the CHEs. In UP one-fifth rated very effective and three fourth effective while in Bihar, two-thirds rated very effective and one third effective.



The salient features of the Covid-19 Training as indicated by CHEs were detailed knowledge on Covid (43) and skills gained through demonstration (32). After the Covid training all (13) learnt the skill of measuring temperature using thermometer and oxygen saturation using a pulse oximeter. All CHEs (13) expressed that they were taught home isolation method and how to save the life from any pandemic as the salient features of the Covid-19 Training.

Methods used to amplify awareness on Covid prevention In all FGDs, CHEs conveyed that they were able to communicate online regularly with HFF staff, by phone, video call, SMS and WhatsApp. Further in all FGDs, CHEs conveyed that they were able to communicate with the community and educate them through physical visit with social distancing, using facemasks, using sanitizer, through ASHA, Phone, SMS and WhatsApp.

A mike was attached to an autorickshaw and messages on Covid were broadcast in many villages. This was called Dindoras. Women from 3 FGDs (43) in UP informed that they had seen and heard the mike system used in autos (Dindoras) for educating the community more than or equal to 3 times (2 FGD) and less than 3 times (1 FGD) while in 2 villages they had not seen or heard. Women from one FGD (20) in Bihar informed that they had seen and heard more than or equal to 3 times while in another village all women said that had not seen or heard. The main messages delivered through the mike system used in autos were the six preventive measures for Covid infections from both the states. Women from 3 FGDs (42) in UP and 1 FGD (15) in Bihar rated that mike system used in autos as 'very useful' and a few from 1 FGD, from both the states indicated that it was 'moderately useful'.

Half the CHEs reported through HFF reporting app that they had taken 51-75 health education sessions from October 2021 to April 2022 followed by 29.6% 76-100 and sessions while few had taken either 1-25 or 26-50 and only 2.1% did not give education during these 7 months. Three-fourths (77.1%) of the CHEs reported that they had arranged health education using Dindora 1- 2 times 2.5% of them did it 3-5 times and one CHE did it 20 times in their village from October 2021 to April 2022. One-fifth did not arrange it.

Problems in online training: More than half (59.2%) of them did not experience any problems during the online training. The problems encountered by the CHEs that were expressed regarding online training were, poor internet connectivity (39.1%), unable to hear and focus on online training (12.3%), could not interact much with the trainer (8.8%) and 1.2% non-availability of smartphone. Disturbances within the family and missing a training meant that there was nothing to fall back on.

Areas that can be improved in Covid training: Since Covid can come again in large numbers and be more dangerous, or it could be even another pandemic, knowledge in managing such pandemics is necessary. Knowledge on oxygen level and its management as well as knowledge on Omicron and acute encephalitis syndrome associated with litchis in Bihar is required. The training provided earlier is required as a refresher. It would be preferable to have in person training as it is more effective than online training as it has network problems and causes disturbances.

1.3. Knowledge of CHE's: The knowledge of CHEs was assessed under six themes. The six themes were preventive measures of Covid given as messages considered as 6 weapons**,** messages to educate the community**,** need for Isolation, interpretation of oxygen saturation, proning position, when to refer a symptomatic person to hospital, home care isolation, to set up a quarantine centre and a VCCIC, The extent of increase in their knowledge level is furnished below.

1.Six weapons of Covid preventive measures: More than 90% of the CHEs were able to state 3 out of 6 weapons or messages taught to them as preventive measures against Covid infection. These were wearing masks properly covering nose and mouth always while going out (91.9%), hand washing for 30 seconds with soap and water (96.8 %) and maintaining social distance of 3 meters on both sides (92.6%). The other message of using sanitizer while going out and coming back was stated by a majority of (85.9%). Less than half of them respectively said that all places and things must be cleaned 2 times every day using phynol or surf (floor, table, chairs, etc.) and when someone has cough or fever they must be isolated in the centre or in the house. The preventive measure 'Protect the vulnerable people' was stated by only one-fourth of the CHEs.

The knowledge on the 3 out of 7 preventive measures of Covid was found to be similar among the CHEs in both Bihar and in UP. They were wearing masks properly covering nose and mouth always while going out, hand washing for 30 seconds with soap and water and maintaining social distance of 3 meters on both sides. The four out of 7 preventive messages, using sanitizer while going out and coming back ($z=4.6$, $P=0.0001$), all places and things must be cleaned 2 times every day using phynol or surf (floor, table, chairs, etc) ($z=3.7$, $P<0.0002$), isolating in the house when someone coughs or has fever, ($z=8.1$, $P<0.0001$) and protect the vulnerable people ($z=3.8$, $P<0.0001$) were found to be statistically significant and greater in Bihar than in UP.

It was analysed to find out the number of six weapons known to the CHEs. Half (51.4%) the CHEs knew 4-5 preventive measures while almost a third (32.7%) were able to say 6-7 preventive measures. The knowledge on 4-5 weapons and 4-7 weapons were more among CHEs from Bihar than among CHEs in UP and both found to be statistically significant.

A majority of the CHEs (84.1%) were able to state more than 3 preventive measures which is an indication of considerable knowledge. However significantly more CHEs from Bihar than UP stated more than or equal to 4 protective measures.

2. Messages to educate the community: The knowledge on the education to be given to the community for Covid response out of the 7 messages 4 were narrated by the CHEs. All these 4 messages as 'Person with fever, cough should be isolated at home' 'Person with fever, cough should be isolated in the Village Isolation Centre', 'Follow Six weapons for preventing Covid infection' and 'All eligible people should take Covid vaccination' were known to more than a third of the CHEs and the other 3 messages to be conveyed to the community were not recorded which implies that either they did not know or forgot the messages. What they forgot was that persons with fever and cough should monitor temperature and oxygen saturation regularly, person with fever and cough should consult the doctor and person with fever and cough should take good nutrition

Each of the four messages known to them were found to be higher among the CHEs in Bihar than in UP and the difference of each was found to be statistically significant among the CHEs in Bihar and in UP ((z=3.4 P<0.0006, z=4.6 P<0.0001, z=3.2, P=0.0015, z=5.9 P<0.0001).

Further analysis was performed to identify the number of facts to educate the community known to the CHEs.. Half of the CHEs had knowledge on 4 out of 7 major matters to be educated to the community while three were known to one-third and 14.5% knew only two of them. Persons with fever and cough should monitor temperature and oxygen saturation regularly, persons with fever and cough should consult the doctor and persons with fever and cough should take good nutrition were not stated by any of the CHES.

3.Need for Isolation: The need for isolation was known to around three-fourths of the CHEs who said that Covid is highly contagious, and a similar proportion knew that isolation protects other members of the family. More CHEs from Bihar were knowledgeable on both the needs than in UP which was found to be statistically significant (z=5.9 P<0.0001, z=2.8 P=0.006)

4. Oxygen saturation Level:

a. Interpretation if oxygen saturation is 94-100% and the action to be taken: When the oxygen saturation is between 94-100%, three-fourths (75.7%) of CHEs interpreted it as normal which is correct. Other incorrect answers stated were high by 15.1%. Only 2.5% interpreted it as low which is not correct. About 6.7% of CHEs did not know.

When the oxygen saturation is between 94-100%, 51.1% stated that the patient should utilise breathing techniques to maintain oxygen levels which is the correct answer. This was followed by 37.0% who said that deep breathing should be practiced. Those who did not know were 9.9% and those who said not to do anything was only 1.8%.

b. interpretation if oxygen saturation is 92-94% and the action to be taken: Directing the patient to lie on the stomach or the proning position was stated by 57.4% CHEs and 32.0% have stated deep breathing should be promoted which are the correct actions to be taken. A small number have stated different actions to be taken and 9.2% of the CHEs did not know the action to be taken.

c. interpretation if oxygen saturation is below 92% and the action to be taken: Interpreting oxygen saturation below 92% as 'low' was stated by 89.1% of CHEs which is correct. Few of them have said that it was normal and high which are incorrect with 7.0% stating that they do not know.

When oxygen saturation was below 92%, recommending sending to hospital immediately was stated by 81.0%, which is correct. Proning (4.6%), deep breathing (6.7%) are incorrect answers and 7.7%CHEs didn't know. Thus 19% were not sure of the actions to be taken.

5. Proning: Three fourths of the CHEs knew that the patient should be directed to lie on stomach which is the correct answer. For proning position, 43% informed that deep breathing to be taken which is not correct. The knowledge on proning position was more among CHEs in UP (81.7%) than in Bihar (69.6%) with a statistically significant difference (z=2.4. P=0.0177).

6. When to refer a symptomatic person to hospital: Almost all CHEs knew that when a symptomatic person has persistent fever > 7 days and breathlessness, then that person has to be referred. This knowledge is similar between the states. However, knowledge of oxygen saturation < 94 (61.3%), pulse rate > 120/min (25.4%) and BP <90 mm Hg (21.8%) were found to be very inadequate. This knowledge of CHEs from Bihar was found to be significantly higher than from UP.

B. Knowledge of Community women and men: The knowledge of the community women and men was assessed under five themes. They were Covid preventive measures, home care isolation, reasons for home care isolation, VCCIC and Gram Vaani numbers. The knowledge of community women and men were found to be similar. This could be considered as the spill over effect of the education.

1. Covid preventive measures: A majority (87%) of the community respondents stated that maintaining social distance of 3 meter on both sides, 85.6% said that hand washing for 30 seconds with soap and water, while 58% said using sanitizer while going out and coming in were the preventive measures of Covid. The other preventive measures stated by a few were when someone coughs or had fever, they should be isolated in the house or VCCIC (19.6%), protection of persons with co-morbidity (14.6%) and using masks (9.7%).

2. Home care isolation: Regarding the knowledge on home care isolation, 45% said that a symptomatic individual should be isolated in a separate room, 76% knew that maintaining a 3-metre distance should be maintained, provide meals and keep it outside the room was said by 29.7%, and consult doctor (38.2%) and provide medication by 37.4%. Monitoring temperature, teaching them breathing techniques and proning position, monitoring oxygen saturation were known to 10% or less and 15.4% did not know any home care isolation facts.

3.Reasons for home care isolation: Nearly two-thirds (62.3%) of them knew that Covid-19 is highly contagious and more than half (56.3%) of them stated that isolation protects other members of the family. However, 15.9% did not know the reasons for home care isolation.

Source of knowledge for the community: Almost all (94.7%) reported that these health education-related facts on Covid were taught by CHE followed by ASHA (61.9%). Others such as Anganwadi worker, TV, news and social media were mentioned by very few.

4. Village level Covid isolation centre: The VCCIC functioned only in 85 (7.5%) needy villages identified by HFF. Hence all respondents did not have the chance of hearing about such a caring centre as the villages did not have such centres. Knowledge about the VCCIC functioning in their villages was known to 40.7% of the community and the other 45% had not heard about it. A few (14.3%) did not indicate whether there was a VCCIC in their village or not. The care given in a VCCIC mentioned by the respondents were, fever was checked regularly (30.3%), oxygen saturation monitored (11.4%), advised and counselled on both breathing exercises (12%), proning position (5.3%) telehealth consultation provided (10%) given food (27.6%), soap and sanitizer (17.3%) and brush and paste (0.6%) This was the list of care reported by the respondents. The knowledge level regarding VCCIC was recorded low because these centres were not established in all villages

5. Gram Vaani numbers: Half of them said that they did not know about Gram Vaani numbers while 30.7% knew that if a person has symptoms, they can dial Gram Vaani for consultation with doctor and 39.8% knew that Gram Vaani numbers can be used for getting information on Covid and 7.6% indicated that it was also for high risk assessment. The knowledge on this GRAM VANI numbers was found to be more among community members in UP than in Bihar.

C. Knowledge of Adolescent Girls: The knowledge of the adolescent girls from the community who participated in FGDs (40,21) in UP and Bihar respectively was assessed under four themes. They were Covid preventive measures, home care isolation, reasons for home care isolation and when to refer a person with Covid symptoms to hospital.

1.Preventive measures of Covid: All 61 adolescent girls participated in FGDs (40,21) in UP and Bihar respectively were able to list the preventive measures of Covid as 'Wearing mask properly covering nose and mouth always while going out', 'Hand wash 30 seconds with water and soap', 'Use sanitizer while going out' and 'Maintain social distancing of 3 meters both sides'. The other preventive measures of Covid such as ''Clean all places and things everyday 2 times using phynol or surf (floor, table, chairs, etc.) ' (25,7), 'Protect the vulnerable people (people above 60yrs, children, pregnant women and people with co-morbidities)' (14,2), 'When someone coughs or has fever, isolate them in the house ' (4,1) were known to different proportions of the girls in UP and Bihar respectively. They also said to avoid going outside the house, use boiled water to drink and to take ayurvedic kadha with all members of the family.

2.Home care and isolation: Almost half the adolescent girls knew that a person with fever and or cough should be isolated at home (20,12) or in the VCCIC (22,4) when home care and isolation were not possible. Follow six weapons for preventing Covid infection (28,12) and all eligible people should take Covid vaccination (37,12) were also stated.

3.Reasons for home care and isolation: All the adolescent girls informed that they knew the reasons for the need for home care and isolation as 'Covid-19 is highly contagious ' in both the states while 'Isolation protects other members of the family' was indicated by (28,8) respectively in UP and Bihar. In their words they also said, 'Because other persons could not be infected from an infected person, all people can be safe.

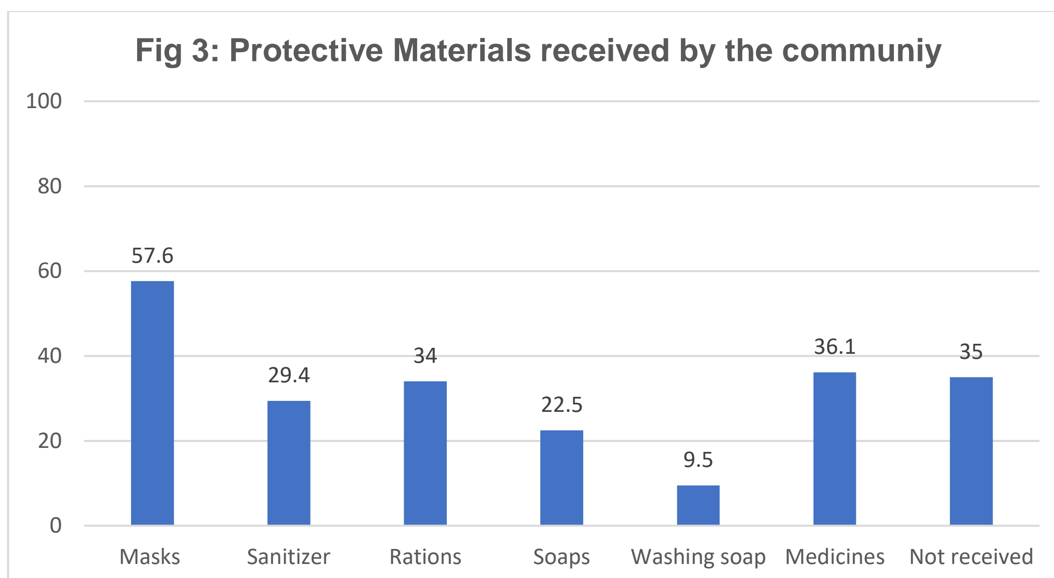
4. When to refer a person with Covid symptoms to hospital: The answer to the question when a person with Covid symptoms should be referred to a hospital, persistent fever > 7 days (40,20) was known to all of them, while dyspnoea (Shortness of breath) (23,20) and oxygen saturation < 94% (20,12) were known to lesser numbers. The other symptoms for referral such as PR > 120/min, BP <90 mm Hg, fall in urine output, and alteration in consciousness were not known to any one of them.

2. Benefits of vulnerable

(Vulnerable households were a sub-population of the rural marginalized and poor communities covered by each CHE. However the assessment was not done exclusively among them.)

2.1 Protective materials given to the community by CHE:

The services received by the community during the Covid were masks (57.6%), sanitizer (29.4%), body soaps (22.5%), rations (34%), medicines (36.1%) and washing soaps (9.5%). About 35% of the community women and men indicated that they did not receive any benefit from CHE.



The services received with masks, sanitizer and receiving no help were similar in Bihar and UP while the services with soap, washing soap, were more in UP than in Bihar. Receiving rations and medicines were mentioned by more respondents in Bihar than in UP.

2.2 Government entitlements facilitated by CHE: A quarter (26.1%) of the community women and men said that they were facilitated by the CHE to obtain or update their ration cards, 19.6% of them were helped for obtaining LPG gas connection through Ujwala scheme 17.3% were helped for Jan Dhan scheme, only 3.9% and 1.6% respectively were helped in getting MNREGA 100 days' work registration and PM Kisan Saman Yojana scheme. However, little more than half of the community women and men (54.5%) did not mention any government entitlements facilitated by CHE.

More in Bihar have received help from CHE for getting ration card and Jan Dhan scheme than in UP while more people in UP got help to obtain LPG gas connection.

2.3. Health Services: A considerable proportion (60.6%) of community women and men have reported that CHE educated the community on Covid prevention, 45.6% informed that she helped people access health services, 39.2% said that she distributed ration provided by HFF and 19.5% informed that CHEs set up VCCICs in the village. The other help mentioned by 13.3% during Covid was that she helped the migrants in the quarantine centre and 10.4% said that she helped people with symptoms to get teleconsultation.

2.4. Other Health Services: The projects and other activities that the CHEs led in the community as vocalized by them "Arranged food for Covid infected persons. Provided medicines through ASHA. Messaged to infected persons to admit in Isolation Centre. Followed up with the admitted persons at the VCCIC. Provided ration to infected persons' households. "Motivated people with symptoms to test for Covid".

The community women and men conveyed, *"If there were no CHEs to offer the services in the field, the community of vulnerable families would have faced problems in their food consumption especially, leading to hunger. They would not have received health services and medicines and could have died from Corona infection".*

The CHE's help during Covid was clearly outstanding as the community expressed it.

3. CHEs changes in Roles, skills and Ability related factors during Covid

3.1 CHEs changes in Roles during Covid -19

During the Covid-19 pandemic, CHEs had to change from their health education topics into Covid-related topics of prevention, detection, treatment etc. Hence almost all CHEs have indicated that giving education on Covid to the community was their first role that was changed. Of the 284 CHEs, one third of them (37.7%) expressed that establishing migrants quarantine centre was the next role to be adopted. Less than half of them said that establishing village level Covid Care Centre was another role. Half of them informed that distribution of masks, sanitizers, etc. were some of the other roles. Almost a third of them said that working with government staff and distributing rations were the types of changes in their work that they had to accept.

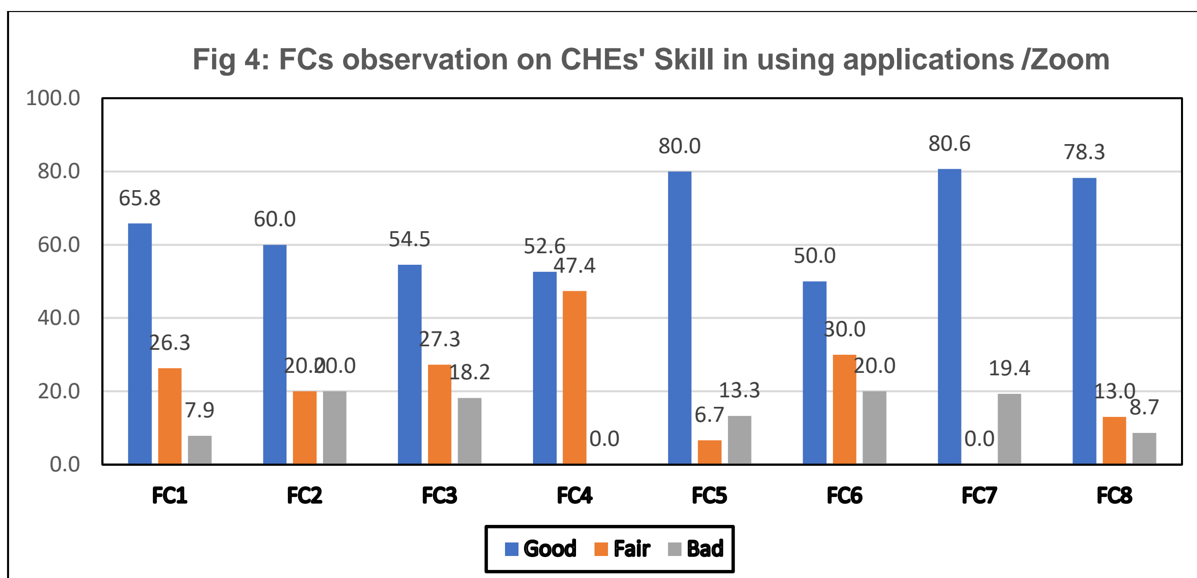
During the FGD with the field senior staff, reasons for CHEs not willing to work on Covid-19 response were obtained. Few reasons that emerged were, that some CHEs were not interested. Overall it was 20% ranging from 5% to 20% in different areas. The other reasons stated were that the family was not willing, there was fear of the disease, and for some the PRI was not supporting. Some did not have smartphones, so it was not possible to train them.

