A Research Project Report for

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By

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Titled

Evaluation of functioning of Health and Wellness Centres in Tamil Nadu

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Abbreviations

AB	: Ayushman Bharat
ANC	: Ante Natal Care
ANM	: Auxiliary Nurse Midwife
ASHA	: Accredited Social Health Activist
AWW	: Anganwadi Worker
BP	: Blood Pressure
CHC	: Community Health Centre
COPD	: Chronic Obstructive Pulmonary Disease
CPHC	: Comprehensive Primary Health Care
CGHS	: Central Government Health Scheme
DD Health	: Deputy Director Health
DM	: Diabetes Mellitus
ESI	: Employee State Insurance scheme
HCW	: Health Care Worker
HI	: Health Inspector
HSC	: Health Sub Centre
HTN	: Hypertension
HWC	: Health and Wellness Centre
MCH	: Maternal and Child Health
MLHP	: Mid-Level Health Provider
MPHW	: Multi-Purpose Health Worker
MTM	: Makkalai Thedi Maruthuvam
NCD	: Non-Communicable Disease
OOPE	: Out-of-Pocket Expenditure
OSCE	: Objective Structured Clinical Examination
PHC	: Primary Health Centre
PHH card	: Priority Household card
PNC	: Post Natal Care
PPE	: Personal Protective Equipment
SC	: Sub Centre
SHG	: Self Help Group
VHN	: Village Health Nurse
WHV	: Women Health Volunteer

Executive Summary

Ayushman Bharat Yojana is a key initiative undertaken by the Government of India to achieve Universal Health Coverage which adopts a continuum of care approach and aims to address health holistically by covering preventive, promotive, curative, rehabilitative, and palliative care. Under this initiative, 1.5 Lakh Sub Health Centres (HSCs) and Primary Health Centres (PHCs) will be strengthened as Health and Wellness Centres (HWCs). HWCs are a systemic reform to strengthen the primary health care delivery system in India. It envisages not just providing a healthcare delivery system but also actively engaging the community for an improved and healthy lifestyle-based approach. As the first point of contact of the community, it will cater to its population for all its primary healthcare needs and facilitate forward/ backward linkages to ensure a continuum of care.

Tamil Nadu has made considerable progress in the operationalization of HWCs since its inception. This is a new initiative and the functioning of these HWCs need to be evaluated to find out the local challenges and opportunities for the effective utilization of services. This study was therefore planned with the primary objective of evaluating the functioning of HWCs in 3 districts of Tamil Nadu. The three districts chosen purposively were, Kanyakumari, Nagapattinam and The Nilgiris, having predominantly urban, rural, and tribal population respectively. A facility survey of both HWCs and HSCs was done, and their functioning, services, outreach services, and challenges was assessed. The questionnaire was directed to the representatives of all cadres of healthcare workers. A patient exit interview was also done to understand their perspective and feedback regarding the services. A community survey was also done in each district to assess awareness, utilization, and perception of the quality of services received. This study was aimed to evaluate the extent of the utilization of HWCs, and the factors impeding the utilization of health care services, which would serve as a baseline to

bring about further changes in streamlining the inputs, modifying processes, and improving coverage and quality of services.

Community awareness and overall utilization of HWCs was low in all the 3 study districts, extremely low in Nagapattinam. The surveyed community preferred govt health facilities majorly for their chronic ailments, compared to acute.. This could be attributed to the increased community level screening and provision of drugs under the MTM scheme. Inadequate essential infrastructure and training of health care workers was observed in Health and Wellness Centres, but these were better as compared to Sub Centres. Knowledge and skills as assessed by OSCE were good in MLHP and VHNs and were comparable in all the 3 districts. Outreach services were adequate (>90%) and were satisfactorily perceived by the surveyed community. NCD services were adequately provided by the health workers and utilized by the population. In conclusion, strengthened community mobilization, engagement and health promotion efforts are crucial for the delivery of holistic preventive, promotive and curative services. Promoting community ownership of the healthcare services that are made available to them will make the Health and Wellness Centres more sustainable.

Introduction

Augmenting on the path for Universal Health Coverage laid down by National Health Policy 2017, Ayushman Bharat, a flagship scheme of the Government of India was launched in 2018 [1, 2]. Ayushman Bharat strives to achieve this through two inter-related components: the establishment of 150,000 Ayushman Bharat - Health and Wellness Centers (AB-HWCs) by 2022 to provide universal free and quality comprehensive primary healthcare (CPHC) closer to people's homes and Pradhan Mantri Jan Arogya Yojana (PM-JAY), a health insurance cover for poor and vulnerable families [2]. AB is an attempt to move from a segmented approach of primary healthcare delivery to one that is comprehensive, and is based on principles of equity, efficiency, and effectiveness. The AB-HWCs ensure a continuum of care approach with well-established referral and back-referral linkages, also through teleconsultation with the secondary/tertiary public health facilities. AB-HWCs are envisaged to provide an expanded range of services (Figure 1) that will address the preventive, promotive, curative, rehabilitative, and palliative primary healthcare needs of the entire population in the catchment area, through strengthened accountability [2].