3.2 Changes observed in CHEs skills:

Before they attended the training on Covid-19, almost all CHEs rated as 'Not at all' the skills of attending meetings through Zoom, using pulse oximeter, proning position skill, organising medical camp, Covid vaccination camp, establishing migrants quarantine centre, preparing Isolation centre and working with the government staff. Similarly, a majority of them rated as 'Not at all' for the skills of using smartphones or using infra-red thermometers to take temperature, conducting Covid health education and having the skill of communicating Covid related messages. After the training on Covid-19, little less than half of them rated that they have gained each of the skills 'Well' and another similar proportion rated that they have gained each skill a 'Little' and a few of them 'Not at all' in each of the skills. This was a great achievement on the part of HFF through the online training.

All CHEs (56) who participated in FGDs vocalized that they can serve with confidence and without fear. A majority (46) informed that they were able to use smartphones for data collection, learnt to take temperature using infrared thermometer, learnt to use a pulse oximeter, knew the relevance of Covid vaccination (33) and developed a concern for people (30). Around half of them were able to organize education through auto (Dindoras), little less than half of them had gained the ability for home management of Covid patients (27), gained knowledge and skill to set up migrants quarantine centre (23) and set up Covid Isolation Centre (22). They educated people to use Gram Vaani numbers (20), learnt when to isolate persons with symptoms (13) and learnt to organize a community kitchen (2).

The Field Coordinators were in charge of a range of 45-50 CHEs. Each FC was asked to rate those CHEs skill in using applications or participating in Zoom working under them. They rated that 50% to 80% CHEs skill in using applications or participating in Zoom meeting as "Good", 6%-48% as "Fair" and 8% to 20% as "Bad".



The Field Coordinator1 (FC1) rated the skill in using applications or participating in Zoom of 65.8% of the CHEs under her as good, 26.3% as fair and 7.9% as bad. Similarly, each of the FCs had rated the CHEs skill and it is presented in the above figure.

According to the field senior staff of HFF, the type of new skills displayed by the CHEs during Covid were using smartphones, participating in Zoom calls, using Gram Vaani numbers, taking temperature, measuring oxygen concentration using pulse oximeter, promoting proning position for severe breathing difficulties in Covid patients, breathing exercise, communication on Covid and sanitation helps for Covid and educating the community to use the same for health needs at the time of Covid. They observed that 75% of the 1133 trained CHEs were able to work effectively.

The changes that CHEs have observed in their knowledge, skill and ability which they did not have before this health training are presented: All CHEs (56) who participated in FGDs voiced that they were able to talk boldly, display self-confidence, had autonomy in moving out of the house, to involve in community activities, to organise meetings, to organize camps, to build linkages with government agencies and able to provide first aid to the community and to increase earning. A majority (43-45 out of 56) indicated that they had got the skill of drawing a village map and conducting project surveys because of the CHE Health training. In one FGD among the CHEs all 13 of them indicated that they developed the skill of public speaking. Earlier they did not speak in front of male members but now they could speak and carry out different work in front of male members.

3.3 Changes observed by CHEs' in their Ability related factors:

The ability-related factors such as a) boldness and courage, b) willingness to work for others and c) counselling skills that could be displayed in their areas of work have increased after receiving initial health training and subsequent Covid training by the CHEs. Almost half of the CHEs, have improved in each of the three skills and rated their skills as 'Good' after the basic CHE health training, which was found to be statistically significant ($z=6$, $P<0.0001$), ($z=4.4$, $P<0.0001$) and ($z=4.9$, $P<0.0001$) respectively before and after the CHE health training. Each of these skills were further increased to more than half the CHEs (62%, 55.6% and 58.8%) who rated 'Good' after Covid training. There was a significant ($z=2.3$, $P=0.0213$) increase in the percentage of CHEs who rated as 'Good' in their ability related skills of boldness and

courage, it was not significant in willingness ($P>0.05$,NS) and was significant ($z=2.1$, $P<0.05$) in counselling skill from CHE training to Covid training. This is an indication of the enhancement in each of the ability-related skills felt by the CHEs themselves which reflected the truth. The 'willingness' to work in the community was not significantly increased and even the other two skills of enhancement were little after the Covid training. This could have been because of the fear of the disease Covid-19.

In the discussion with the field senior staff, all highlighted that the types of CHE's ability related factors that made them to undertake Covid responses, and that those CHEs who put in effort possess the qualities were boldness (9), courage (9), empathy (9) and self-confidence (9). Few CHEs were not effective to perform their tasks during Covid. About 300 CHEs had taken risk and did their task, Others were fearful but they did it for their livelihood.

Willingness to work in Covid work: The field senior staff revealed that the factors that influenced the CHEs to show willingness to work in Covid response were the need based HFF training to deal with Covid (9) and with the protection kit provided for the CHEs and her family.

From the Field Coordinator's point of view, the reasons for some Covid trained CHEs leaving the project and not working for Covid response were that villages are very scattered and vast, they have to travel from one village to another and with few of them having to walk 6-12 kms to carry out their work. Family support was not given to a few of them to drop in the place of work. Sometimes CHEs were called in the night. Three of the CHEs were recruited as FCs.

Opposition CHE faced within the family and outside the family: The type of opposition CHEs faced within the family was reported by 40 out of 284 (14.1%) and outside the family by 42 (14.8%) while they agreed to take up the training, service and doing the Covid19 services Lack of family support was reported by four CHEs in one FGD when they were doing Covid-related work but still they performed their duties.

4. Building local capacities during Covid-19 and driving sustainable change

Government Village Health Nutrition and Sanitation Committee (VHNSC) status of formation and functioning was found out from the FGDs held with CHEs. Six CHEs from one FGD indicated that it was not formed and 21 CHEs conveyed that it was formed but not active. Only 2 CHEs from one FGD said that VHNSC was formed.

Almost two-thirds (64.3%) 36 out of 56 CHEs sampled for FGDs, informed that the VHMC/ Gram Nigrani Samiti was formed by HFF in the year 2020. All these 36 CHEs conveyed that they were part of this committee. In these 36 VHMC formed by HFF, there were ≥ 7 members participating. In all 5 FGDs, CHEs informed that ASHA, ANM, AWW, Gram Pradhan, PRI members and volunteers were members of this committee. In one village a quack also was a member. In Bihar there was no VHMC started in 6 CHE villages.

Half (53.4%) of the CHEs reported that they had organized 1-5 committee meetings, one-third (32.8%) 6-8 and 5 .6% of them 9-17 committee meetings and only 8.2% of CHEs did not organize any committee meetings in their village from October 2021 to April 2022.

The activities taken by these committees were that they provided solar light at chauraha, immunization sites, temple, provided chair, hand pumps and community toilets. They also created awareness, solved their health and social problems.

On the role of CHEs working with these committees the point brought out in each FGD was that they built the platform around the hand pump and cleaned the street drainage. Based on

the committee's guidelines they only created awareness of the community in addition to providing awareness to the committee, where the CHEs shared their activities and programmes.

The volunteers actively worked in villages to help in Covid response: About half the CHEs who were interviewed in the survey informed that less than 10 volunteers in each village contributed to Covid response. The motivation with which the volunteers helped in Covid response activities according to the CHEs were service-mindedness (61.6%), willingness to work in the community (54.9%), and concern for the village development (16.9%). One CHE said that being the chairperson, she was able to mobilize 20 volunteers in the community. In about 25% to 30% of the CHE's villages, neither men nor women served as volunteers during Covid period for any community services.

In 30 villages, CHEs said that volunteers and ward members being the local leaders supported their work to strengthen the existing health care system. The types of facilitation the local leaders provided that were mentioned by CHEs were that they participated in CHE meetings and activities and motivated the people to take vaccine or immunize their children. They helped in providing AADHAR card, E-Shram card and Ayushman card. They supported in organizing CHE meetings.

All of the 13 experienced CHEs who underwent BCP training were aware of Village Health Monitoring Committee (VHMC) formed in 2020 by HFF. More than 8 members are on the committee. All CHEs, Gram Pradhans and ASHA were members and part of the committee. In many villages, teachers were also members. Four senior CHEs mentioned that local medical practitioner (Unqualified) are also members of the committee. “During these meetings, all CHEs took health education classes. Supported them in distributing masks and sanitizer”, “Organized VHMC meeting and discussed about Covid vaccination. Created awareness in the community about 6 priority messages / practices to prevent from Covid”. CHE organizes the meeting and all CHEs keep records of meetings. In response to relation with government staffs, all CHEs felt that they have good relationship with ASHAs. In response to how many pregnant women were in their villages, all of them knew and gave the number under their area. During breast cancer awareness months CHE discussed about self-breast examination and one lady was identified with a lump after which she was referred, diagnosed and treated.

Senior staff opinions on strategies for building local capacities for driving sustainable change was obtained. They suggested that VHMC has to be strengthened. Volunteers from the community should involve. Youth needs to take part. Regular meetings with proper agenda need to be held. Monitoring and follow up should be strengthened. Currently VHMCs were effectively functioning in 150 out of 1200 (10% to 15%) CHEs villages, 200 out of 1200 (15%-20%) CHEs villages do not have such a committee.

The Kind of opposition faced from the local leaders was reported by only one FGD group which mentioned that they prohibited them to start their meeting. Two FGDs indicated that the work at the village level could be improved if toilet (PM AWAS Yojana scheme), street drainage and water supply facilities are provided.

CHE help in availing the health services of the government to the community: Almost all community women from 4 FGDs in UP articulated, “She is creating awareness, went to PHC/CHC with patients and pregnant women. By creating awareness, she referred patients to health facilities. She advocated with PRI members, and she provided support to disabled people. She can help in consulting the doctor through phone or physically and can support in

health check-ups. She can give information on nutrition and health". Women from both the FGDs (34) in Bihar verbalized, "Creating awareness, through one-to-one interaction and by her personal visit and through telephone, she has been directing us for our better health".

5 Perceptions of the community

5.1 CHEs Known: All adolescent girls who participated in 5 FGDs (40) 3 in UP and 2 (21) in Bihar informed that they knew the CHE working in their villages.

Almost all the community women and men interviewed informed that they knew their CHE working in their villages, and know her by name. A majority of them knew their CHE even before Covid while only 7.5% knew during Covid. Knowing CHE and her name was found to be similar in Bihar and UP. CHE was known to the community before Covid more in Bihar than in UP. Almost three-fourths of the community women and men indicated that they approach the CHEs first for their health issues followed by 47.3% who said that they approach ASHA. A few in UP said that they go to quacks.

Before Covid, 81 out of 103 community women in FGDs said that they knew the CHE, only 20 from UP came to know during the Covid pandemic giving health services to the poor/vulnerable families in their villages. Only a few (8) said that they did not know them. Only 43, 6 and 20 respectively from UP informed that CHEs were available in their villages every day, most of the days and only a few days. While in Bihar 20 informed that their availability was most of the days, 14 said that she comes only 3 times every month. Some of them reported that CHEs worked well and moved in the community. Some CHEs live in her village which is few kms away from her working village. Some CHE's worked in villages where there were hamlets of varying distances that were away from their residence. More women (86) stated (86=55,31) that CHEs came forward willingly to help them always and few (17) said (17=14,3) sometimes. They also took the initiative to help the community and helped patients in visiting the health care centre. They educated the community about health, use of medicines, adolescent health, pregnant women, child nutrition, hygiene, use of SNPs, kitchen garden, and soak pit. More than three-fourths (79) of the women from UP and all from Bihar stated that the CHEs regular routine services were beneficial to the community and on time. They valued her services as they were very important and considered them useful and relevant (88=54,34). CHE calls the people and comes and serves them.

5.2 Need to continue CHE work: The continued need for the services of CHE in a village was indicated by 91.3% of the community women and men, reflecting the value of the services according to the perspective of the community. However, 7.5% indicated that they were not sure whether a CHE is needed or not which was stated more from UP.

A considerable proportion (60.6%) of community women and men have reported that CHE educated the community on Covid prevention, 45.6% informed that she helped people access health services, 39.2% said that she distributed ration provided by HFF and 19.5% informed that CHEs were setting up VCCIC in the villages. The other help during Covid was mentioned by 13.3% that she helped the migrants in quarantine centre and 10.4% said that she helped people with symptoms to get teleconsultation.

Almost all the services were similar in Bihar and UP except helping people access health services and distributing rations both of which were mentioned more in Bihar.

Almost all women from 4 FGDs in UP and 2 FGDs (34) in Bihar expressed that the health services of CHE were essential for poor families. Even after Covid is over, they all said that CHE needs to continue her work. They expressed by declaring in their own words, 'She needs to continue

her work to educate the community towards health. She has regularly supported and educated us on health, cold, cough, adolescent health, women and child health', 'The CHE work should continue even after Covid as she helps us with the health centre'.

The CHE's help during Covid was clearly outstanding a' the community expressed it.

5.3 Limitations of CHE: The limitations of CHE's services were that one third of the community women and men said that CHE was not available all the time, another one third informed that she was not having the products and the people must go to her house to buy any product, with one-fourth informing that they must go to CHE's house. Very few stated that her house was far away from the community she serves. The limitation of CHE not having the products and they must go to her house were reported more from Bihar than UP.

6 Impact of Covid-related activities

6.1 Projects and other activities CHEs led in the community: The projects and other activities that the CHEs led in the community as vocalized by them were, very useful to the community and referred Covid infected people to isolation center/CHC for better treatment. They created awareness about protection from Covid infections. One FGD voiced, "Arranged food for Covid infected persons. Provided medicines through ASHA. Messaged to infected persons to admit in Isolation Centre. Followed up with the admitted persons at the isolation center. Provided ration to infected persons' households". In another FGD, they articulated, "Motivated people with symptoms to test for Covid, supported in ration distribution and provided masks". All 13 CHEs in one FGD said that they were involved in distributing rations and masks, creating awareness campaigns and vaccination drives, support in vaccination, promoting kitchen gardening, sanitation, and toilet use and collecting information on sick persons, births and deaths".

These projects were rated as 'helpful' and 'very helpful' to the community by 34 and 56 CHEs respectively. The community became aware of nutrition, positive health practices and government schemes and programs. They said, "People from the community appreciated us for our initiatives".

6.2 Quarantine Centers: The migrants who were coming into the village or passing from one place to another were facilitated with QCs to avoid being infected with Covid. HFF was actively involved in this process to prevent the spread and to help the migrants where there was a need in the intervention areas of UP and Bihar. The MIS recorded that a total of 105 (9.3%) QCs were setup in 27 (65.9%) districts covering 13 (56.5%) in UP and 14 (77.8%) in Bihar in the months of March, April and May in 2020. Altogether 3505 persons benefitted from 58 (8.7%) and 47 (10%) Villages/panchayats with 773 and 2732 from UP and Bihar respectively. (Appendix1)

6.3 Community Kitchen: Community kitchen is a setup where food was cooked by the volunteers from the community to provide food for those who were admitted in the village level community isolation Centre. Community women in their FGD, indicated that in those villages where the community kitchens functioned, the arrangements were good. The quality of packed foods provided was also good. Where there was no community kitchen, villagers provided food to their patients from their families. Some CHEs also provided different food items cooked in their homes and with the help of other villagers – channa, eggs, jaggery (gud), tea and milk. One CHE also provided door to door delivery of milk for Covid infected patients. Women in one FGD in UP informed that there were no arrangements for food from the government. In 2 isolation centers in Bihar, cooks of schools and helpers of Anganwadi centers prepared the

food for infected persons. At one isolation center all arrangements were organized by HFF. Women from some villages said that there were no community kitchens set up in their villages.

6.4 Covid Care Isolation Centre: The village level Covid Isolation centres were planned and established only after identifying the necessary villages where the pandemic was spreading fast. Thus, VCCIC were established and functioned in 26 (63.4%) districts having 85 (7.5%) villages/panchayats with 37(5.6%) in UP and 48 (10.2%) in Bihar. A total of 730 persons benefitted with 263 from UP and 467 from Bihar. (Appendix 2) From the total of 104 women who participated, only 18 (15 from UP and 5 from Bihar) were admitted in the Covid Care isolation Centre. Although attempts were made to select a larger number of Covid infected individuals, apparently few were available because not all were tested and diagnosed.

Gram Vaani numbers: The MIS recorded that 840 villages were covered by Gram Vaani in the Covid response. Through this platform, the Gram Panchayat leaders were educated on building quarantine centers in their villages. This platform has an IVR enabled quick test to determine if the villagers were high risk for Covid-19. Total calls received were 18, 652 through which 360 high risk cases were identified.

Women from one FGD informed that they knew Gram Vaani numbers and said that doctors have contacted the patients by phone and prescribed medicines. After that CHE distributed the medicines. In Bihar in both the FGDs women informed that no one has utilized the Gram Vaani numbers for any of the services. In 3 FGDs in UP, women were not aware of the Gram Vaani numbers and their use. When women from 3 FGDs in UP who were not aware of the Gram Vaani numbers and their use, heard about their use, how doctors have contacted the patients by phone and suggested medicines, their immediate response was that if similar facilities were available for handling other diseases in the villages, then, it would be very useful and beneficial. It is possible that these could be delivered by CHEs. Since this is App based and is free, it would contribute to programme sustainability and not long-term financial sustainability of CHEs.

Services given in village level Covid Care Isolation Centre: The services provided to persons admitted in the village level Covid Care Isolation Centre were temperature monitored with an infrared thermometer (15, 5), oxygen monitored with a pulse oximeter (15, 5), patients educated on breathing exercises and proning position when required (7,5), patients given three nutritious meals/day (From home or other means) (7,5), patients were given clean and safe water (15,5), surgical and cloth masks provided to patients (21,5), access to doctors through tele consultation - daily check-in for every patient (7,5), and access to tele counselling for mental health (2,2) respectively in UP and Bihar. Boiled water was given by one CHE.

6.5 Ration: In their areas of operation, ration distribution was done in selected districts based on the availability of resources. HFF provided ration once in 15 days for 3 times during the three waves of the pandemic. HFF provided ration kit once in 15 days for 3 times during the three waves of the pandemic. The data retrieved from MIS indicated that only 42.7% CHEs reported that they had distributed ration kits during a period of 7 months in their villages . CHEs provided ration to meet their nutritional needs. CHEs distributed ration kits to 9554 families, 6127 in UP and 3427 in Bihar.

6.6 Covid vaccination coverage: Of the 284 CHEs, almost all of them had 2 doses of Covid vaccinations and 7.7% had their booster dose also. All women who have participated in 4 FGDs in UP (67) and 1 FGD (20) in Bihar informed that they were vaccinated with Covi-shield vaccine. In one village, Covid vaccination was promoted by Gram Pradhan and ASHA. Dindora was used by CHE for the vaccination in UP.

Almost all of the community women and men informed that they had Covid vaccine, however 89.5% had two doses, 6.6% had only one dose of Covid and only 1.2% had Covid booster dose also. In 693 community respondents' households, there were 4099 persons. Of this total, 2662 persons had two doses Covid vaccinations. (The population included 0-15 years children). In UP 1133 persons from 191 households and in Bihar 377 persons from 136 households had taken 2 doses of Covid vaccination. About 4.5% respondents did not give this information. A majority (88.3%) informed that they were motivated by CHEs while little less than two-thirds (63.8% were motivated by ASHA.

It is recorded through MIS, a total of 4388 persons benefitted in the community through 1825 vaccination camps conducted in each of the 23 and 20 districts of UP and Bihar respectively. In UP 2493 persons through 1168 camps and 1895 persons through 657 camps in Bihar benefitted. These were the persons motivated by CHEs which is a great achievement.

Motivate members in the community for Covid Vaccination: From 3 FGDs CHEs declared that they were able to motivate members in their community for Covid Vaccination. All 13 CHEs from 1 FGD expressed that they were able to motivate people first by going house to house and explaining the benefits of vaccination and second by the CHEs getting their vaccination first. Two of them got their booster dose also. 1 CHE arranged a vehicle with the help of Gram Pradhan to facilitate Covid vaccination. All 13 said that all the community members in their villages were vaccinated except for children.

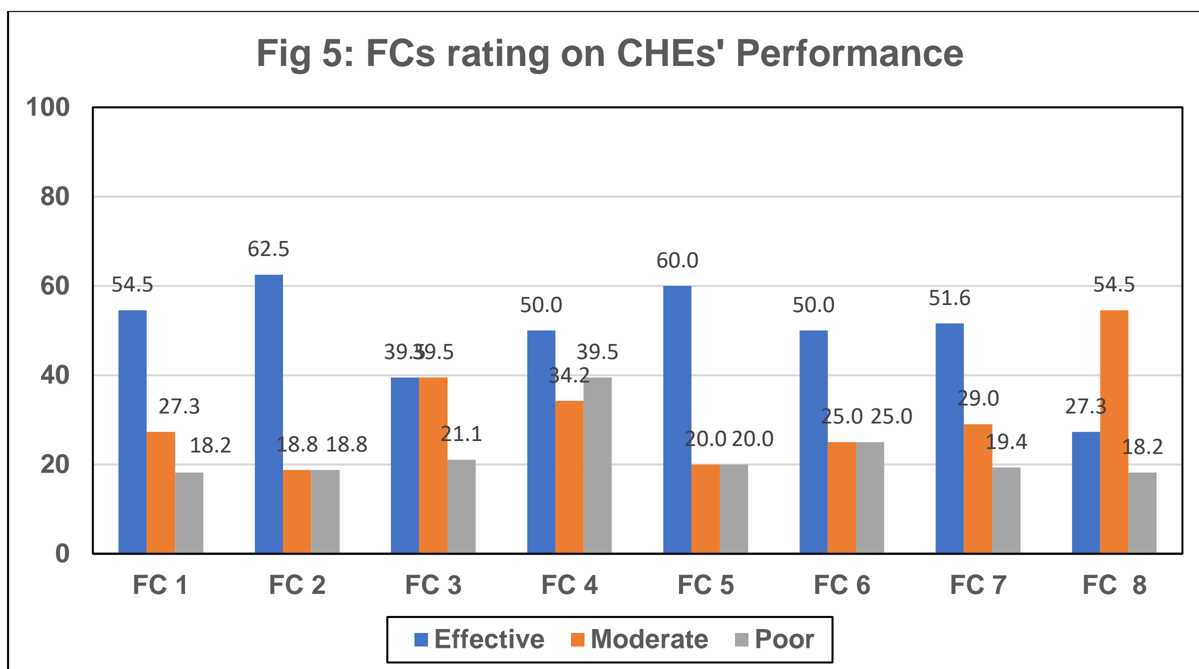
The challenges CHEs faced in getting the community vaccinated: The challenges CHEs faced in getting the community vaccinated were articulated by their own words, "People were not ready to take Covid-vaccine, telling lies that they were vaccinated. They were afraid that they will become impotent (Infertile). People were unaware of the benefits of the vaccine. Persons with high BP and heart problems did not take vaccines. First, they were afraid to take the vaccine and demanded a bond letter to live".

Overcome the challenges: The challenges in getting the community to overcome the fear informed by the CHEs in different FGDs were "By giving self-example and creating awareness through dindora". **"**When vaccination was started in the community, then CHE has taken the vaccine first and motivated and the community has started taking the vaccine". **"**We have shared our vaccination certificate with the community and motivated them to take the vaccine. Some CHEs promoted by informing that the vaccine is free now, but in future people may have to pay for the same, then people started taking the vaccine".

The first 2 doses of Covid vaccine were also taken by all FCs with only one having taken the booster dose. Information relating to the use of Covid vaccination by the family members of the senior staff indicated that it was taken by all members of their families. Two doses of Covid vaccination were taken by all ten staff. A booster dose was taken by only 4 of them. Except for 2 individuals, all gave valid reasons for the delay.

On the satisfaction relating to Covid-19 services, women and their family members had on the work of CHEs, a majority of 81 (53 from UP and 28 from Bihar) community women indicated that they were highly satisfied and 22 (16 from UP and 6 from Bihar) were moderately satisfied.

Effectiveness of CHEs Performance rated by the Field Coordinators: The CHEs performances were rated by each FCs as they were the ones directly monitoring their work. The ratings of 8 FCs as "Good" ranges from 27% to 63% , "Moderate" from 19% to 40% and "Poor" ranges from 18% to 25%. However one FC rated a high percentage of 40% as poor.



Covid in the family: Only 3.3% of community women and men informed that someone in their household was infected with Covid19 and accessed a CHE to get admitted in the VCCIC and 5.9% said that someone in their household was infected with Covid19 but did not access a CHE for getting admitted in a VCCIC.

7. CHEs and Government Health Care delivery System

In the FGDs with CHEs It was brought out that the list of all the government workers with whom the CHEs have worked with to strengthen the existing health care system were Anganwadi Worker (56), ASHA (52), ANM (43), Gram Pradhan (45), PHC Doctor (5) and ward members (5). They worked with ASHA on immunization-related work in the villages. Some of them mentioned that they were not duplicating ASHA's work but complementing it. In the beginning many of them had conflicts with the government staff, however it was settled over a period of time either by themselves or with the help of the supervisors and leaders. Now a majority of ASHAs and other government staff were having cordial relationship in doing their allotted work. All CHEs felt that they play a unique and substantial role in health education and help ASHA and AWW in their villages.

How were CHEs able to work with the Government system (PHCs, Gram Pradhans, BDOs) in the Covid response work in your community: In each FGD, many of them have spoken some relevant points while few of them remained silent while the triangulation to confirm the information provided was correct. "The government staff were supporting us. They knew that we have been supporting the health system on different indicators". "PHC / CHC has involved us in a Covid – support / help group". "A majority of the CHEs were not aware about the government VHSNC. Since the government VHSNC was not functioning in many panchayats, HFF organised Vigilance Monitoring Committee called Village Health Monitoring Committee (VHMC).

Problems/challenges CHEs faced with the PHC staff during Covid-19 response: In two FGDs, CHEs indicated that they didn't have any problem working with PHC staff and government while implementing Covid-19 response related activities in the community. In another FGD, the CHEs said that people and government staff were inquiring and demanding

id proof from them. In another FGD CHEs conveyed that ASHA and AWWs were afraid that their incentives may be shared with CHEs and they have reported to their departments about our participation in Covid relief.

Out of 56 CHEs 21 accepted that the health services rendered by the PHC through ANM, ASHA, Anganwadi Worker were reaching the people on time effectively while 32 of them indicated that the services were not reaching the community effectively. During Covid, no arrangements were made at that time. They were distributed to facilities partially were accepted by 21 out of 56

Conflicts CHEs faced: CHEs expressed, "At the starting during the health intervention, the government staff have not supported us and community people also did not have faith on our voice or information". "Later during Covid they have participated in management meetings organized by us. We have supported them in establishing the QC and VCCIC. We provided ration from door to door of Covid infected households. We have liaison with them and shared our plan of work during the Covid pandemic. By discussion with supervisors from both sides, we have solved these issues".

Suggestions to improve or to work with the government: During the FGDs, the CHEs made their following suggestions to improve the working with the government. The first suggestion was to make available a doctor at the PHC. Provide the health check-up/testing facilities at PHC/CHC. Ensure the availability of medicine at every health facility centre. Transportation facility should be improved. Ambulance should be available free of cost. A medial officer, ANM and medicine should be available at PHC/CHC. Free medical camp should be conducted at village level. Community should be informed 1 day before immunization. We have to work under the coordination of both agencies for the distribution of IFA tablets. Videos of activities can be shown to government officials to improve the community level health services".

Field senior staffs during the FGD brought out the compromise that was made on the part of facilitation for data accuracy and complete utilization of government services with the understanding of ASHA. ASHAs were not very particular in making the pregnant women to procure and consume IFA tablets. Many of the CHEs educated the women in detail and follow them up to practice it and confirm. The time of childhood immunization was not known to the women, CHEs facilitated the women to take it on time so that every child was fully immunized. VHNs, without doing their task, reports 100% immunized. Wrong reports were reaching the government without people receiving the health benefits. When the Covid test is positive, the information was not sent to the government record, as they wanted to show a decrease number of cases.

Field senior staffs expressed the support they received from the government. If the PHC was good, there was no problem. Otherwise the PHC would ask them to get permission from the district officials and the district officials would in turn ask for permission from the state officials. In the beginning the ASHAs asked why CHEs are working in their area? However, there were no major conflicts with ASHAs.

The better strategies that can be devised to strengthen the existing health care system mentioned by few of the CHEs in the FGDs were, immunization facility should be supported and monitored by government, ensure the availability of medical facility, strategies to provide all medical facilities to at PHC / CHC, government should organize Covid vaccination camp, health check-up camp at village level, establish the faith on systems, advocate with them to provide health care services at the community level.

Innovative ways by the CHEs to strengthen the health care system: The new and innovative ways that could be facilitated by the CHEs to strengthen the health care system spelt out by CHEs during FGDs were, to start checking sugar levels and other tests at CHC/PHC level, provide primary treatment and care to the community at PHC/CHC level, create demand in the community about services, need to make available medical equipment, advocate with health care system of the government to organize Covid vaccination camps and health camps at village level. Create awareness in community about these camps. Facilitate telemedicine and share messages through photo charts, videos, and presentations.

Strategies FCs suggested to strengthen the linkages: To strengthen the linkages with the public health system, whatever activities are carried out by the CHEs should be informed to the government officers. HFF need to have a Liaison officer. All FCs (8) indicated that they had gone up to the Civil Surgeon level but no one had gone to the Collector level.

When the health services of PHC did not reach the people:

ANC: CHEs helped their community in facilitating the services of ANC for pregnant women. They called the ambulance and also called the ASHA. They educated the pregnant women about nutrition. They informed the ASHA to also educate pregnant women about nutrition. They referred them to PHC / CHC and sometimes they went with them to PHC / CHC. All 9 CHEs of a FGD educated the PW on nutrition.

Institutional deliveries: CHEs accompanied the patients to PHC/CHC with nearby community people. In Bihar all 9 said that they helped them for hospital delivery.

Childhood Immunization: CHEs helped their community in facilitating the services of the PHCs by informing the mother of a child about the due date and immunization date. They educated and motivated the mothers of children to vaccinate them. They informed ASHA and motivated mothers to immunize their children. In Bihar, all 9 CHEs facilitated to immunize the children in their community.

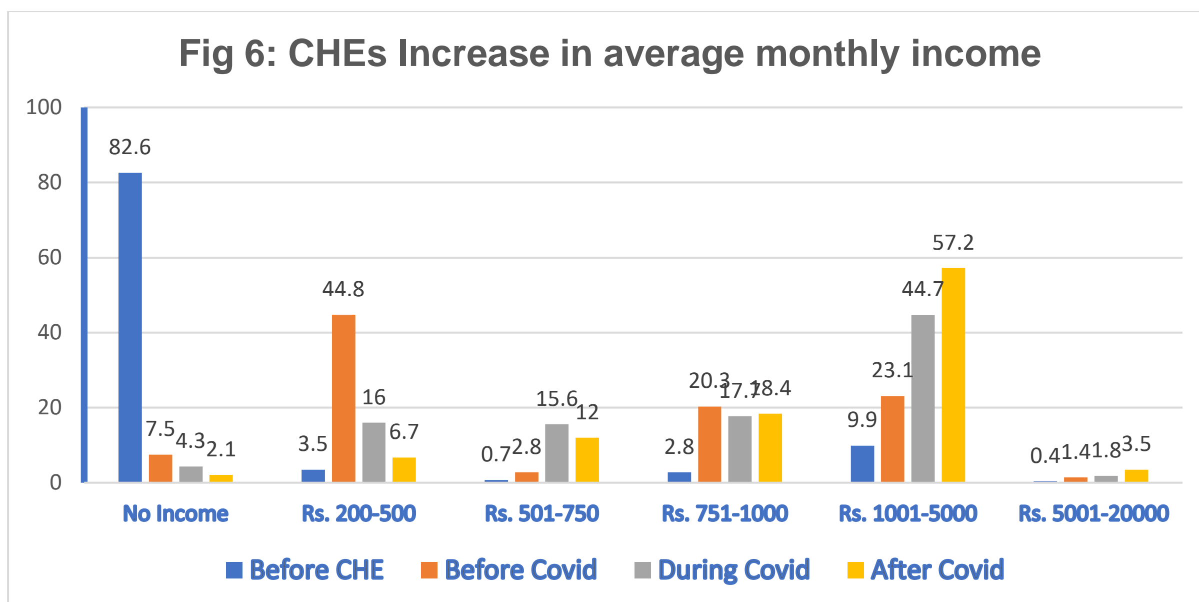
Strengths of the services of PHCs and CHEs: The strengths of the services of PHCs and CHEs with the Covid-19 response related activities in the community mentioned by the CHEs during FGDs were that all adults were vaccinated. Maximum people of the community have completed their booster dose of Covi-shield vaccination.

Weaknesses of the services of PHCs and CHEs: The weaknesses of the services of PHCs and CHEs with the Covid-19 response-related activities in the community were lack of spaces and facilities at QCs, lack of masks, sanitizer at the health facility/QCs and lack of medicines, oxygen and health staff at the health facilities.

8 Quality of life impact of CHEs

8.1 CHEs' investment made to improve the quality of life: CHEs invested their additional income earned through health livelihood activities to improve their quality of life. More than two-thirds of the CHEs recorded in the survey that they have invested in the education of their girl child. Almost two-thirds have invested on nutrition, one-third on sanitation, more than a quarter in the construction of toilets and more than a quarter in clothing. The other investments informed were soak pit construction (16.2%) and their children's marriage (14.4%).

More than half (52%) of the CHEs have expressed their satisfaction with the CHE support and health livelihood activities as 'very good' and little less than half (45%) rated it as 'good'.



8.2 Change in the Average monthly income Before CHE: A majority (82.6%) of the CHEs indicated in the survey that they did not have income before they became CHEs, 4.2% had Rs. 200-750, 2.8% had Rs 751-1000 and 9.9% had an average monthly income of Rs. 1001-5000. There was a drastic decrease in the proportion of CHEs in the 'no income' category from 82.6% to 2.1%. Similarly an increase was observed in all ranges of income and a greater income increase was informed by those who were earning Rs. 1001-5000 from 9.9% to 57.2%. This indicates reasonable increase in monthly income over a period of time.

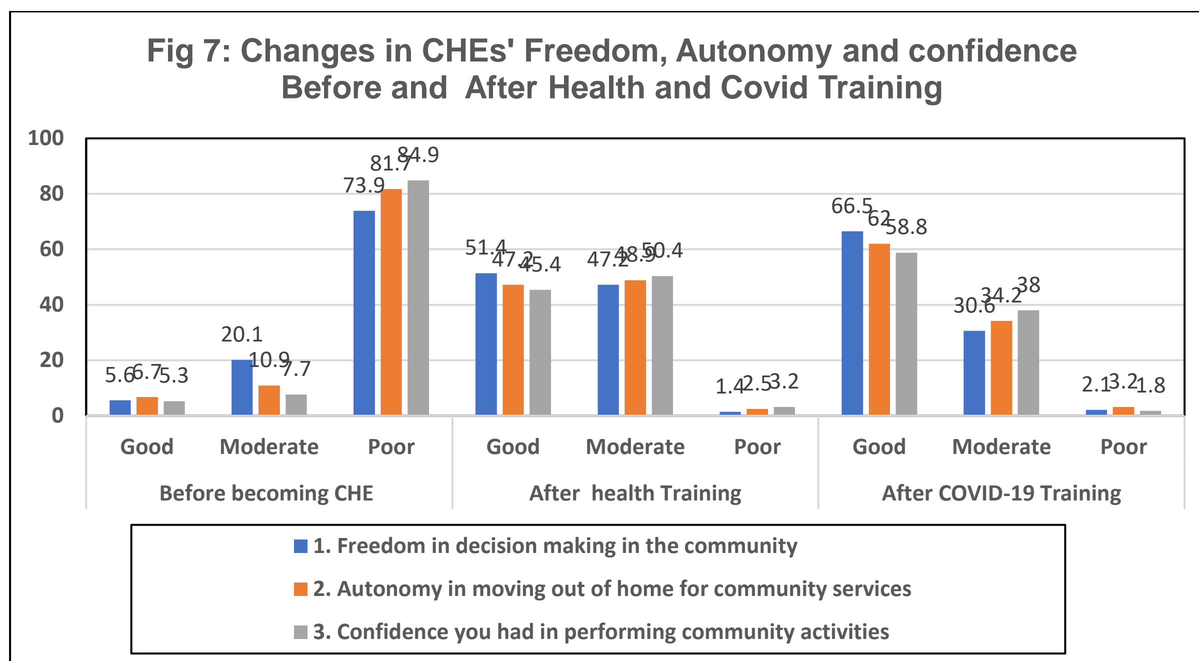
All (8) FCs who have direct contact and supervision with the CHEs informed during FGD that the income of all CHEs was not adequate. They have suggested increasing of income of the CHEs, one way of doing that could be by increasing the amount of Rs.50 paid for each education session (HFF pays Rs 50 per health education session. Some of the CHEs also work with the MFI in doing health education at centre meetings for which they are paid Rs 100 per session).

Field senior staffs in the FGD indicated that average monthly income of CHEs before Covid was Rs. 500-1000 and that during Covid was Rs.1500-2000.

The incentives that the CHEs received were for the promotion of KGs, committee meetings attended, data being filled, ration distribution, helping in setting up quarantine centres, setting up VCCIC, organizing health camps and different types of surveys

9 Women's empowerment:

9.1 CHEs' Changes in freedom, autonomy and confidence:



Of those CHEs interviewed, more than half (59.5%) and almost three-fourths (73.9%) of them expressed that their freedom for decision making at home and the freedom in decision making in the community respectively was "Poor" before the CHE training. More than 80% of the CHEs informed that autonomy in moving out of home for community services, participating in village discussions and the confidence they had in performing community activities were poor before the CHE training. After the CHE training, each of these freedom, autonomy and confidence levels have improved from 'Poor' to either 'Moderate' or 'Good'. After the training on Covid, there was a further increase. More than half and less than three-fourths of CHEs indicated that in each of these aspects of freedom and autonomy their rating was 'Good'.

CHEs of HFF are part of the downtrodden community and these women were empowered through various training given by HFF which enhanced their freedom, autonomy and confidence.

Because of the education and services of CHE, the changes women in the community demonstrated were, "washing hands, keeping houses and clothes clean and using of SNPs. Additional changes were discussion abilities, and they became confident. Women from Bihar indicated that they were participating **b**oldly in discussions, and they overcame shyness.

Women from 2 FGDs in UP and 1 FGD in Bihar informed that cleaning of the kitchen including the house, cleaning utensils and clothes properly were the changes that happened in their homes. From another FGD, 8 women informed that they were taking decisions at home. They utilize and promote government schemes when they go together as women. Now they have the confidence for talking with men at home. Even if someone makes a wrong statement they are not afraid to talk back. In UP 8 women in one FGD indicated that they were confident in public speaking and women from Bihar said that they participated in the panchayat meetings.

9.2 Purposes for which women move out and involve in community activities: Women informed that the purposes for which they moved out and were involved in community activities were, “To motivate others in the community to work as a member” and educate others to adopt the positive practices of washing hands, personal hygiene and house cleanliness. In one FGD, of the 14 women, 8 were members of the SHGs. The president and secretary posts were held by 2 of the women.

Readiness to face another pandemic like Covid: In future, if there is a pandemic like Covid affecting the villages, when asked how well they were prepared to face, it was vocalized by the CHEs saying, “Without fear, we will face the challenges and serve the community; like Covid pandemic”. “Create awareness in the community with all 6 messages. Refer infected people to CHC for better treatment and care”. Link with the government health system. “First of all, we will obtain the knowledge about the pandemic, then we will serve accordingly”. From one FGD, all CHEs (13) said that “We will work as effectively as it was done for this pandemic”. We will first get to know the disease, its pattern of transmission and its required treatment, and will educate the community about the same and take up the process of caring”. “We will promote social distancing and the use of facemask and sanitizer if appropriate for the disease”.

9.3 CHEs’ Respect from the community: According to the CHEs, a majority of them got their respect because ‘The community valued her services and respected her’. Two-thirds of them (68.3%) knew that they were respected because ‘The community came to me for any help’. One-third of them (33.5%) indicated that they were getting the respect because ‘The people took her advice on issues related to health’. More than a quarter of them knew that they were respected, because ‘They call me madamji’.

Almost all women from all 4 FGDs in UP uttered the way they respected their CHE as, “she has worked well. She has distributed mask, sanitizer, and educated the community to protect them from Covid-infections. She created awareness on health issues, provided medicines for the community activities that the CHE has carried out as part of pandemic response”. Women from all 2 FGDs in Bihar specified, “We listened to her voice and sessions, directions and followed her guidelines. We respected our CHEs by welcoming and talking to them nicely”.

10. Supportive supervision

10.1 Kind of supervision made on CHEs work: In FGDs, the CHEs informed that the Field Coordinator visited the CHEs once a month. He conducted meetings with all CHEs and oriented them on any one issue. He carried out demonstrations in schools. He supported them in their sessions, meetings, and cluster meetings. He also collected reports and data and observed and checked their registers. He also met with the beneficiaries and helped in community mobilization. The pattern of FC supervision was similar in UP and Bihar. In Bihar they said that some works are affected as the TC deputing for FC visits only one or two villages. When asked about how they reported, in one FGD, the CHEs informed that they reported through Google forms and another group from Bihar said that they reported through WhatsApp/Google forms.

10.2 Adequacy of Field Coordinator support and problems faced: In UP, CHEs from 3 FGDs informed that TC was deputed in place of the FCs and in one FGD, FCs were in place and supporting. In Bihar also, the TC was deputed in place of the FCs. In 3 FGDs, the CHEs informed that there was no FC. It was the TC who supported them in their meetings, reporting, guidance to organise activities and supported in the nigrani samiti’s meetings. In Bihar, TC was the FC who was supervising them.

Almost all CHEs interviewed in the survey informed that the FCs' (Mostly TC) support was adequate, except 3.2% who said that it was not adequate. Of those who were not satisfied with the FCs, only 1.1% indicated that they were very rude and did not respond to their queries and 1.1% said that there was no FC.

When asked about problems with the FC, in those places where FCs were supervising, in two FGDs they said that he (the one who was replaced for FC) was very cooperative, in another one they indicated that she (the FC) was very cooperative and supporting anytime and anywhere. In Bihar also they informed that she was very cooperative.

Reasons for FCs leaving the post: The role of FCs was an important in monitoring a group of CHEs. In the past, many FCs left but they were not replaced instead their role was assigned to TCs which brought in more incoordination in the supervision and monitoring process. The reason why FCs left the job was delicately mentioned as leaving for marriage (very few). The other reason was that the area to be covered was vast and the distance was a problem, especially for female staff. They had to travel covering a radius of almost 25km. Each FC covered about 25 (35-75) CHEs. When they didn't accept a transfer by HFF from one region to another, then they left the job. FC salary of Rs. 7000 earlier was considered less but now it has been increased to Rs 10000. All 10 FCs who participated in the FGD indicated that all vacant FC places should be replaced by new recruitment. Seven of the FCs tressed that coverage areas should be manageable.

Support received from Training Coordinator: When asked about the support provided by the TC, the CHEs said that the TC gave training on various topics and facilitated their meetings as well as provided handholding support to them in preparing their report. The CHEs expressed that this act of Training Coordinators prevails in Bihar also. All FGD reported that there were no problems with the TC. There was turnover among TCs also.

Other leaders of HFF visited whenever there was a large programme or major activity organised with the last one being in March 2022. One group said it was once in 2 months and another group said it was once in three or four months. During the visits they monitor the register and their activities and also gave them training. In Bihar also they indicated the same.

10.3 FC monitoring the work of CHE: Those who were acting as Field Coordinators expressed the type of supervision they had to take as: 'We visit all nearby villages twice in a month and far villages once a month', 'We monitor their work using the indicators', We got orientation on data filling" All 8 of the FCs informed that it was useful in their work and five of them indicated that they were not able to retrieve and use it for monitoring purpose and cross check it. They opined that many CHEs need to operate applications which some were not adequately equipped with.

10.4 Effectiveness of Review meetings: Every week CHEs were visited depending on the situation. If the visit was not made then it was done during the subsequent month. Cluster level meeting were held every month, in which 80% of CHEs attended. The date for the Cluster level meeting were fixed based on CHEs availability and their convenience. If there were more than 3 CHEs who were not able to attend on a specific day, then the date was fixed according to their availability. Those who failed to attend were ensured to attend on the following month without fail.

Review meetings Problems: There was no reimbursement of TA for CHEs. Those 15%-20% CHEs who were coming from far were finding it difficult. If CHEs had no money to travel, then they didn't come for the Cluster level meetings. Sometimes budgeted money was not received

on time, then snacks were not provided during the meeting. When planning for 4 districts FC needed an advance to provide for cluster meeting expenses lasting for 3-4 hours.

CHEs problems solved by FCs during their visit: All 8 of the FCs faced problems in the field relating to the work of CHEs and ASHAs and got them solved. About 10%-20% of the CHEs had problems with ASHAs. Hence ASHAs sometimes felt that their role was taken over by CHEs. When the FCs found it difficult to solve some of the problems, they took it to TCs and asked them to solve them. Some of these problems also went up to the Government Medical Officers in some places. The MO informed that ASHAs had to work with CHEs.

10.5 FCs supported by their seniors: All 8 FCs opined that they were overburdened with a lot of work. All 8 FCs indicated that the supervision support from their immediate supervisor Asst. Programme Manager (APM) was adequate to perform their services.

Last visit of supervisors to monitor Field Coordinators as of 16.6.22: For 4 of the FCs' last visit of the supervisors was on May 2022 and for 4 of them it was June 2022. The purpose of the meet was informed by only 2 FC as preparing for evaluator's visit with CHE and cluster meeting and 6 others did not write the purpose of the supervisors' visit.

10.6 Reporting pattern of Field Senior Staff: The field senior staffs had a pattern of reporting to their higher officials that were indicated by them during FGD as "Daily morning calls". At the same time they receive calls from those who were reporting to them as "Every day we receive 5 calls from all. We pick up immediately and instruct them". "We make WhatsApp calls too".

All those who work under the field senior staff followed a similar pattern. Each one was asked to prepare a monthly plan. The field work assigned to them was randomly checked based on which project that they were doing. They also conducted physical verifications by making surprise visits. Every evening they were asked to send their report with photographs.

Report to be sent to superiors: The data/report to be sent to superiors were the monthly plan , training plan and report (2), monthly work plan (3), stipend report, with a matching report. The CHE stipend given was uploaded in its drive, All work reports sent from the field will be verified only then the money will be released.

According to the leaders, MIS data was utilised to identify strong and weak CHEs based on the indicators. When vaccination numbers were low in a certain district, plans were generated for camps and increased local collaboration. The information generated by CHEs on activities and impact was used to identify regions for pilots of new programs.

10 Leadership:

10.7 Leadership support for FCs from the leaders: In the FGD, the FCs indicated that whenever FCs needed to discuss, they called the leaders over the phone in addition to making conference calls. They also indicated that they met them in Zoom calls twice a month.

The leadership support the field senior staffs provided for the FCs and CHEs was that they solved issues that were brought to them by FCs and CHEs. These include problems associated with PRI / government as well as liaison with higher government officials.

Additional leadership support that are essential: Liaison at the state level government officials is essential to carry out some activities in the community. Other government officials will oblige and permit implementation only when written permissions come from the district or state level. Such liaison can be done only by the HFF higher-level staff.

10.8 Type of leadership support field senior staff received from their leaders: Wherever there was a gap in the monthly work of the senior staff, they informed the higher-level staff who helped to solve the problems. The higher-level staff helped the senior staff on how to liaison with government departments. They also wrote letters to those with whom the senior staff had to liaison with. When necessary HFF leaders also talked to the higher officials.

When asked about leadership support, leaders of HFF indicated the leadership transformation that has taken place at the CHE level. They said that the HFF program is set up to foster leadership among women who have been bound by societal norms and patriarchy all their life. When they started the program most women were accompanied by their husbands or mothers-in-law and came in head cover (gunghat). By the time they graduated with the CHE Health training they not only have a voice but are established as leaders and agents of change in their community. This transformation is what keeps them going.

HFF looks at leadership at two levels. The first level is to develop leadership among CHEs so that there is empowerment among them and they are able to come out of their closed life and take an active part in their homes and in their community. This level of leadership has indeed taken place not only among CHEs but through them even in the community, especially among women. The data obtained through this evaluation clearly brings this out.

The second level of leadership relates to organizational leadership. It is quite probable that Covid disrupted much of their apparently smooth, planned working pattern. This probably got further affected by a number of senior staff leaving the organisation and the difficulties encountered in replacing them sufficiently quickly. Now with Covid under control and with life getting back to normal, it should be possible to get back to the original leadership pattern.

11. Long-term programme sustainability

The CHE model promoted by HFF has an inbuilt potential for long term sustainability. The strategy of ensuring that CHEs get reimbursed for different services would ensure that they get an ongoing income that would be needed indefinitely. During the Covid response and even before, the incentives received as livelihood income has been project-based funds from outside grants.

The following is a list of products suggested by different respondents that could be sold by CHEs. The CHEs mentioned SNPs, sanitizers, masks, mosquito killer sticks, mosquito killer sticks and some first aid medicines. Others listed pain killer ointment, soap, hand wash soap and liquid, SNP, medicated talcum powder, phynol, medicine for emergency and first aid medicines and nutrition powder.

Telehealth: Based on the feedback from the senior leaders, now they are in the 3rd phase of the evolution of the CHE program where they are upskilling the women to become Telehealth facilitators in their communities and being trained to do vitals, primary assessments, connect to remote doctors and follow up with the patient to ensure continuity of care. Telehealth is being implement through the CHEs is a model to ensure continuum of care at the village level. The CHEs through health education not only influence positive health behaviours but also generate demand for quality services by creating awareness. They then ensure access to the communities through telehealth and referrals. The gaps in access to diagnostics, medicines and other health and nutrition products is met through the CHEs with the support of the logistics supply chain built with local bikers. The follow up and ensuring compliance at the village level is done by the CHE. Thus this model democratizes health access to communities and build resilient self-sustained communities.

Respondents in FGDs and surveys mentioned a list of diseases that could be brought under telehealth, which have been listed here. The health problems listed by the women from different FGDs and suggested for telehealth include diabetes, TB, skin conditions (fungal infections), bronchial asthma, thyroid, malaria, filaria, diarrhoea, fever, cough, cold, eye and ear problems, obesity, epilepsy, piles, breast cancer, uterus problems, cervical cancer and prostate cancer. Very specifically Japanese encephalitis was mentioned. Vitals was again decided by many of them. This could include pulse rate, measuring BP, respiratory rate etc. These diseases if backed by investigations such as HB test, blood sugar test, and rapid malaria test. Manual breast screening could be an additional skill that could be provided backed by clinical examination and mammogram which probably could be handled under telehealth. However, it was not clear whether all of these could be dealt by telehealth services. Together these could contribute toward long term sustainability if it clicks well.

There was an interesting experience during the evaluation visit to one of the interior villages. In between one of the qualitative studies, a patient was brought knowing that one of us was a physician. On first look at the swelling in the palm, it appeared to be a neurological problem. On just touching the swelling it appeared to be a vascular swelling. A picture was taken, and it was sent to two consultants, a neurosurgeon in Vellore and a vascular surgeon in Muscat, Oman, along with the clinical findings. Within a short time, both responded. The neurosurgeon said that it is not a neurological problem. The vascular surgeon said it was a vascular problem and he also indicated the steps that should be taken to manage this problem. This information was passed on to the staff of HFF to follow up with the necessary steps.

Impact made in the community through CHE programme Before Covid:

The activities carried out before Covid were health education to community, promoting kitchen garden, sanitary toilets, soak pits, safe drinking water, use of SNPs, motivating and referring for mother and child health and other government health services.

1.Education by CHE to the Community: The community women in FGDs listed the health topics/messages that the CHE educated the community were safe drinking water (56,31), sanitation (42,29), toilets (28, 29), menstrual hygiene (37,30), nutrition (53, 28), personal and environmental hygiene (58,12), water borne and air borne illnesses (30,17), vector borne and seasonal illnesses (30,17), women's health and their common illnesses (31,15), health and nutrition and care during pregnancy (25,28), health and nutrition during lactation (33,14), breast feeding and complementary feeding (21,28), health of 0-3 years children, malnutrition and effects (27,14), common illnesses in children (27,16), health of school going children (5,16), KG (24,24), lifestyle illnesses (0,16), addiction (22,10), age at marriage (28,16), domestic violence (11,6), diabetes (8,0), hypertension/high-blood pressure (11,18), anaemia/cancer(s) (0,28), Covid-illness (12,18) and hand wash (30,0). This reflects the retention of knowledge among the community women.

Flip chart use during education: Women from 3 FGDs (57) in UP and 1 FGD (11) in Bihar informed that they had seen the flip chart CHE used for educating the community.

Education by CHE to Adolescent Girls: Adolescent girls conveyed the list of topics taught by the CHEs as adolescent health, nutrition, personal and menstrual hygiene, SNP and how to use it, kitchen gardening and TT injection.

Source of knowledge on Hand washing and Hand washing demonstration: More than half the adolescent girls from each of the FGDs indicated that they learnt hand washing method from CHEs and a few from school. In Bihar, little more than half the girls expressed

that they have learnt hand washing method from the school or their teacher and others through CHE. They also indicated that they learnt it first from CHE and then from school.

More than half the girls from both the states reported that they had seen the CHE demonstrating the method of hand washing. The others have seen it in school or from the teacher. However, the girls from Bihar mentioned that they have learnt it first from the CHE and then from school.

A majority of them informed that the availability of menstrual hygiene materials (soap and water) would be made available either by family members in their houses or peers in school.

2.Kitchen Garden:

Growing vegetables: A majority (83.8%) of the CHEs interviewed, mentioned that they had established KGs while 16.2% did not have space and the remaining CHEs were either planning for a season or were not interested. Almost three-fourths have grown brinjal followed by green leafy vegetables (61.6%), chilli ((37.7%) and tomato (15.1%). Carrot, radish, garlic and lady's finger were the other vegetables grown by a few of them. Three types of vegetables were grown by 36.3% of the CHEs, four types by 18.7% and two types by 16.5% in their KGs.

The community women and men interviewed informed that less than a quarter (23.5%) of their community had a kitchen garden in their house and two-thirds of them did not have space for a garden in their house and very few were not interested. Those who had KGs have grown brinjal (19.2%), pumpkin (16.3%), chilli (16.3%) and very few have grown radish, garlic, green leafy vegetables, tomato, potato, cauliflower and carrot.

The women during the FGDs informed that vegetables grown in kitchen garden in their entire village were white pumpkin, tomato, palak (2 FGDs), beetroots, lady's finger (bhindi) (2 FGDs), bitter gourd, coriander leaf, two types of vegetable called nenua and tarroi, beans, brinjals, lime and bottle gourd. In one FGD in UP, 8 out of 20 women and in other FGD only 5 out of 14 women were growing vegetables and sold some vegetables. In Bihar, the vegetables grown in the KGs were a type of vegetable called ghinga, lady's finger (2 FGDs), bottle gourd 2 FGDs), palak, bodhi, brinjals, bitter gourd, and sugar cane. The 7 FCs recorded the plants grown by them were brinjal (5), lady's finger (5), chilies (4), bottle gourd (3), tomato (3), spinach (3), green leafy vegetables (2) and capsicum and bitter gourd one each.

Two-thirds of the CHEs reported through HFF reporting App that they had promoted 1-15 households, a one-fourth 16-25 households and 3.5% 26-50 households to have kitchen garden in their villages. Only 4.6% CHEs did not promote kitchen garden.

Growing Trees: The trees grown in UP were drumstick and jack fruit and in Bihar mangoes, guava, lemon, papaya and drumstick. The FCs recorded the trees grown by the them were guava (3), lemon (3), drumstick (3), papaya (2), pomegranate (2) with guava and custard apple one each.

3.Sanitary toilet:

A majority (83.8%) of the CHEs interviewed indicated that they have sanitary toilets at home while 16.2% did not have such toilets in their homes.

Of the community surveyed, a little less than three-fourths (71.1%) with 74% in UP and 67.3% in Bihar had sanitary toilets in their homes while the rest (28.6%) of them did not have them. This was almost similar in both states. Two-fifths of the households had their toilet inside their

homes, with 30.7% outside their homes. Those who did not have toilets had the habit of using nearby fields (24.7%) or roadside (3.5%). Very few used community toilets.

When compared with the government data, a significant increase happened among HFF intervened areas of poor and marginalized communities. This is a remarkable achievement.

Over 52.9% of households in the state of Uttar Pradesh had exclusive access to toilets in 2018. On the other hand, 37.7% did not have access to toilets. These results come from the 76th NSO survey conducted between July and December 2018, which found over 20% of households across the country with no access to any kind of toilets.

(Source: Households with access to toilets in Uttar Pradesh India 2018 by type Published by Ian Tiseo, Nov 3, 2021) https://www.statista.com/statistics/1062779/india-access-to-toilets-by-type-uttar-pradesh/)

In the practice of toilet use, half of the FCs had toilets inside their homes while the other half had them outside. All of the senior staff had toilets with more than three-fourths having them inside their homes.

4.Sanitary Napkin Pads:

Through their role as a CHE, awareness was created among community women to demand for necessary health products like SNPs, soap and simple medications but often, these products were difficult to access due to price, availability or the stigma of purchasing them from a public storefront. As a CHE, she could leverage that awareness into demand and provide these products and create a livelihood for herself. CHE training involved instruction in basic mathematics, pricing, marketing, book-keeping and organizational skills required to run a small business. These skills, along with a HFF-designed basket of goods, could be utilized to create income. This basket contains various health and hygiene products proven to be both in demand and convenient for the CHE to distribute.

HFF started a manual SNP unit in 2011 in Buxar. With this unit, HFF was able to reach about 2,00,000 women with SNPs. Then, HFF commissioned a semi-automatic unit in Jigna, Uttar Pradesh. This unit employed four of the CHF\Es to fold the SNPs and produced large quantities for sale by CHEs for individual profit. At full capacity, the unit produced 7,200 napkins per day. In order to focus on the organization's strategic strengths, Healing FIelds has pivoted away from production and now purchases carefully chosen, high-quality, affordable SNPs from outside vendors. A hub and spoke model has been implemented to transport the napkins to CHE villages. CHEs pay HFF for the SNPs and then sell them to their village members for a small commission.

a. Adolescent Girls:

Almost all adolescent girls accepted that they learnt many things about menstrual hygiene. Everyone from both the states stated that they had learnt from CHEs the methods of using SNP and the ways of maintaining menstrual hygiene. "CHE used to gather us in groups and educate us on these topics. She organized this group meeting in the temple or in someone's house. Sometimes she came home". They also explained that the information disseminated by the CHEs were to change the SNPs 3 times, regularly wash the reproductive organs, sterilize the cotton cloth if used as a pad and manage menstrual hygiene. Very few girls from Bihar have indicated that they learnt it from school for which the CHEs were instrumental. *The impact made in the community among girls and women is considerable and appreciable and this could be a lesson to replicate in other areas.*

Source of menstrual hygiene demonstration: Almost all adolescent girls declared that they had seen the CHE demonstrating the method of using SNP and the method of menstrual hygiene from both the states except 2 girls from Bihar. Around half of the adolescent girls from each state said that they were assured on the availability of SNP by their mothers, sisters, sisters-in-laws, aunties, friends, and neighbours. In all FGDs majority of the adolescent girls adopted the practice of using SNP 'Always' in both the states while only 2 girls from each state used 'some times' and 2 and 1 were not using SNPs from UP and Bihar respectively. The main reason for not using the SNP was "Due to lack of money". The other reasons were that their mothers guided them to use cloth, as it was easily available and could be secretly used due to non-availability of pads in the house and due to shyness at shops. In each of the FGDs adolescent girls informed that they buy it from CHE (27,6) and shop (11,6) and the rest did not know where it had been bought.

It was recorded through MIS that a total of 8280 women were reached through Menstrual Health Management events with 3347 from UP and 4933 from Bihar.

b. Community Women: Two-thirds of the community respondents' family members were using SNP, while one-fifth of them were not using them. In about 13% of households, there were no women or adolescent girls eligible to use it. Almost two-thirds of the community respondents reported that they were taught by CHEs along with ASHA and family members. One-fourth of them informed that SNP use was taught only by CHEs. Shop as the source of purchasing SNP was said by 43.3% while 30.2% was from CHEs. The reasons for not using SNPs were that they could not afford them (19.8%) and 4.3% said that SNP was not available.

c. Mothers with 1-3 years children: Almost all (93.4%) mothers with children in the age of 1-3 years, in Bihar and majority (86.9%) in UP had the practice of using cloth before SNP education. After the SNP education by CHEs, around 80% have changed their practice from cloth to SNP. The SNP education elevated the use of it. The data indicates a significant impact in both the states. A little more than two-thirds (69.1%) of the mothers informed that CHEs followed by ASHA (43.1%) were the ones who taught SNP. The CHEs were the main person who taught the community about the use of SNP and it was similar in In both the states, although the ASHAs have also taught on SNP. Almost 50% of the mothers informed that they are buying the SNP from the shop, followed by 20.6% from the CHEs. As HFF is not currently selling the SNP, those CHEs who are involved with other programmes are probably selling it.

d. Field Coordinators: The FCs informed that in all the FCs' families, the use of SNPs was practised.

e. Field Senior staff indicated that SNPs were used by all their family members including female staff and female members of their families.

Opinion on the production and distribution of sanitary napkin pads: All FCs felt that there is a need to start the production again as there was a greater need by the community.

The field senior staffs indicated in the discussion that the production of SNPs was costly. The technical component for the maintenance of the production machine was high. Of the 10 FCs, 8 of them have seen the SNP unit. The main unit was closed in 2016. They started the second SNP unit in Jugana village, Mirzapur district in 2017. Automatic machine parts got worn out. Replacing the parts of the production machine was costly. Hence that unit was also closed in 2019. The community wants to get SNP for a cheaper price with good quality material.

However, all (10) the senior staff felt that there was a need for starting the services of selling SNPs at the rate of Rs. 30 to the community by making it available for Rs. 25 to the CHEs. One of the possible suggestions could be by purchasing in large quantities the raw materials – wrapping materials. Then different places can be used as production units. CHEs can wrap and make it available to the community. This is in one way that increases the income of the CHEs and in the another way SNPs are made available to the community at a low cost.

5.Safe drinking water:

Knowledge: The community household respondents knew that boiling (88.6%), filtering (61.5%), using can water (14%), using filter (8.8%) and chlorination (5.2%) were the methods of purifying water for safe drinking. The knowledge on purifying water by methods of boiling and filtering was similar in UP and Bihar while using can water and using filters were known by more in UP than in Bihar and the reverse for chlorination.

Practice: Three-fourths of the community informed that they were boiling the water, 56.7% filtering, 19.5% used water from the hand pump, 7.1% used filters, 5.5% chlorination and 5.1% used can water. Few (5.1%) did not use any method of purifying water in Bihar.

Those who practiced boiling and filtering water were higher in Bihar than in UP with almost 100% and half respectively and found to be statistically significant ($z=12.5$, $p=0$ and $z=5.1$, $p<0.0001$). Hand pumps were used in UP not in Bihar.

Though more people had knowledge on the different methods of purifying water to drink, in practice lesser proportion have used each of the methods.

Almost all (92.8%) informed that safe drinking water related facts were taught by CHE followed by ASHA (52.2%). A considerable proportion (29.1%) of respondents indicated that they were taught only by CHEs a third from UP and a quarter from Bihar.

In the practice of safe drinking water, boiling and filtering were used by 3 of the Field Coordinators, boiling, filtering, using filters and using can water were stated by one each of 5 of them. Even among FCs, one did not use any method.

All the field senior staff informed that their households were practising safe drinking water with filtering being the most common individual method followed by boiling and filtering. Very few used can water.

6. CHE motivates and refer to avail the government services: Women from 3 FGDs in UP and 1 FGD in Bihar informed that CHE motivated and referred to avail the government services of pregnant women for ANC visits (39,14), procuring IFA tablets (30,12), receiving 2 doses of TT vaccination (15,13) and children for Immunization (40,14). There was one PHC in a respondent’s village, but it was not functioning, as it is closed.

Practices adopted by mothers with 1-3 years children:

ANC registration was found to be very high with almost all of them (99.3%) having registered and it was similar in both the states being 99.6% and 99.9% respectively in UP and Bihar.

ASHA was the main person who did the registration. Almost all (94%) were registered with ASHA in Bihar while only three fourths (75.9%) in UP. In UP CHEs (14.7%) also motivated them for registration, while it was only 2.2% in Bihar.

Early registration before the third month was followed by half (52.4%) the mothers. While it was almost two-thirds (64.5%) in UP but only a little more than one-third (37.4%) in Bihar. The difference between the two states is statistically significant (z= 7.1, P<0.0001).

A minimum of 3 ANC visits is recommended by the government. A little more than half (58.8%) of them had fulfilled the requirement. However, the practice of minimum 3 ANC visits was observed more in UP with three-fourths (77.1%) of the mothers while it was only one -third (35.6%) among mothers in Bihar which shows a highly statistically significant (z=11, P=0) difference between the two states.

The reasons for the difference between states could be effectiveness of CHEs or sincerity of government health staff or both.

Source of most help obtained for ANC services by mothers:

ASHAs played an important role by helping 76.8% of the mothers for utilising ANC services. A majority (86.3%) in Bihar and a little over two-thirds (69.8%) in UP were helped by ASHA. However, CHE help was mentioned considerably (21.6%) in the state of UP. More CHEs had contributed to motivating mothers for ANC along with ASHA in the state of UP than in Bihar.

TT vaccination and source of help: The overall coverage of two doses of TT was 77.9%. The coverage of two doses of TT was found to be more (87.3%) in UP than in Bihar 65.4%.

Almost three fourth of them mentioned that ASHA helped them to get TT vaccination and almost a fourth of them in UP mentioned the help of CHE while it was very low in Bihar.

IFA tablets procured and consumed: A minimum of 100 IFA tablets must be consumed during pregnancy. Only 17.6% of mothers have procured and 8.4% have consumed it.

Birth weight, practice of colostrum semi solids, and duration of breast milk: One-third of the children were born with low birth weight of below 2.5 kg. This was similar in both the states. Mothers have practiced giving colostrum soon after birth for almost all children in both states. According to WHO, exclusive breast milk should be given up to 6th month and starting semi-solid food in the 7th month which was followed only by 57.6%.This practice of starting semi-solid food from the 7th month was found to be more in Bihar (68.7%) than in UP (48.2%) and the difference was found to be statistically significant (z= 5.4, P<0.0001). Three-fourths have breastfed their children along with other foods for more than 1 year and one-tenth of them have extended beyond 2 years.

Monitoring height and weight,: The practice of monitoring weight and height every month was found to be very, very low. Height and weight was taken once a yearby 37.0% while 20.6% have practised it once in 6 months. This practice of once in 6 months was more in UP than in Bihar while once a year was more in Bihar than in UP.

Vitamin A solution: Consumption of Vitamin A solution according to the protocol was not followed. Giving Vitamin A solution once in 6 months was followed only by 8.9% while 63.2% informed that they gave it once a year. Vitamin A solution was not given by 26.9% of mothers. The practice of giving once a year was similar in both the states while once in 6 months was a little more (14.8%) in Bihar than in UP (4.5%).

Deworming: Deworming was not done for children by 44.7% of mothers while 46.4% informed that they did it once a year. Giving tablets/ liquid for deworming was followed by only 7% of the mothers with 13.2% in Bihar and 2.4% in UP. The protocol for deworming set by the government was not followed.

Childhood Immunization: Two-thirds (68.4%) of the mothers indicated that their children were fully immunized while 30.9% were partially immunized. The mother and child card was available with 90.9% of the mothers with almost all (97.8%) in Bihar and majority (85.7%) in UP. While almost all of them from Bihar had the mother and child card, 11.8% from UP did not have it. However, only 61.1% of cards were fully filled and 29.5% were partially filled. The fully filled cards were more (70.2%) in UP than in Bihar (48.9%) which is statistically significant ($z=5.7$, $P<0.0001$).

The coverage (93.2%) of BCG and Hepatitis vaccination at birth was found to be good. Almost all the children (98.9%) had BCG and Hepatitis vaccination at birth in Bihar while a lower percentage (89%) was observed in UP. However, coverage of each dose of Pentavalent vaccine was found to be higher in UP and consistent for all three doses. In Bihar, the coverage was three-fourths for the 1st dose and decreased in the second and further decreased in the third dose in Bihar. A majority (88.5%) of the children had measles vaccination and it was almost all in Bihar and 80.8% in UP. MMR booster dose was given to more than half (55.5%) of the children. The MMR booster coverage was more in UP than in Bihar.

Most help obtained for Childhood immunization: Half (51.8%) and 42.2% of mothers informed that ASHA and CHE respectively referred the children for immunization. *In UP, 58.8% of the mothers indicated that CHE had helped them which is significantly higher than that of 19.8% in Bihar.*

Nutrition education, demo seen and nutrition recipe: A majority (85.5%) of the mothers have received nutrition education while only 67.6% had seen the demo. Of the 90.6% who had received nutrition education only 61.6% had seen the demo in UP while in Bihar, all of them who received (78.6%) nutrition education had seen (76.4%) the demo also. The knowledge of mothers on nutrition recipe, home-made cerelac was significantly more in Bihar than in UP as it coincided with that of the education given.

Nutrition demo was done mostly (61.6%) by CHE along with any one of the government staff. Mothers informed that ASHA (44%) and Anganwadi workers (22.7%) did demo. Most of the mothers who had seen the demo informed that they practised the homemade nutrition recipe with 29% always and 58.1% sometimes. However, more mothers (45.6%) in Bihar practised always than in UP (29.0%), while 75.5% of the mothers in UP practiced sometimes.

Services of CHE after Covid-19: The activities that CHEs were continuing after Covid in 2022 onwards were listed by the CHEs in FGDs as, meeting with adolescent girls, pregnant women and mothers. All activities should be carried out because the information and awareness provided to the community will save their lives. All activities should be continued with creating awareness of personal and environmental hygiene (cleaning clothes, house) and safe drinking water. All 6 messages of Covid, kitchen garden, nutrition, SNP, and Japanese Encephalitis should be continued. New initiatives like checking blood pressure and checking blood sugar for diabetes should be added. Preparation of SNPs and the need to have first aid medicines should be continued. The above list of activities carried out by CHEs were not complete indicating that they were not clear on the list of activities they were expected to carry out.

Community women from 3 FGDs (45) in UP and 2 FGDs (31) in Bihar informed that the services CHEs provided before Covid (2019) were important.

Suggestions to improve the health care of the community after Covid: The suggestions voiced by the women from 3 FGDs in UP were that they need CHE's support in childhood

immunization and they should provide IFA tablets and nutrition supplements to community. She needs to continue to create awareness on health and nutrition in the community. Weekly health check-up camps should be organized. All essential medical facilities with medicines should be provided to all the villages. Ultrasound facilities at PHC level, medical officer, ANMs and medicines facilities should be available at the village level. These high expectations from the community may not be feasible from the government side. The suggestions voiced by the women of 2 FGDs in Bihar were "Blood test should be started to check sugar level and ultrasound facilities". Only in one FGD, women suggested that essential medicines and information related to that should be provided. Others did not make any suggestions.

The CHEs who participated in the FGDs suggested that access to health care in the community could be improved by creating awareness among the community of the health facilities available at CHC/PHC and by starting the health facilities at the HSC/PHC and CHC levels. The people in the community should be encouraged to visit the health facility centre to avail themselves of all the services. Health camps could be conducted periodically and the people should be educated. Additionally, selling sanitisers, masks, SNP, ointment as a pain killer and mosquito killer sticks as well as blood pressure measurement and sugar tests for diabetes by CHEs would increase the access of the community for health.

The support needed by CHEs to improve the health of the communities were listed as training on knowledge about diseases, menstrual hygiene, and nutrition. They felt that by advocating with the mukhiya and health officials the government health centres which remain closed should be reopened.

Immunity boosting

Although immunity-boosting was not part of the HFF programme, an attempt was made to identify the knowledge on immunity-boosting among the staff as it was promoted universally to consume immunity boosting foods and drinks during the Covid pandemic.

Only 50% of the FCs were able to write the definition of immunity-boosting. Without defining immunity-boosting, they went on to list some of the foods that help in boosting immunity such as cinnamon, tulsi, sugar, jaggery, giloy (a type of widely growing climber plant used as a immunity booster), all fruits and vegetables. Four of the FCs stated drumstick leaves as an immunity-boosting food. Around 2-3 FCs had additionally listed kadha, aloe vera and lemon. Others had written mostly the nutritious foods.

Only 3 of the field senior staffs had written the definition of immunity-boosting correctly. The only correct statement was that immunity helps to fight infection. Almost all other answers provided were related to immunity-boosting foods which was specifically asked in the next question. All FCs and field senior staffs knew the immunity boosting drinks that they have used in their homes in which they have included the ingredients such as cinnamon, cloves, tulsi leaves, sugar, jaggery, giloy and the recipes were written and made available.

12.Staff Development:

Induction Training for Field Coordinators: Of the 8 FCs who participated in the FGD, 7 of them indicated that they had attended the 6-month CHE health training, 6 of them said that they had one week training in the year 2016 and all of them underwent a 2-weeks online induction training from 21st – 28th, November, 2021 at Buxar. Five of them accepted that the training had given sufficient knowledge and skill to perform the role as FC.

Skills gained by FC after Induction Training: Only after the Induction training, all 8 Field Coordinators rated as "Well" that they were able to use smartphones, organise Zoom meetings and data entry designed for the FCs which were the skills that they did not have before the training. For the skill to operate the mobile app for daily reporting, only 3 of them rated 'Well' and 5 of them 'Little' which is very essential for their work. All of them rated basic computer skills before and after the induction training as 'Not at all". Six of them knew how to send emails and 2 did not know. Three of them knew to use Microsoft Word and one Excel software package before the training which were not taught in the training. Four of them knew to ride scooter and use it for work.

Additional knowledge and skills they needed to be equipped to do the work as FC was listed by them as basic computer skill (7), need to learn MS Word (3), to send emails (8) and physical training on data entry (8). They also indicated that CHEs refresher training is needed and English language training is essential as they are not able to reply or converse

ToT Training for Training Coordinators: Of the 10 senior staff 8 of them had indicated that they had TOT training in 2011 (1), 2013 (2), 2016 (2), 2021 (3), and 2 had BCP training in 2018 and 2021.

Skills gained by field senior staffs: Half the field senior staff expressed that they gained skills in communication, skill in the training of other trainers, the skill of using various teaching methods, and were equipped in the process of training. They got the skill of conducting online training. The skills gained in the use of technology were the other area. This covered the use of related skills such as mobile apps, using computers and laptops in their work. Three of them indicated that they gained skills in program management, staff management and team management. There were a number of other related leadership and management skills that one or two of them listed. This included leadership skills, reporting skills, soft reporting, planning team management, planning for internal and external presentation of their work presentation skill, management of all archives, program implementation, problem solving and logistic arrangement.

Knowledge needed for field senior staff: The need for additional training to help in their work was clearly stated. Health-related topics were stated in general terms such as knowledge on health, technical knowledge about health and preventive health to improve health. Effective communication both in speaking and working in English was the next area mentioned. The other knowledge identified by a few were knowing all government programmes for community benefit, knowledge of health management, management, computer skills, data analysis, health-related tools, presentations and the dangers of climate change.

Skills needed for field senior staff: Half of them indicated that they need skills in liaison with government officials and various government departments, building relationships with government officials and the ways to interact with government health staff. The additional skills that were identified by them were computer and software skills, management, decision making, team building, teamwork and collaboration, handholding support, communication, presentation, data management and analysis and report writing.

Operational Issues and Staff turnover: The programme manager (Training), the Reginal Manager and the Programme Associate had to cover a range of 28-32 districts in both the states and have to travel by motor bike, bus and train to cover a distance of up to 400 kms. The Asst. Managers had to travel by motorbike, bus and train to cover a distance of 150-260 kms for their work in the field. Only 2 of them had to cover 75-100 kms as they were responsible for only 2 districts.

Already 8 CHEs were recruited as FCs with 3 earlier and 5 currently. One staff who started his career as Training Coordinator for 4 years, was then promoted as Regional Training Coordinator for 2 years, and again promoted to Program Manager (Operations) for 5 years. He is currently the Regional Manager (Operations). Another individual in a similar position, started his career as Training Coordinator for 3 years then became Program Manager for 6 years. Currently he is holding the post of Regional Manager, (Training) .

Two other staff started as Field Coordinators or Training Coordinators or as Programme Associates. Then they moved up as Assistant Programme Manager or Assistant Training Coordinator and then moved on as Regional Programme Manager or Master Trainer. Coordination and training seem to be the two major areas of HFF besides a few handling data and MIS with a different career path.

Staffing Pattern: According to HFF plan, each CHE covers a range of 250- 350 rural marginalized and poor households. Each FC was in-charge of 45 to 50 CHEs. This would require 22 to 25 FCs. Each TC was responsible for 2 FCs and an average of 95 CHEs who comes under them. Overall, there should have been 12-13 TCs for the total of 1133 CHEs. HFF lost experienced field senior staff leaving the job, because of better opportunities outside. The FCs also left and the reasons were mentioned earlier. It was informed that there were 21 FCs and 15 TCs for the total of 1133 CHEs at the time of evaluation.

SWOT Analysis: A SWOT analysis was carried out as part of the evaluation by asking these questions from the field senior staff of HFF and leaders. The responses provided by them through questionnaire and during FGDs are presented below

Strengths of CHE Programme: The following were identified by the field senior staffs as the strengths of the CHE programme of HFF. CHEs among rural women have been provided with increased livelihood support. Health facilities have been provided for the marginalised, ultra-poor and the poor in the interior villages along with addressing health-related issues. Health behaviour changes have been observed at the grassroots level among people and among women in the community leading to the prevention of diseases through education. The health services of checking temperature, blood pressure and oxygen saturation were taken to the community. Liaison with the PRI members and Gram Pradhan was another strength. The CHE programme is large which made a trained person available in the villages helping to reach a large number of poor women and to solve health-related issues. This has led to both social and economic empowerment of women, giving increased self-confidence to CHEs and women. They consider that the CHE model is one of the best for doing work at the community level based on the training and timely stipend being provided. The telehealth programme is considered one of the opportunities to carry forward the programme. The empowerment of women was considered another strength.

Senior staffs participating in the FGD listed the strengths of the services of CHEs. Almost 105 QCs were made to function and 85 VCCICs were established using the schools or the government panchayat office buildings. Sanitary kits and rations were distributed to the poor families. Medicines were given to the symptomatic patients. Mental health counselling was arranged through Gram Vaani numbers.

The HFF field senior staffs indicated the following as the strengths of the CHE programme: The CHE programme itself is a strength. Health of the community is better - sanitation, vaccination, nutrition, kitchen garden, SNP use. Training is a strength. Prevented the spread of Covid. Provided rations during Covid waves. Distributed clothes through Goonj. Mobile communication was made through Gram Vaani. CHAAV project of IIMA distributed pulse

oximeter, gloves, masks, soap, sanitizer, hand towels and kits. Give India provided oxygen concentrator and pulse oximeter to CHC/PHC.

The HFF leaders indicated that the connection of the CHE with her communities and their motivation to further themselves and make a mark not only in their families but in their communities is a big strength. The program forms a foundation where health is an entry point to development in the community.

Weaknesses of CHE Programme: The weaknesses identified by half of the field senior staff were that CHEs education level was low. Not everyone could use smartphones properly. Their main weakness was that they were not able to adapt to technology properly. They found it difficult to learn how to use digital tools and technology like datagram, MIS and Google Sheets. Liaison with the government was found to be weak including at the district and state levels. There is inadequate regular income through the livelihood opportunities created for the CHEs. Partly this is due to unavailability of the livelihood products all the time. Making the products available all the time would help the programme function better. The area to be covered by CHE requires long distances. If there was no CHE in a village, another CHE from a nearby village was asked to cover up and that led to poor time management in the field. The income of the CHEs was irregular causing insecurity for them. This programme cannot be carried on for a long time. There is a need to identify who will care for the community if HFF decides to withdraw. Monitoring CHEs was tough. Stipends were not provided for a long time. Training using network technology was a weak area. Having meetings with HFF staff during Covid were not regular.

Field senior staff also listed the weaknesses of the services of CHEs. Approximately, 900 out of 1133 CHEs were active. During their review, they have found that around 200 were not working. Rations were distributed to their relatives. Some of them did not have smartphones. The main weakness identified was the large area to be covered causing transport difficulties.

The HFF leaders indicated that they observed gaps between what they expected after training and what they observed in the field during visits. The cover-ups to show more than actually achieved and the constant need to monitor is important. They were not able to ensure the same quality in training across geographies and with different trainers. The importance of reporting moving from anecdotal evidence to data-driven reporting takes up lot of time.

Opportunities: HFF has the opportunity of covering all the states according to their programme plan. Establishing units that generate income by starting products like SNP, toilet cleaner and other products is another opportunity.

Threats: The threats to the growth of the HFF CHE programme would be the needed budget to expand to all states and the difficulties associated in adapting the needed technology.

Case study: Rita Giri a Model CHE

Rita Giri is a dynamic CHE. She hails from Firozepur village in Siyaganj Block of Jaunpur District in UP. There are around 500 to 550 households in her village of which she is responsible for 250 to 300 households. She joined as CHE in 2016 after receiving 6 months training. In her desire to serve her community, she stood for panchayat president elections in UP and lost. Losing does not seem to bother her. Out of an electorate of around 1300 votes, she lost by just 25-30 votes. Even though she is not elected she continues to serve the people by linking with the government programmes.

As a CHE she refers patients to the hospital by calling for the ambulance. She provides support to pregnant women and adolescent girls. There are about 45 adolescent girls in her village. Of these 25 were using napkins before. She was able to educate the remaining 20 and now all of them are using napkins. She has promoted kitchen garden. Out of the 250 households 100 do not have land for kitchen garden. All the others have kitchen garden of which she personally helped 50 of them. In her kitchen garden, she grows vegetables for home use and not for sale.

She organized a QC with about 10 migrants in the first wave and an VCCIC with about 8-10 patients in the second wave. There was no community kitchen. The people were afraid for testing. She organized a camp for Covid testing and 30 individuals were tested. None were positive. She carried out awareness campaigns and used her own family auto as dindora four times. She shared all Covid messages. She conducted vaccination camps 5-6 times. All eligible individuals have been vaccinated. No one died of Covid-19.

She organized the wedding of 2 tribal girls. Appealing to the government she got Rs. 51, 000 for each girl. Of this 30,000 was given as money and the remaining as materials. She helped the community to get e SHRAM cards for 35 individuals for employment and 13 MNREGA cards. She organized 2 camps with 20 people getting benefitted for disability cards and widows' pension. She educated the community about various government schemes. She has helped people get ration cards and AADHAAR cards.

Her husband is Birendar. He is an auto driver. They bought the auto about 7 years ago with a bank loan, which was settled within three years. Her income from CHE also went into the purchase of the auto. They have 3 children, studying in the 12th, 8th and in the 6th class. Her income has been varied over time. Before Covid it was about 4,000 per month, which decreased to 2000 to 3000. Now she earns about 12,000 primarily from auto income. Before CHE she earned about 8,000. Her husband is suffering with kidney stones and also helps with the bank related work.

She has played a number of community roles. She is a member and has been president of the school management committee. She looks after hygiene in the school. It was started even before she became a CHE and continued. She has ventured into the pickle making business, making a variety of pickles. She makes a wide variety of edible items from gooseberry. She sells the pickles in sealed bottles. For this business, she received 1 month training from the District Level Agri Centre. She would like to continue as a CHE as she enjoys working to helping others. She has finished 12th class and is now pursuing BA.

Rita Giri is presented by the evaluators as a model CHE based on her varied skills and qualities. She does her varied CHE roles efficiently. She is called a model CHE, because it is CHE's like her who will be able to provide long-term sustainability to the CHE programme.

FGD with CHEs

FGDs with Community Women

KII with Gram Pradhan

VII. Conclusions

1.Training **CHE Health Training**	**CHE Health training:** The CHE Health training used a need-based manual in Hindi and was conducted by well-equipped trainers. The teaching methods (Pedagogy) were very appreciable. The trainers used demonstration on various health aspects, using flip chart, videos, animation videos and practical. The list of topics covered as mentioned by the CHEs did not include all the topics covered in the training which indicated the need for a refresher training. The salient features of the CHE training mentioned by them were providing with detailed knowledge on health and equipping them skills with demonstration. After 6 months training, they have worked as educators in their own communities, carried out projects and educated the people. The CHEs adopted positive practices toward health and hygiene by using the knowledge they gained during training in their own families and also educated the community to practice the same. The content covered was very much adequate and the effectiveness of the CHE training was good, but because of the long duration and the wide range of health care they were not able to recall all the facts. They informed that they developed leadership and mobilization skills which were observed among the CHEs but not with all of them. They indicated that they didn't remember everything that was taught in the health training and expressed their need for a refresher training. Even the experienced CHEs who underwent BCP training requested this. **Need for additional training:** The CHEs expressed to improve their knowledge on other health aspects. These health topics included diabetes, TB, skin conditions, bronchial asthma, thyroid, malaria, filaria, diarrheoa, fever, cough, cold, eye and ear problems, obesity, epilepsy, piles, breast cancer, uterus problems, cervical cancer, and prostate cancer. Very specifically Japanese encephalitis was mentioned. Vitals was again desired by many of them, this could include measuring pulse rate, temperature, BP, respiratory rate etc. Investigations include HB test, sugar testing and blood samples for malaria. Manual breast screening could be an additional skill that could be provided, backed by clinical examination and mammogram. They indicated that more detailed information is needed in first aid. All what they asked may not be feasible. *CHE health training curriculum includes adequate content, appropriate educational methods with ongoing content assessment given by experienced trainers was effective in developing the CHEs knowledge, skill, changing their attitude and motivation to work in the community.*
Covid-19 Training	**Covid-19 Training:** The content of the Covid-19 online training was need-based and adequate. The Power-Point messages used were simple and appropriate to respond to the sudden pandemic. The salient features of the Covid-19 Training as indicated by CHEs were detailed knowledge on Covid and skills gained through demonstration. After the Covid training majority learnt the skill of measuring temperature using infrared

	thermometer and oxygen saturation using pulse oximeter. All CHEs expressed that they were taught home isolation methods and how to save lives from any pandemic as another salient feature of the Covid-19 Training. A majority of the CHEs surveyed and those who have participated in the FGDs had rated their opinion about the content covered as 'very much adequate' to carry out their Covid response and the remaining said it was 'moderately adequate'. **Problems in online training:** More than half of them did not experience any problem during the online training. The problems they encountered were, poor internet connectivity, inability to hear and focus on online training, could not interact much with the trainer and non-availability of a smartphone. CHEs were able to communicate regularly with HFF staff through online, by phone, video call, SMS and WhatsApp. Further CHEs were able to communicate with the community and educate them through physical visit with social distancing, using facemask, using sanitizer, through ASHA, phone, SMS and WhatsApp. However, it was not uniformly done in all CHEs villages This could be because of the problems encountered in online training or due to logistics or ineffectiveness of some CHEs. As a result of this training the CHEs were able to educate the community. Half the CHEs had taken 51-75 health education sessions in 7 months duration (Sept, 2021 to April,2022) followed by (76-100 sessions) by 29.6% while few had taken less than 50 sessions during the same period. Three-fourths (77.1%) of the CHEs had arranged health education using Dindoras 1- 2 times, 2.5% of them did it 3-5 times and one CHE did it 20 times in their village during this period. The community had seen and heard the mike system used in autos (Dindoras) for educating the community. The main messages delivered through Dindoras were six preventive measures from Covid infections. *The content and training methods at the time of Covid was adequate and effective however the problems encountered by few CHEs were genuine.*
Knowledge Level of CHE and community	**CHE:** The knowledge of CHEs was assessed under nine themes. The nine themes were preventive measures of Covid given as messages considered as 6 weapons, messages to educate the community, need for Isolation, interpretation of oxygen saturation, proning position, when to refer a symptomatic person to hospital, home care isolation, to set up a quarantine center and a village level isolation center. The Knowledge of CHEs on preventive measures of Covid which was designed as messages of six weapons was good as the first 3 weapons were known to almost all, the fourth one was known to majority of them, the last two were not known by many CHEs. Need for Isolation was not adequate as a quarter of the CHEs did not know. The CHEs' knowledge on the interpretation to be made on different oxygen saturation levels and the actions to be taken for each level were not satisfactory, however it was very good for the worst level of below 92%.

Assessing the knowledge on the education to be given to the community for Covid response, out of the 7 messages 4 were narrated by the CHEs. Three- fourths of the CHEs knew the correct proning position.

Almost all CHEs knew that with symptoms of persistent fever > 7 days and breathlessness, a person must be referred to a hospital. Almost two-thirds knew that when oxygen saturation was <92 that person also must be referred. However, the knowledge on the other symptoms were known to very few and found to be inadequate.

The knowledge of CHEs is an output of an activity which is CHE health Training. Since CHEs are community health workers, every CHE should know all facts in detail being the educator which was lacking. Hence the knowledge level of CHEs was considered as only satisfactory.

Community: The knowledge of the community women and men was assessed under five themes. They were Covid preventive measures, home care isolation, reasons for home care isolation, VCCIC and Gram Vaani numbers.

The knowledge of the community on the Covid preventive measures of maintaining social distance, hand washing and using sanitizer was adequate. The other preventive measures of when to isolate in the house or VCCIC, protection of persons with co-morbidity and using masks were not known to a majority.

*The reason for home care isolation was known to nearly two-thirds of the community which was good as k*nowledge of the community being an output of an activity 'Community Education' have increased from a lower to a higher level.

The functioning of the VCCIC in their villages was known to 40.7% of the community. Knowledge on each of the cares given in VCCIC was known to less than a quarter of them. This could be because an Isolation centre functioned only in 85 villages.

Almost all reported that these health education-related facts on Covid were taught by CHE didi and two-thirds of them indicated that it was by ASHA. This again reflects the true situation that prevailed and also indicates that CHEs were efficiently working with the point of focus along with the government.

Adolescent Girls: The knowledge of the adolescent girls from the community was assessed under four themes. They were Covid preventive measures, home care isolation, reasons for home care isolation and when to refer a person with Covid symptoms to hospital.

A majority of adolescent girls knew the first three common preventive measures of Covid, while the other facts were known by only very few. All of them knew that when a person with Covid symptom of persistent fever > 7 days should be referred to a hospital. Dyspnoea (Shortness of breath) and oxygen saturation < 94% were known to half of them. However, the other symptoms for referral were not known to any one of them. Almost

	half the adolescent girls knew home care and isolation. Adolescent girls conveyed that the list of topics taught by the CHEs was adequate. *The knowledge level of community women, men and adolescent girls were satisfactory as it was during the lockdown period and the response to the infective disease. There is scope for further improvement in the knowledge level of CHEs, community women, men and adolescent girls.*
2. Benefits of vulnerable	**Protective materials:** Two-thirds of the community women and men have received one or more of protective materials masks (57.6%), sanitizer, soaps, ration (34%), medicines (36.1%) and washing soaps (9.5%) given to the community from CHEs. About 35% of them indicated that they did not receive any benefit by CHE. **Government entitlements:** A quarter of them said that they were facilitated by the CHE to obtain or update their ration cards, one-fifth of them were helped for obtaining LPG gas connection through Ujwala scheme, 17.3% were helped for Jan Dhan scheme. Very few were helped in getting MNREGA 100 days' work registration and PM Kisan Saman Yojana scheme. However, little more than half of the community women and men did not mention any government entitlements facilitated by CHE. **Health Services:** A considerable proportion of them reported that CHE educated the community on Covid prevention, less than a half informed that she helped people access health services, and 19.5% said that she set up VCCIC in the village. **Ration:** CHEs provided ration kit to meet the nutritional needs of those identified as vulnerable. HFF provided this ration once in 15 days 3 times during the three waves of the pandemic. CHEs distributed ration kits to 9554 families with 6,127 in UP and 3,427 in Bihar. The other help mentioned by 13.3% during Covid was that she helped the migrants in quarantine centre and a tenth said that she helped people with symptoms to get teleconsultation. The projects and other activities that the CHEs led in the community as mentioned by them were, "Arranged food for Covid infected persons. Provided medicines through ASHA. Messaged to infected persons to admit in Isolation Centre. Followed up with the admitted persons at the VCCIC. Provided ration to infected persons' households. "Motivated people with symptoms to test for Covid". The community women and men conveyed that If there were no CHEs to offer the services in the field, the community of vulnerable families would have faced problems in their food consumption especially, leading to hunger. They would not have received health services and medicines and could have died from Corona infection. *The CHE's help during Covid was clearly outstanding as the community expressed it however, the variations in percentages were based on the effectiveness of the CHEs.*
3.CHE changes	**Change in CHE's Roles:** Almost all CHEs have indicated that giving education on Covid to the community was their first role that was changed. Of the 284 CHEs, one- third of them expressed that establishing migrants

in Roles, Skills and Ability related factors	quarantine centre was the next role to be adopted. Less than half of them said that establishing village level Covid Care Centre was another role. Half of them informed that distribution of masks, sanitizers, rations etc. were some of the other roles. Almost a third of them said that working with government staff in delivering the Covid response activities were the types of changes in their work that they had to accept. The field senior staff of HFF observed that 75% of the 1133 trained CHEs were able to work effectively which was also confirmed through the data collected using various methods. *The sudden changes in role were well adopted by effective CHEs because of the Covid training and guidance by the field senior staffs.* **Change in CHE-Skills:** The online Covid training enhanced the skill of around half of the CHEs to rate as 'Well' their use of 10 out of the 13 skills that were taught related to Covid services. These included using a smartphone, attending the meeting through Zoom, using an infrared thermometer to take temperature, using pulse oximeter, proning position skill for severe breathing difficulties in Covid patients, using Gram Vaani numbers, organizing medical camp, establishing migrants quarantine centre, preparing Isolation centre, working with the government staff, organizing Covid-19 vaccination camp, conducting health education and communication skills. Around half of the CHEs rated that they have gained each of the skills as 'Well' and another less than half of them indicated that they gained 'Little' of each of the 13 skills. The remaining proportion of CHEs expressed that they had 'Not at all' gained in each of the skills. All CHEs who participated in FGDs voiced that they were able to talk boldly, display self-confidence, to organise meetings, to build linkages with government agencies, to provide first aid to the community and to increase earning. Around half of them were able to organize education through auto (Dindoras), little less than half of them had gained the ability for home management of Covid patients, educated people to use Gram Vaani numbers, learnt when to isolate persons with symptoms and learnt to organize community kitchen because of the Covid-19 training. A majority indicated that they had concern for people, got the skill of drawing a village map and to conduct project surveys because of the CHE Health training. The Field Coordinators who oversaw a range of 45-50 CHEs. rated their skill in using applications or participating in Zoom meeting were as "Good" by 50% to 80%, "Fair" by 6%-48% and "Bad" by 8% to 20%. *This was a great achievement on the part of HFF through the online Covid training.* **Changes in Ability related factors:** The ability-related factors such as a) boldness and courage, b) willingness to work for others and 3) counselling skills have increased over a period after receiving initial health training and subsequent Covid training by the CHEs. Almost half of the CHEs, have improved in each of the skills that they did not have before and rated their skills as 'Good' after the basic CHE health training which was found to be

	statistically significant. The skills further increased after Covid training which was rated by more than half the CHEs as 'Good'. All of them vocalized in the discussion that they were able to talk boldly, display self-confidence, serve with confidence and without fear. All the field senior staff revealed that the factors that influenced the CHEs to show willingness to work in Covid response were the need based HFF training to deal with Covid and backed by the provision of protection kit for the CHEs and her family. All of them also highlighted that those CHEs who put in increased effort possessed the ability related factors like boldness, courage, empathy, and self-confidence to undertake Covid responses. Few CHEs were not effective to perform their tasks during Covid. About half the CHEs had taken risk and did their task, others were fearful, but they did it for their livelihood. These clearly reflected in the data collected using different methods from different sources. *Women empowerment has been demonstrated through CHEs rating themselves higher as a result of the training.*
4. Building local capacities and driving sustainable change	**Village Health Monitoring Committee (VHMC):** The respondents from FGDs indicated that the Village Health Monitoring Committee (VHMC) / Gram Nigrani Samiti was formed in 42 (75%) out of 56 CHE villages in the year 2020. All these 36 CHEs conveyed that they were part of this committee. In these 36 VHMC formed by HFF, there were ≥ 7 members participating. In all 5 FGDs, CHEs informed that ASHA, ANM, AWW, Gram Pradhan, PRI members, teachers and volunteers were members of this committee. In few CHE villages the cooperation and commitment of such committees were encouraging while in few villages, CHEs could not gather them to present their agenda and work together. MIS recorded that half (53.4%) of the CHEs reported that they had organized 1-5 committee meetings, one-third (32.8%) 6-8 and 5.6% of them 9-17 committee meetings and only 8.2% of CHEs did not organize any committee meetings in their villages from October 2021 to April 2022. The information obtained from the field senior staffs during discussion, on strategies for building local capacities for driving sustainable change was that VHMC must be strengthened. Volunteers from the community should involve. Youth needs to take part. Regular meetings with proper agenda need to be held. Monitoring and follow up should be strengthened. Currently, VHMC were effectively functioning in 150 out of 1133 (13%) CHE villages and 200 (17.6%) CHE villages do not have such committee. The volunteers actively worked in village to help in Covid response: About half the CHEs who were interviewed in the survey informed that less than 10 volunteers in each village contributed to Covid response. The motivation with which the volunteers helped in Covid response activities according to the CHEs were service mindedness (61.6%), willingness to work in the community (54.9%), and concern for the village development (16.9%). In about 25% to 30% of the CHE's villages, neither men nor women served as volunteers during Covid for any community services.

	The types of facilitation mentioned by CHEs that the local leaders provided were that they participated in CHE meetings and activities and motivated the people to take vaccine or immunize their children. They helped in providing AADHAR card, E-Shram card and Ayushman card. They supported in organizing CHE meetings. Two women FGDs indicated that the work at the village level could be improved if AWAS toilet, street drainage and water supply facilities are provided. *VHMC was an effective strategy commissioned in the absence of a functioning of government VHSNC. VHMCs that were effective might have had outcomes benefiting the community. A little effort on functioning of the not effective VHMCs would bring them up to the level of effective ones.*
5. Perception of the community	**CHEs Known by community:** Almost all the community women and men knew their Community Health Entrepreneurs (CHE) known as 'CHE didi' working in their villages and knew her by name. Majority of those community women in FGDs said that they knew their CHE before Covid, and the rest came to know during Covid. All adolescent girls who participated informed that they knew the CHE working in their villages. These confirm the existence and the work of CHEs in the villages. Almost three-fourths of the community women and men indicated that they approach the CHEs first for their health issues followed by 47.3% who said that they approach ASHA. **Need to continue CHE Services:** The continued need for the services of CHE in a village was indicated by 91.3% of the community women or men, reflecting the value of the services according to the perspective of the community. The women in FGDs voiced that CHE needs to continue her work to educate the community towards health. They also remarked and valued that the services provided during Covid were very important, useful, and relevant. **Limitations of CHE:** The limitations of CHE's services were that one-third of the community women or men said that CHE was not available all the time, another one-third informed that she was not having the products. One-fourth (24.2%) informed that they must go to the CHE's house. Very few stated that her house was far away from the community that she serves. Field senior staff also listed the weaknesses of the services of CHEs. 900 out of 1133 (80% approximately) CHEs were active. During the reviews, it was found that the remaining were not working. Rations were distributed to their relatives. Some of them did not have smartphones. *Non-availability of CHE all the time, non-availability of products, lack of int*egrity of *few CHEs and lack of smartphones* were the key limitations identified.
6. Impact of Covid - related Activities	**Quarantine Centers:** HFF intervened during the initial lock down by providing 45 buses and 2,475 migrants were benefitted. HFF also had to coordinate with District Magistrates in home districts and the Disaster Relief Agencies in the destination states to ensure a smooth journey.

(Annual Report) HFF stepped in boldly to prevent the spread and safeguard the migrants wherever there was a need.

QCs were established in schools or panchayat buildings during the first wave of the pandemic. The place was cleaned, a bed was provided. Breakfast was provided with egg and channa. They were provided a sanitation kit with toothpaste, brush, body soap, washing soap, towel, bucket, mug and mask for fifteen days duration. A total of 105 QCs through which 3505 persons benefitted with 773 and 2732 from UP and Bihar respectively. (Appendix1).

This can be considered as a valuable contribution by HFF during a critical phase of the pandemic.

Covid Care Isolation Centre: VCCIC functioned in identified needy 85 (7.5%) villages in schools or panchayat buildings. A total of 730 persons benefitted with 263and 467 from UP and Bihar respectively.

Field senior staffs participating in the FGD listed the strengths of the services of CHEs. Village level Covid isolation centers were established using the schools or the government panchayat office buildings. Sanitary kits and rations were distributed to the identified vulnerable families. Medicines were given to the symptomatic patients. Mental health counselling was arranged through Gram Vaani numbers.

Among the women who participated in FGDs, 18 of them were admitted in the VCCIC and received care. Only 3.3% community women and men informed that someone in their household was infected with Covid19 and accessed a CHE to get admitted in the isolation center. Many women listed the services provided to persons admitted in the VCCIC as monitoring temperature with an infrared thermometer, monitoring oxygen saturation with a pulse oximeter, educating patients on breathing exercises and proning position when required, giving patients three nutritious meals/day, giving patients clean and safe water, providing surgical and cloth masks to patients, accessing doctors through tele consultation for daily check-in for every patient, and access to tele counselling for mental health.

Community Kitchen: In those villages where the community kitchens functioned, the arrangements were good. The quality of packed foods provided was also good. Where there was no community kitchen, villagers provided food to their patients from their families. Some CHEs also provided different food items cooked in their homes and with the help of other villagers – channa, eggs, jaggery, tea and milk. One CHE provided door to door delivery of milk for Covid infected patients. In 2 isolation centers in Bihar, cooks of schools and helpers of Anganwadi centers prepared all the food for Covid infected persons. At one isolation center all arrangements were organized by HFF. In few villages government helped in establishing community kitchen. In some villages women said that there were no community kitchens set up.

	This was a valuable service and a great timely help to the vulnerable community to protect them from the spread. Only needy villages identified were covered under this valuable service. **Covid vaccination coverage:** All women who have participated in a FGDs in UP and in Bihar informed that they were vaccinated with Covi-shield vaccine. Almost all the community women and men who participated in the survey informed that they had Covid vaccine with 89.5% having had two doses, 6.6% having had only one dose and only 1.2% had booster dose. Of the 284 CHEs, almost all of them had 2 doses of Covid vaccinations and 7.7% had their booster dose also. Additionally, CHEs during FGDs mentioned that all adults in their villages were vaccinated and maximum had their booster dose with Covi-shield. Two doses of Covid vaccine were taken by all FCs with only one having taken the booster dose also. Two doses of Covid vaccination were taken by all field senior staff and by all eligible members of their families. A booster dose was taken by only 4 of them. The challenges CHEs faced in getting the community vaccinated were articulated by their own words, "People were not ready to take Covid-vaccine, telling lies that they were vaccinated. They were afraid that they will become impotent (Infertile). People were unaware of the benefits of the vaccine. First, they were afraid to take the vaccine and demanded a bond letter to live". The challenges in getting the community to overcome from the fear as informed by the CHEs in different FGDs were, "By giving self-example and creating awareness through dindora". "When vaccination was started in the community, then CHE has taken the vaccine first and motivated and the community has started taking the vaccine". "We have shared our vaccination certificate with the community and motivated them to take the vaccine. Some of us promoted by informing that the vaccine is free now, but in future people may have to pay for the same, then people started taking the vaccine". *The two doses of Covid vaccine coverage were very good among the HFF staff, CHEs, and the community. The CHEs role of motivating the community was challenging, admirable and excellent.* **Gram Vaani Numbers:** The MIS recorded that 840 villages were covered by Gram Vaani in the Covid response. Through this platform the CHEs educated the Gram Panchayat leaders on building quarantine centers in their villages. This platform has an IVR enabled quick test to determine if the villagers were high risk for Covid-19. Total calls received were 18, 652 through which 360 high risk cases were identified. **Effectiveness of CHEs Performance:** A considerable proportion (60.6%) of community women and men have reported that CHE educated the community on Covid prevention, 45.6% informed that she helped people access health services, 39.2% said that she distributed ration provided by HFF and 19.5% informed that she set up isolation centers in

	the villages. The other help during Covid was mentioned by 13.3% that she helped the migrants in quarantine center and 10.4% said that she helped people with symptoms to get teleconsultation. The CHEs performances were rated by each FC as they were the ones who directly monitoring their work. The ratings by 8 FCs as "Good" ranges from 27% to 63%, "Moderate" from 19% to 40% and "Poor" ranges from 18% to 40%. *CHEs performance expected on a set of activities during the pandemic were carried out effectively at different levels according to the service needed and the effectiveness level of the CHEs.*
7. CHEs and Government Health care delivery system	In the beginning, the ASHAs asked why CHEs were working in their areas and the government staff did not support CHEs and community people also did not put trust in the information. Later they have participated in Covid management meetings, organized by CHEs. However, there were no major conflicts with ASHAs in many geographical areas. By discussion with supervisors from both sides these issues were solved. There were problems related to working with PHC staffs, ASHA and AWWs, as they were inquiring and demanding id proof from them. ASHA and AWWs were afraid that their incentives may be shared with CHEs, and they have reported to their departments about CHEs participation in Covid relief. In some CHEs villages, they didn't have any problem working with PHC staff. Field senior staff expressed that if the PHC was good, there was no problem. Otherwise, the PHC would ask them to get permission from the district officials and the district officials would in turn ask for permission from the state officials. In less than half the CHEs villages they accepted that the health services rendered by the PHC through ANM, ASHA, and Anganwadi Worker were reaching the people on time effectively while little more than a half indicated that the services were not reaching the community effectively. The gap in the health services by the PHC through ANM, ASHA, Anganwadi Worker to the community can very well be filled by the CHEs. Many of the CHEs educated the pregnant women and followed them up to procure and consume IFA tablets. Sometimes, the CHEs accompanied the patients to PHC/CHC for ANC and for delivery with nearby community people. The time of childhood immunization was not known to the women. CHEs helped their community in facilitating the services of the PHCs by informing the mother of a child about the due date and immunization date. They educated and motivated the mothers of children to vaccinate them. They worked with ASHAs on immunization-related work in the villages complementing her work without duplicating. In the beginning, there were conflicts with the government staff, however, it was settled either by themselves or with the help of the supervisors and leaders and now they have cordial relationships in doing their allotted work, helping ASHAs and AWWs in their villages.

	The strengths of the services of PHCs and CHEs with the Covid-19 response related activities were that all adults were vaccinated including booster dose of Covi-shield vaccination. To strengthen the linkages with the public health system, whatever activities are carried out by the CHEs should be informed to the government Officers. HFF senior field staffs had gone up to the Civil Surgeon level, but no one had gone to the Collector level. If HFF has a Liaison officer, the linking of services would be easier. *In different geographical areas CHEs had to face problems, however the effective CHEs tackled those difficulties and proceeded with positive attitude. In many villages, the CHEs had a closer working relationship with the government health staff during the Covid pandemic response than during the earlier phase of providing mother and childcare.*
8.Quality of life impact of CHEs	A majority of the CHEs indicated that they did not have income before they became CHEs. There was a drastic decrease in the proportion of CHEs in the 'no income' category from 82.6% to 2.1% from before they became CHEs to after the CHE health training. Similarly, an increase was observed in all ranges of income and a greater income increase was informed by those who were earning Rs. 1001-5000 from 9.9% to 57.2%. Based on the field senior staff's observation, the monthly income of CHEs before Covid was in the range of Rs. 500-1000 and increased to Rs.1500-2000 during Covid. CHEs invested their additional income earned through health livelihood activities to improve their quality of life. More than two-thirds of the CHEs recorded in the survey that they have invested in the education of their girl child. Almost two-thirds have invested on nutrition, one-third on sanitation, more than a quarter in the construction of toilets and more than a quarter in clothing. The other investments were soak pit construction and children's marriage. More than half of the CHEs have expressed their satisfaction with the CHE support and health livelihood activities as 'Very Good' and little less than half rated it as 'Good'. *This indicates a reasonable increase in monthly income over a period and enhanced their quality of life in the community, however it is not sufficient.*
9. Women Empower-ment	**Women empowerment:** Women empowerment of CHEs were assessed based on 3 indicators of freedom, autonomy, and confidence. Before the CHE training, more than half, almost three-fourths and more than 80% of them rated "Poor" for the freedom for decision making at home and the community, autonomy in moving out of home for community services, participating in village discussions and the confidence respectively. After the CHE training each of these freedom in decision making, autonomy and confidence levels have improved from 'Poor' to either 'Moderate' or 'Good'. After the training on Covid, there was a further increase of more than half and less than three-fourths of CHEs indicating that in each of these aspects their rating was 'Good'. **Community women empowerment:** Because of the education and services of CHE, the changes women in the community demonstrated were participating boldly in discussions, became confident and overcoming shyness. Community women indicated that now they have the

	confidence of talking with men at home. Even if someone makes a wrong statement, they were not afraid to talk back. Some women indicated that they were confident in public speaking and that they participated in the panchayat meetings. **CHE Respect from the community:** According to the CHEs, a majority of them got their respect because 'The community valued her services and respected her'. Two-thirds of them knew that they were respected because 'The community came to me for any help'. One-third of them indicated that they were getting the respect because 'The people took her advice on issues related to health'. More than a quarter of them said their respect was because 'They call me madamji'. Almost all women from all 4 FGDs in UP uttered the way they respected their CHE as, "she has worked well. she has distributed mask, sanitizer, and educated the community to protect them from Covid-infections. She created awareness on health issues, provided medicines for the community activities that the CHE has carried out as part of pandemic response". Women from all 2 FGDs in Bihar specified, "Listening to our voice and sessions, directions and follow our guidelines. They respected us by welcoming us and talking to us nicely". *The respect for the CHE in the community was impressive and esteemed character as a change agent.* *As planned by HFF, CHEs who were a part of marginalized community were empowered through various training given by HFF and the type of activities carried out which enhanced their freedom, autonomy, and confidence. Additionally, women in the community also were empowered.*
10. Supportive Supervision	Every week CHEs were visited depending on the situation. If the visit was not made, then it was done in the subsequent month. Cluster level meeting were held every month, in which 80% of CHEs attended. The date for the Cluster level meeting were fixed based on the CHEs availability and their convenience. The CHEs informed that the FC visited the CHEs once a month. He conducted meetings with all CHEs and oriented them on any one issue. He supported them in their sessions, meetings, and cluster meetings. He also collected reports and data and observed and checked their registers. He also met with beneficiaries and helped in community mobilization. In Bihar they said that some works were affected as the TC deputing for FC visited only one or two villages. The CHEs in 3 FGDs informed that there was no Field Coordinator. It was the TC who supported them in their meetings, reporting, guidance to organize activities and supported in the nigrani samiti's meetings. The role of FCs was important in monitoring a group of CHEs. In the past, many FCs left but they were not replaced instead their role was assigned to TCs which brought in incoordination in the supervision and monitoring process. The reason with FCs leaving the job were delicately mentioned as leaving for marriage (very few), area to be covered was vast and the

	distance was a problem. When they didn't accept a transfer by HFF from one region to another, then they left the job. All 10 FC who participated in the FGD indicated that all vacant FC places should be replaced by new recruitment. Seven of the FCs indicated that coverage areas should be manageable. FC salary of Rs. 7000 earlier was considered less but now it has been increased to Rs 10000. *A turnover that occurred among the FCs restricted the follow-up of CHEs adequately which in turn reflected in the monitoring process devised by HFF. Hence there was inadequate monitoring by staff.* The TA for CHEs participation in cluster level meetings were not routinely reimbursed. Those 15% - 20% CHEs who were coming from far found it difficult. If CHEs had no money to travel, then they didn't come for the Cluster level meetings. Sometimes budgeted money was not received on time, then snacks were not provided during Cluster level meeting. When they plan for 4 districts FC needed an advance to provide for cluster meeting expenses which lasted for 3-4 hours. All 8 FCs opined that they were overburdened with a lot of work. They indicated that the supervision support from their immediate supervisor Asst. Program Manager (APM) was adequate to perform their services. Each one was asked to prepare a monthly plan. The field work assigned to them was randomly checked based on which project that they were working. They also conducted physical verifications by making surprise visits. Every evening they were asked to send their report along with photographs. According to the leaders, MIS data was utilized to identify strong and weak indicators. When vaccination numbers were low in a certain district, plans were generated for camps and increased local collaboration. The information generated by CHEs on activity and impact was used to identify regions for pilots of new programs. *The monitoring Information System for HFF project was developed with all essential variables by using an app and data from all levels were gathered regularly. However not all CHEs reported on each activity regularly. The process of completeness, updating, periodic use of consolidated data at each level (CHE level, FC level, field senior officer level and leaders' level), periodic planning based on the MIS data may have happening only partially. The records had many blanks or zeros in the app. This made the consolidation difficult. The examples of the variables that were not updated, were* VCCIC. In each cell the options should be either yes or no or not reported instead of blanks. QCs, committee meetings, VCCIC, VCCIC Days, VCCIC Patients, dindora, ration, vaccine Google Form, vaccine demand forms kobo, vaccine referral number, number kitchen garden , death forms, Illness etc.
Leadership	Leadership along with supervision and support were considered as contributors to the success of the HFF programme. The leadership support the field senior staff provided for the juniors and CHEs was that

	they solved issues that were brought to them. These included problems associated with PRI/government and liaisons with higher government officials. Wherever there was a gap in the monthly work of the senior staff, they informed the higher-level staff who helped to solve the problems. The higher-level staff helped the field senior staff on how to liaison with the government department. They also wrote letters to those with whom the field senior staff had to liaison. When necessary HFF leaders also talked to the higher officials. However, they were not handled uniformly for all activities covering the entire geographical areas. May be field senior staff lack skill in these areas which was indicated by them. The leadership support in HFF is considered at two levels. The first level is that of the CHEs. When they were initially recruited and trained, they were bound by societal norms and patriarchy all their life. By the time they graduated they were established as leaders and agents of change. At the second level, it is quite probable that Covid disrupted much of their apparently smooth, planned working leadership pattern as well as when a number of field senior staff left the organization, and it was not easy to replace them sufficiently. With Covid now under control they should be able to quickly get back to their original leadership pattern. The staff indicated the need for additional leadership support to carry out liaison work at the district and state level with government officials.
11. Long-term program sustain-ability	The CHE model promoted by HFF has an inbuilt potential for long term sustainability. The strategy of ensuring that CHEs get reimbursed for different services would ensure that they get an ongoing income that would be needed indefinitely. During the Covid response and even before, the incentives received as livelihood income has been project-based funds from outside grants. **More CHEs earning more income:** The existing livelihood activities were education sessions, promoting KGs, committee meetings attended, data being filled, ration distribution, setting up quarantine centers, setting up Isolation centers, organizing health camps, different types of surveys, projects etc. Grant-based incentives is not sustainable in the long run. The evaluation has shown that the income received by CHEs, has increased. **Telehealth:** Based on the assumptions that telehealth would be a strategy that would meet the medical and health requirements of underserved rural areas initiative has been taken. However, this requires considerable planning before it could materialize. The following is a list of products suggested by different respondents that could be sold by CHEs. The CHEs mentioned SNPs, sanitizers, masks, mosquito killer sticks, mosquito killer sticks and some first aid medicines. Others listed pain killer ointment, soap, hand wash soap and liquid, medicated talcum powder, phynol, medicine for emergency and first aid medicines and nutrition powder. CHEs and community women were supportive of using the Gram Vaani numbers and the way the doctors have contacted the patients by phone and suggested medicines. If similar facilities were available for handling

	other diseases in the villages, then, it would be very useful and beneficial. It is possible that these could be facilitated by CHEs, since this is App based and is free, it would contribute to programme sustainability. Respondents in FGDs and surveys mentioned a list of diseases that could be brought under telehealth, which have been listed here. The health problems listed by the women from different FGDs and suggested for telehealth include diabetes, TB, skin conditions (fungal infections), bronchial asthma, thyroid, malaria, filaria, diarrhea, fever, cough, cold, eye and ear problems, obesity, epilepsy, piles, breast cancer, uterus problems, cervical cancer and prostate cancer. Very specifically Japanese encephalitis was mentioned. Vitals was again decided by many of them. Blood sugar test was another suggestion. According to HFF leaders, moving on to the 3rd phase of the evolution of the CHE program there has been a desire for upskilling the women to become Telehealth facilitators to ensure continuity of care. The rationale behind the introduction of telehealth in HFF was explained by the leaders. Telehealth being implemented through the CHEs is a model to ensure a continuum of care at the village level. The gaps in access to diagnostics, medicines and other health and nutrition products is met through the CHEs with the support of the logistics supply chain built with local bikers. The follow up and ensuring compliance at the village level is done by the CHE. Thus, this model democratizes health access to communities.
12. Before Covid	**1.Education by CHE to the Community:** The community women in FGDs knew almost all the health topics (> 25) that the CHE educated them. However not all topics were known uniformly by all women. Most of the women informed that they had seen the flip chart CHE used for educating the community. Majority of the women informed that the CHEs motivated and referred to avail the government services of pregnant women for ANC visits, procuring IFA tablets, receiving 2 doses of TT vaccination and immunization for children. Adolescent girls conveyed the list of topics taught by the CHEs as adolescent health, nutrition, personal and menstrual hygiene, SNPs and how to use it, kitchen gardening and TT injection. More than half the adolescent girls during the discussion indicated that they learnt hand washing method from CHEs and they had seen CHE demonstrating the method of hand washing. *The CHEs education reached the community even before the pandemic and enhanced the knowledge level in health and hygienic practices.* **2.Kitchen Garden:** Less than a quarter of the community interviewed had kitchen garden in their houses, two-thirds of them did not have space for a garden and very few were not interested. A majority of the CHEs interviewed, mentioned that they had established KGs while 16.2% did not have space. The FCs have grown vegetables in their kitchen garden. The community also practiced growing vegetables in their kitchen garden if

	they have space. The vegetables grown were brinjal, green leafy vegetables, chilli, tomato, carrot, radish, garlic and lady's finger, pumpkin, radish, garlic, potato, cauliflower, bottle gourd, spinach, capsicum and bitter gourd. Many did not mention the trees that they were growing. HFF reporting App recorded that two-thirds of the CHEs had promoted kitchen garden in 1-15 households, one-fourth 16-25 households and 3.5% 26-50 households to have kitchen garden. Each CHE had a minimum of 200 households and the number of households covered could be increased. *Most of the CHEs and FCs had grown kitchen garden and had shown it as a model to the community and the community followed the same practice.* **3.Sanitary toilet:** A little less than three-fourths (71.1%) of the community with 74% in UP and 67.3% in Bihar had sanitary toilets in their homes. A majority of the CHEs interviewed indicated that they have sanitary toilets at home while 16.2% did not have such toilets in their homes. ***When compared with the government data (52.9%) in the entire UP State, a significant increase happened among HFF intervened area of poor and marginalized communities (74%). This could be a remarkable achievement.*** **4.Sanitary Napkin Pads:** Almost all adolescent girls accepted that they learnt many things about menstrual hygiene. Everyone from both the states informed that they had learnt from CHEs the methods of using SNP and the ways of maintaining menstrual hygiene. Almost all adolescent girls from both the states stated that they had seen CHE demonstrating the method of using SNP and the method of menstrual hygiene. Two-thirds of the community respondents' family members were using SNPs, while one-fifth of them were not using them. They conveyed that they were taught by CHEs along with ASHA and family members. One-fourth of them informed that SNP use was taught only by CHEs. Shop as the source of purchasing SNP was said by 43.3% while 30.2% was from CHEs. The reasons for not using SNPs were that they could not afford them (19.8%) and 4.3% said that SNP was not available. Almost all mothers with children in the age of 1-3 years, had the practice of using cloth before SNP education. After the SNP education by CHEs, around 80% have changed their practice from cloth to SNP. A little more than two-thirds of the mothers informed that CHEs followed by ASHA (43.1%) were the ones who taught SNP. The CHEs were the main person who taught the community about the use of SNP. Almost 50% of the mothers informed that they were buying the SNP from the shop, followed by 20.6% from the CHEs. *A drastic change has occurred in the practice of using SNPs as a result of the CHEs' education. Shop was the main source of buying SNP. The SNP education elevated the use of it. The data indicates a significant impact in both the states. But the availability was not ensured.*

Mother and Child health	Early ANC registration, the number of AN check-ups and 2 doses of TT vaccination coverage were found to be good partly because of the motivation by the active CHEs. While the IFA procurement and consumption were very poor though it was mandatory that a minimum consumption of 100 IFA tablets is required during pregnancy, and it is a part of government services. One-third of the children were born with low birth weight below 2.5 kg. Almost for all children, mothers have practiced giving colostrum soon after birth. The practice of monitoring weight and height every month was found to be very low. According to WHO, exclusive breast milk should be given up to 6th month and starting semi-solid food from the 7th month which was followed by little more than half the mothers which was not sufficient. Consumption of Vitamin A solution according to the protocol was not followed. Deworming was not done for children by 44.7% of mothers while 46.4% did it once a year. *These two are very much lacking when a national government program is on. Most* CHEs had no knowledge on administering Vitamin A solution and deworming for U5 children. The availability of mother and child card was encouraging, however, only almost two-thirds of cards were fully filled. *Almost all the children had BCG and Hepatitis vaccination at birth indicating the coverage of these at birth was found to be good.* However, coverage of each dose of Pentavalent vaccine was found to be higher in some districts and consistent for all three doses. In few districts, the coverage was three-fourths for the 1st dose and decreased in the second and further decreased in the third dose. *A majority of the children had measles vaccination, which was good,* while MMR booster dose was given to little more than half the children which is lacking in complete coverage. Half (51.8%) and 42.2% of mothers informed that ASHA and CHE respectively referred the children for immunization. *In UP, 58.8% of the mothers indicated that CHE had helped them which is significantly higher than that of 19.8% in Bihar.* **The complementary role played by CHEs deserves appreciation.** However complementary role should ensure complete timely coverage. This showed that immunization services were not adequate for the community which need to be compensated by the CHEs by creating awareness and motivation. A majority of the mothers have received nutrition education while only two-thirds had seen the demo, however it was a good effort taken by CHEs. Nutrition demo was done mostly (61.6%) by CHEs along with any one of the government staff. Most of the mothers who had seen the demo informed that they practiced the homemade nutrition recipe with little more than a quarter ‘always’ and little more than half ‘sometimes’. *This again was found to be a great achievement by CHEs.*

	Mother and childcare are the areas where CHEs can cooperate and ensure all services are reaching the marginalized and poor community to have a healthy generation. It is a challenging area where the cooperation with the local government staff is happening and needs improvement for complete coverage of each. The following were the suggestions given by the community women to improve the access to health care in the community: 1. They need the support of CHEs in childhood immunization 2. CHEs should facilitate for the provision of IFA tablets and nutrition supplements 3. She needs to continue to create awareness on health and nutrition in the community, 4. Education on knowledge about diseases should be conducted, and blood test should be started to check sugar level. The other suggestions given by the community were high expectations which may not be feasible from the government side: 1. Weekly health check-up camps should be organized. 2. All essential medical facilities with medicines should be provided to all the villages. 3. Ultrasound facilities at PHC level, 4. Medical officer and ANMs should be available at the village level. The CHEs suggested that access to health care in the community could be improved by 1. Creating awareness among the community of the health facilities available at HSC/CHC/PHC 2. Starting the health facilities at the HSC/CHC/PHC levels. 3. The people in the community should be encouraged to visit the health facility centers to avail themselves of all the services. 4. Health camps could be facilitated and conducted periodically. 5. Sanitizers, masks, SNP, ointment as a pain killer and mosquito killer sticks could be sold 6. blood pressure measurement and sugar tests for diabetes would increase the access of the community for health. 7. They suggested that by advocating with the mukhiya and health officials the government health centers which remain closed should be reopened.
	Immunity boosting: Under the session on nutrition, nutrition food groups were taught but the immunity boosting was not included. However, immunity boosting foods were widely promoted during the pandemic, hence an attempt was made to identify the knowledge on immunity-boosting among FCs and field senior staffs. Half the FCs were able to write the definition of immunity-boosting. Without defining immunity-boosting, they went on to list some of the foods that help in boosting immunity. The immunity-boosting foods stated by four of the FCs were drumstick leaves, kadha, aloe vera and lemon. Others had written mostly the nutritious foods. Few of the field senior staff had written the definition of immunity-boosting correctly. The only correct statement was that immunity helps to fight infection. Almost all other answers provided were related to immunity-boosting foods. *The knowledge on the concept of 'immunity boosting' and the foods that boost immunity which is a new topic and was lacking even among the staff which could be included in the additional training. However, all of them-*

	have used immunity boosting homemade drinks regularly at home and they wrote the recipes used by them and made it available.
Staff development	**Induction Training for Field Coordinators:** Of the 8 FCs who participated in the FGD 7 of them indicated that they had attended the 6-month CHE health training, 6 of them said that they had one week training in the year 2016 and all of them underwent a 2-weeks online induction training from 21st – 28th, November 2021 at Buxar. Five of them accepted that the training had given sufficient knowledge and skill to perform the role as FC. Additional knowledge and skills they needed to be equipped to do the work as FC was listed by them as basic computer skill (7), need to learn MS Word (3), to send emails (8) and physical training on data entry (8). They also indicated that CHEs refresher training is needed and training on English language is essential as they are not able to reply or converse. **ToT Training for Training Coordinators:** Of the 10 field senior staff 8 of them had indicated that they had TOT training in 2011 (1), 2013 (2), 2016 (2), 2021 (3), and 2 had BCP training in 2010 and 2021. **Skills gained by field senior staffs:** Half the field senior staff expressed that they gained skills in communication, skill in the training of other trainers, the skill of using various teaching methods, and were equipped in the process of training. They got the skill of conducting online training. The skills gained in the use of technology were the other area. This covered the use of related skills such as mobile apps, using computers and laptops in their work. Three of them indicated that they gained skills in program management, staff management and team management. There were a number of other related leadership and management skills that one or two of them listed. This included leadership skills, reporting skills, soft reporting, planning team management, planning for internal and external presentation of their work presentation skill, management of all archives, program implementation, problem solving and logistic arrangement. **Knowledge needed for field senior staff:** The need for additional training to help in their work was clearly stated. Health-related topics were stated in general terms such as knowledge on health, technical knowledge about health and preventive health to improve health. Effective communication both in speaking and working in English was the next area mentioned. The other knowledge identified by a few were knowing all government programmes for community benefit, knowledge of health management, management, computer skills, data analysis, health-related tools, presentations and the dangers of climate change. **Skills needed for Senior staff:** Half of them indicated that they need skills in liaison with government officials and various government departments, building relationships with government officials and the ways to interact with government health staff. The additional skills that were identified by them were computer and software skills, management, decision making, team building, teamwork and collaboration, handholding

	support, communication, presentation, data management and analysis and report writing. Already 8 CHEs were promoted to FC with 3 earlier and 5 currently.
Staff turn over	This CHE model programme will be successful only when all CHEs are in position and well equipped to perform their tasks effectively as they play a pivotal role. FCs played an important role in ensuring that the CHEs carried out their work. FCs leaving the job and not replacing a trained FCs make the work suffer. Probably keeping the staff turnover at a minimum did not take place because of the Covid pandemic. Well trained Training Coordinators leaving the post was another limitation of the program as their experience cannot be replaced immediately. **Operational Issues and Staff turnover:** Most of the field senior staff had to cover a long distance by different transport means which was mentioned as a difficulty. The low salary and the distance made the experienced staff to leave the organization when opportunities emerged from outside. Replacements has been done by promoting the staff from the lower levels. The vacant positions were not immediately filled by suitable persons from outside. It was informed that despite the various advertisements given for candidates to fill the vacant positions, they were unable to find proper candidates. The response of the HFF leaders was, "HFF started the scale of their programs in Bihar, UP and Jharkhand in partnership with MFIs. The program scale methodology from 2011 to 2020 in these locations was in partnership with MFIs where the mapping was done to cover the villages with the MFI operations. MFI clients fitting the HFF selection criteria were selected to be trained as CHEs. During Covid 1200 of these CHEs were activated and trained to initiate Covid response in their villages. While we reached good scale in partnership with the MFIs, some of the challenges faced were in terms of the priority of the MFIs to their clients in the community and also the spread being only in MFI villages and not across the block. In 2022 when HFF started using the block saturation strategy where the villages are being selected so as to saturate the whole block and selection of CHEs is with the support of Gram Pradhan and local functionaries. The field level programs are done in collaboration with Block and district administration. The objective of this revised program methodology is to ensure long term sustainability of the program". The challenge of staffs turnover happening in community health projects is quite common. Similar staff turn-over have been experienced by many of the other NGOs involved in community health. This was happening at all levels as seniors with their experience have more opportunities outside with attractive salary and benefits. Community level workers being women and other women staff handholding them for a longer period have been a challenging task.

SWOT Analysis	The following were expressed as the strengths, weaknesses, opportunities, and threats of the CHE program of HFF by field senior staffs (9) and leaders through questionnaire and FGD. **Strengths of CHE Program:** 1. The CHE program itself was a strength. (4) The program forms a foundation where health is an entry point to development in the community. 2. Training given to CHEs, FCs and TCs was a strength. 3. The CHE programme in large which made a trained person available in the villages helping to reach many poor women and to solve health-related issues. This has led to both social and economic empowerment of women, giving increased self-confidence to CHEs and women. 4. They consider that the CHE model is one of the best for doing work at the community level based on the training and timely stipend being provided. 5. The empowerment of women was considered as another strength. 6. CHEs among rural women have been provided with increased livelihood support. (4) 7. Health facilities have been provided for the marginalized, ultra-poor and the poor in the interior villages along with addressing health-related issues. 8. Health behaviour changes have been observed at the grassroots level among people and among women in the community leading to the prevention of diseases through education. 9. Health of the community is better specifically, sanitation, vaccination, nutrition, kitchen garden and SNPs use. 10. The connection of the CHE with her communities and their motivation to further themselves and make a mark not only in their families but in their communities was a big strength. 11. Preventing the spread of Covid among marginalized and poor communities through education, providing preventable materials, and arranging for Covid vaccination in all CHE villages. 12. Establishing approximately 103 quarantine centers, 77 Covid community isolation centers in needed pockets were considered as a strength as it was considered by them as a timely intervention. **Weaknesses of CHE Program:** The weaknesses expressed were 1. CHEs education level was low. (5) 2. Not everyone could use smartphones properly. (5) 3. Their main weakness was that they were not able to adapt to technology properly. They found it difficult to learn how to use digital tools and technology like datagram, MIS and Google Sheets. (5)

	4. Liaison with the government was found to be weak including at the district and state levels. (4) 5. There is inadequate regular income through the livelihood opportunities created for the CHEs. Partly this is due to unavailability of the livelihood products all the time. (3) 6. The area to be covered by CHE requires long distances. If there was no CHE in a village, another CHE from a nearby block was asked to cover up and that led to poor time management. (2) 7. The income of the CHEs was irregular causing a lack of life security for them. (2) 8. This programme cannot be carried on for a long time. (2) 9. There is a need to identify who will care for the community if HFF decides to withdraw. (1) 10. Monitoring CHEs was tough. (1) 11. Stipends were not provided for a long time. (1) 12. Training using network technology was a weak area. (1) 13. Having meetings with HFF staff were not regular. (1) 14. The main weakness identified was the large area to be covered causing transport difficulties. **Opportunities:** 1. HFF has the opportunity of covering all the states according to their programme plan. 2. The telehealth programme is considered one of the opportunities to carry forward the programme. **3.** Establishing units that generate income by starting products like SNP, toilet cleaner and other products is another opportunity. **Threats:** The threats to the growth of the HFF CHE programme would be the needed budget to expand to all states and the difficulties associated in adapting the needed technology.

VIII. Recommendations

Overall, the impact made before and during Covid was found to be good with a unique CHE model. While some of the CHEs were very good in their work, there were others whose work was only moderate or even poor. All these recommendations are applicable to all CHEs, however, many of them are mainly focused on CHEs whose effectiveness were found to be moderate and poor. If more than 80% of CHEs are motivated and supported to effectively carry out their activities, then the impact would reach a level of unique excellence in health care delivery to the marginalized poor community.

1.Training

1. **CHE health training**: Organise a refresher training covering all the topics in CHE health training in direct contact and not online. Detail information on first aid was preferred. Include the government 1000 days care Programme for mother and child in detail.
2. **Covid-19 Training:** Conduct a refresher training covering the knowledge and skills given earlier through online sticking to in-person training. Ensure that all CHEs know by memory all specific messages on Covid-19 provided through training on skills and knowledge. Though the pandemic has come to an end and changed to a milder form of endemic, to be ready to face any such challenging situation, these need to be repeated.
3. **Additional Training Need: C**hoose the most appropriate ones from this list for additional training requested for CHEs: Diabetes, TB, skin conditions, bronchial asthma, thyroid, malaria, filaria, diarrheoa, fever, cough, cold, eye and ear problems, obesity, epilepsy, piles, breast cancer, uterus problems, cervical cancer and prostate cancer. Very specifically Japanese encephalitis was mentioned. Vitals was again desired by many of them, this could include measuring pulse rate, temperature, BP, respiratory rate etc. Investigations include HB test, sugar testing and blood samples for malaria. Manual breast screening could be an additional skill that could be provided, backed by clinical examination and mammogram. Include knowledge on the concept of immunity boosting, and the difference between the immunity boosting foods and nutritious foods.
4. A curriculum with 6 components of systems approach, needs assessment, learners based SMART objectives, content materials for each topic , appropriate education methods for enhancing knowledge, attitude and skills and assessment package (pre-post and process evaluation) should be developed. Include the essential knowledge contents of causes, signs and symptoms, detection, treatment, consequences and prevention if a disease is taught.
5. Develop Behaviour Change Communication with simple, specific, short, positive, and action-oriented messages in the local dialect on selected diseases and topics backed by clear intervention plans and monitoring of the process. Provide CHEs with education materials such as hand bills, flip chart etc for each disease or topic.
6. Conduct tests on selected topics every month during cluster level review meetings covering all topics in a year, which need to be planned in the subsequent year annual plan. This helps to monitor the extent of the knowledge retained by CHEs.

2.Benefits of vulnerable:

7. Every CHE must have a list of households covered by them and a list of vulnerable households, to record and report the services provided to them. HFF database should

have the total number of marginalized households covered under each CHE and the number of vulnerable households among them.

8. The monitoring mechanism need to be fine-tuned to pick up the gaps in the different benefits facilitated through the CHEs and ensure that as many as possible of the eligible vulnerable population receive all the intended health and development benefits.

4.Building local capacities and driving sustainable change:

9. Enhance all health services (mother and child health etc) and hygiene and environment sanitation services (sanitary toilet, SNP, KG, menstrual hygiene, etc) to reach the marginalized and poor community through the VHMC (alternate to government VHSNC). The VHMC agenda during the committee meeting should cover the entire activities to be monitored in the villages including the plan and achievement.

10. Promote VHMC in villages where there is none. There is a need to monitor the VHMC with clear indicators such as number of members present in the committee meetings with photographs, action taken (outcome) and reasons if the VHMC is not functioning. The volunteers in each village may be encouraged to work for the community.

7.CHEs and Government Health Care Delivery system

11. HFF needs to allocate a Liaison officer to address proactively the problems arising with the government PHC staff and ensure a smooth working relationship by obtaining necessary permissions before implementing any programmes and obtaining health entitlements available through the National Health Mission.

12. Advocate by taking systematic steps through the Government health department, various officials and the mukhiyas for the functioning of closed CHCs and PHCs as well as starting these in needy areas, appointing health staff and ensuring the availability of health check-up/testing facilities, medicines and ambulance service at every health facility free of cost. In a similar manner, field senior staffs, FCs and CHEs can be motivated to revitalize the government VHSNC, where they are not functioning.

13. Create awareness in the community of the health facilities available at HSC/CHC/PHC Facilitate and conduct health camps periodically.

8.Quality of life impact of CHEs:

14. HFF can attempt to make the various products available all the time to the CHEs as it would increase their income and help the programme function better as the income derived earlier has increased but is not adequate for all CHEs, although they have utilised the income for their own family and development.

9.Women Empowerment

15. All CHEs especially those who were categorised as ‘moderate’ and ‘poor’ must be able to maintain the impressive and esteemed character they have been empowered as change agents in their own social behaviour as well as their ability related skills of boldness and courage as a result of being part of the CHE programme as it was demonstrated by CHEs who were categorised as ‘Good’ though they were from marginalized, downtrodden and ultra-poor community. The respect for the CHE in the community should be maintained by every CHE especially those who were categorised as ‘moderate’ and ‘poor’.

16. Field senior staffs and FCs can identify and make a list of CHEs who were effective, moderately effective and ineffective based on the ability related three factors indicated as

boldness and courage, willingness to work for others and counselling and develop them in these skills by providing appropriate training.

17. FCs should routinely focus on the moderate and weak CHEs and uniformly develop the types of skills listed in the conclusion section.

10.Supportive supervision:

18. Supportive supervision of moderate and poor CHEs in their effectiveness is a weak area that needs to be addressed. Optimise the number of CHEs under each FC and the distance to be covered by each and fill all vacant positions as quickly as possible
19. **MIS:** Prepare formats for consolidation at each level of CHE, FC, district and state wise to be made available during cluster level meetings, to focus on the subsequent month's planning. Ensure that all complete and updated variables of MIS monitoring data is available. The reliability and validity of the data coming through the app need to be verified and checked. (Eg, Those who have done the activity is recorded but those who have not done or not reported were left blank)
20. Create a database of the CHEs in Excel sheet right from the inception. Create a separate database for the community households that they serve with a set of monitoring indicators. These could be the base from which valuable impact and research information could be obtained. Adding births and deaths along with birth weight in each CHEs area could also contribute to learning from the changes taking place.
21. The responsibility of identifying and preparing periodically a list of effective, moderately effective and ineffective CHEs based on selected service indicators may be entrusted to the Field senior staffs and FCs and to take steps to make them become effective service providers by creating a system to implement and monitor this aspect.

11.Long Term Program sustainability

22. Promote payment for CHE services either by the beneficiaries or by the government. Continue to promote KGs. Encourage some CHEs to become ASHAs getting incentives through the government and continuing as CHEs. Promote some CHEs to be invited by others for help and get work as they would get outside project income. The choice of such activities should be mutually agreed upon without competing interests.
23. **Telehealth:** Planning a consultation on telehealth by HFF and developing its contours, identifying the feasible services, costing and payment patterns and the legal implications of such a service along with the protection mechanisms needed for this is essential.
24. Consider for the development of telehealth the list of vitals, diseases and investigations given as part of telehealth under the 'conclusions' section.
25. A curriculum for training on telehealth to CHEs and all levels of staff need to be developed with the 6 components as listed under additional training needs above.
26. A set of SMART objectives for the telehealth project is essential that will help in the development of appropriate strategy and for monitoring and evaluation.
27. Develop a LFM to have clarity on the input, process (activities), output and outcome with measurable verifiable indicators, means of verification and risks/assumptions for each of these helping to clearly monitor the telehealth program.
28. Efforts must be made to keep the essential number of each level of staff in place.

More CHEs earning more income:

29. Attempt different models of increasing income based on the experience of HFF and others. Even assuming that the sale of products alone may not give them adequate income continue to make available various health and sanitation products for sale at a small margin of profit along with the possible suggested list of item by the respondents such as mosquito killer sticks, pain killer ointment, soap, hand wash soap and liquid, medicated talcum powder, phenol, medicine for emergency, first aid medicines and nutrition powder.
30. Facilitate proactively for the CHEs to receive the many benefits and the government schemes for the poor that they are entitled to, starting with housing and toilet construction and then moving on to subsidised loans for income-generation activities.
31. Encourage CHEs to be part of Self-Help Groups with several benefits that could be utilised and increase their income. Provide support from outside with non-recurring inputs and ensure that the SHGs develop as they are emerging as one of the successful sustainable models of development.

Impact that made in the community before Covid:

32. **Kitchen Garden:** Promote all the families who have space for kitchen garden to grow drumstick, papaya, and guava trees and ensure their consumption as they enhance the nutritive values. Encourage each CHE to list the households with available land for KG and enter the count into App as well after starting to grow trees and vegetables.
33. **Sanitary Napkin Pads:** Ensure the availability of low cost quality SNP. As suggested by HFF staff, it can be made available by purchasing large quantities of raw materials – wrapping materials. Then CHEs can wrap it in different places or any other methods and make it available to the community and increase income.
34. **Mothers and children Health:** CHEs should educate and motivate mothers on the government programmes for better nutritional status of children by monitoring the height and weight of the child once a month till 3 years and once in 3 months up to 5 years and administering vitamin A solution and deworming once in 6 months after a child completes 6 months of age, till 5 years. For the health of the mothers and children, if all 'moderately effective' and 'ineffective' CHEs take the effort along with the government workers through timely motivation and facilitation, the accomplishment of 100% coverage could be ensured among the marginalized communities.
35. All CHEs should motivate and facilitate 100% coverage among the marginalized communities of the National Program of '1000 days care' starting from conception till the child completes 2 years of age (270 + 365 + 365 = 1000 days). The indicators that would be impacted because of the 1000 days of care are low birth weight, reduction of anaemia in pregnancy, reduction of childhood stunting, reduced infant mortality and MMR.

HFF Staff Development

36. **Knowledge and Skills needed for field senior staff:** The suggestions for additional training may be favourably considered after due diligence, review and planning. These topics include: knowledge on health-related topics, preventive health, technical knowledge about health, knowledge on all government health programs and entitlements for community benefit. Knowledge and skill of health management, management, computer and software skills, health-related tools, data management, data analysis,

report writing and presentations. The skills of decision making, team building, teamwork and collaboration, handholding support, communication and the dangers of climate change were the other topics mentioned. Effective communication both in speaking and working in English was another request. The skills in liaison with government officials and various government departments, building relationships with government officials and the ways to interact with health staff are additional skills suggested by them.

General Recommendation

37. **Extensive vs Intensive Programmes:** HFF might consider the possibility of continuing the CHE programme extensively as it is being carried out and also carry out intensively in a smaller defined area of select districts or blocks or even a relatively smaller state instead of being thinly scattered over a large geographical area. It would be easier to measure the impact on selected health problems.
38. **Networking vs own intervention:** If HFF would like to share their unique model of health care delivery through the CHEs and would be happy if other NGOs replicate this model in other project areas, then networking with other like-minded NGOs would ensure better health care delivery in many villages and blocks where others are working.
39. **Payment for Review meeting participation:** Based on our observation as well as the recommendation of a previous evaluation, it is recommended that CHEs be paid for travel for participating in review meetings.

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IX. Limitations

1. Each CHE had 200-250 households from marginalized and poor community. Within this CHE has a sub-population of vulnerable households. The evaluation did not differentiate the vulnerable households from the marginalized poor households. Hence the benefits of vulnerable households were not assessed exclusively.

X. Appendices

Appendix 1

Table A: Number of Quarantine Centres and Beneficiaries – State and district wise

State	Sno.	District	No. QC 2020	Persons Benefitted	Month &Year
UP	1	Ambedkar Nagar	3	73	May, 2020
UP	2	Ballia	22	248	March, May 2020
UP	3	Chandauli	1	55	May, 2020
UP	4	Deoria	2	13	May, 2020
UP	5	Ghazipur	4	20	April, May, 2020
UP	6	Gorakhpur	4	56	March, 2020
UP	7	Hamirpur	4	57	May, 2020
UP	8	Jaunpur	2	6	March, May, 2020
UP	9	Mau	4	64	March, May, 2020
UP	10	Mirzapur	2	26	May, 2020
UP	11	Pratapghar	7	134	March, May, 2020
UP	12	Salempur	2	11	March, 2020
UP	13	Varansi	1	10	May, 2020
		Total UP	**58**	**773**	
Bihar	1	Aurangabad	1	50	May, 2020
Bihar	2	Buxar	2	4	March, 2020
Bihar	3	Buxar	2	350	May, 2020
Bihar	4	Darbhanga	3	94	May, 2020
Bihar	5	East Champaran	5	519	May, 2020
Bihar	6	Gaya	1	14	May, 2020
Bihar	7	Kaimur	5	451	March, May, 2020
Bihar	8	Madhubani	1	55	May, 2020
Bihar	9	Muzaffarpur	16	508	March, May, 2020
Bihar	10	Rohtash	3	187	March, 2020
Bihar	11	Saran	4	236	April, May, 2020
Bihar	12	Sitamarahi	1	130	May, 2020
Bihar	13	Siwan	2	55	May, 2020
Bihar	14	West Champaran	1	79	May, 2020
		Total Bihar	**47**	**2732**	
		Total	**105**	**3505**	

Appendix - 2

Table 2: Number of Village level Covid Isolation Centre and Beneficiaries– State wise

State	Sno.	District	No. VCIC 2021	Persons Benefitted	Month &Year
UP	1	Ambedkar Nagar	1	8	May-June 2021
UP	2	Azamgarh	3	12	May-June 2021
UP	3	Ballia	3	29	May-June 2021
UP	4	Basti	3	22	May-June 2021
UP	5	Chandauli	1	10	May-June 2021
UP	6	Fatehpur	1	8	May-June 2021
UP	7	Ghazipur	2	7	May-June 2021
UP	8	Gorakhpur	1	8	May-June 2021
UP	9	Jaunpur	2	16	May-June 2021
UP	10	Kushinagar	2	7	May-June 2021
UP	11	Mau	5	44	May-June 2021
UP	12	Mirzapur	11	76	May-June 2021
UP	13	Pratapghar	2	16	May-June 2021
Total UP			**37**	**263**	
Bihar	1	Arwal	1	6	May-June 2021
Bihar	2	Aurangabad	5	40	May-June 2021
Bihar	3	Darbhanga	5	60	May-June 2021
Bihar	4	East Champaran	3	49	May-June 2021
Bihar	5	Gaya	4	40	May-June 2021
Bihar	6	Kaimur	2	10	May-June 2021
Bihar	7	Muzaffarpur	6	83	May-June 2021
Bihar	8	Rohtash	6	10	May-June 2021
Bihar	9	Samasti Pur	2	10	May-June 2021
Bihar	10	Saran	4	9	May-June 2021
Bihar	11	Sitamarhi	4	97	May-June 2021
Bihar	12	Siwan	3	38	May-June 2021
Bihar	13	West Champaran	3	15	May-June 2021
Total Bihar			**48**	**467**	
		Total	**85**	**730**	