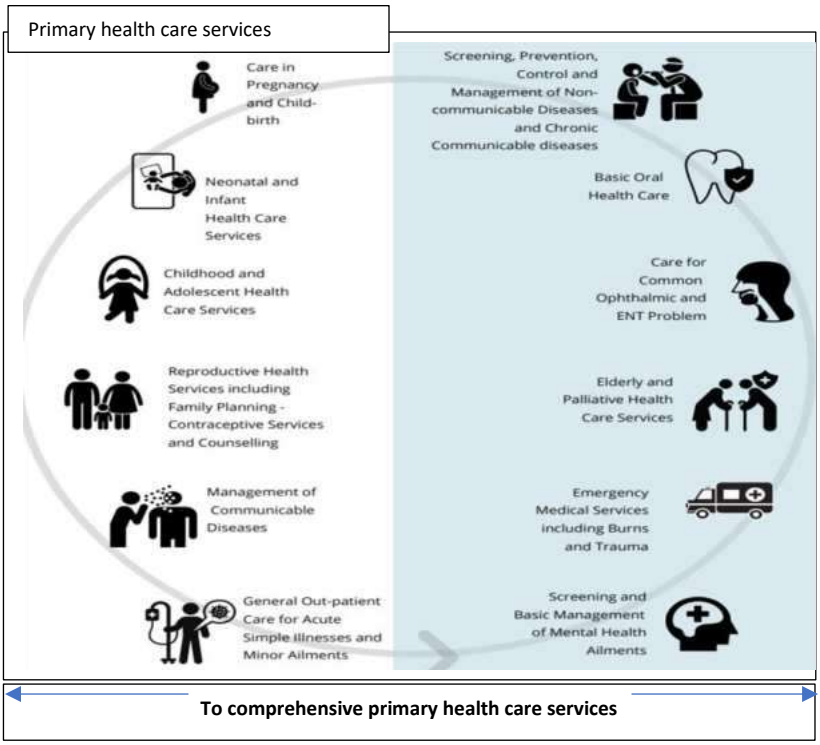

Figure 1: HWCs- A move from selective primary healthcare to CPHC (Source:[3])

The new paradigm of AB-HWCs aims to address the rising burden of diseases including Non-Communicable Diseases (NCDs) like hypertension, diabetes, and cancers along with the services which aim at providing primordial and primary prevention. It is envisaged that healthcare services at AB-HWCs will be incrementally expanded to provide basic healthcare for ENT, geriatric, mental, ophthalmic, oral, palliative, and other services too [4].

Hence Health Sub Centres (HSCs) covering a population of 3,000 - 5,000, Primary Health Centres (PHCs) in rural and urban areas need to be converted into AB-HWCs, to ensure universal access to CPHC through a process of population empanelment, regular homes, and community interactions and people's participation. CPHC is complemented by outreach services, Mobile Medical Units, and Home and Community based care, enabling a seamless continuum of care that ensures the principles of equity, universality and ensuring removal of any financial hardships [5, 6].

Tamil Nadu (TN) was ranked nine among all states of the country for its progress in the development of AB-HWs in the financial year 2020-21 based on specific functionality

criteria and parameters [3]. As of 30th November 2023, TN had 8245 functional AB-HWCs (5864 HSCs, 1421 PHCs, and 960 urban PHCs) and was reported to have reached more than the required target of AB-HWCs in the state. The total target set by GoI (2022-23) for TN was 9132 functional AB-HWCs comprising 7921 HSCs, 1421 PHCs, and 420 urban PHCs [7].

Health being a state subject, the implementation of the program involves local context-specific challenges and opportunities. At this stage of operationalization of AB-HWCs, an assessment would enable an understanding of implementation processes at the ground level and suggest design adaptations, to inform rapid and effective scale-up. This is a new initiative that has several uncertainties that need to be better understood to achieve its full potential. The aim of this assessment, therefore, is to evaluate the functioning of HWCs in varying contexts. The assessment will focus largely on the inputs and processes that contribute to the functionality of AB-HWCs, correlate with outputs, and use an expanded range of services. This will serve as a baseline for the state to dialogue on streamlining inputs, modifying processes, and improving coverage and quality of services.

Objectives

Primary objective of the study: To evaluate the functioning of Health and Wellness Centres in three districts of Tamil Nadu.

Specific objectives for the evaluation of HWC:

1. To assess utilization of health care services of AB-HWCs and HSCs by the community
2. To assess the functionalities of both AB-HWCs and HSCs in terms of delivery of health services
3. To assess the competencies of health care workers (HCWs) at both HWCs and HSCs
4. To assess the opportunities and challenges faced by HCWs and suggestions to improve the delivery of services.

Approach and Methodology

A mixed methods approach comprising of both quantitative (cross-sectional study) and qualitative components was used to meet the objectives of the study.

***Study Setting*:** Three districts of Tamil Nadu (Figure 2), were selected purposively for this evaluation, based on the predominant urban (Kanyakumari), rural (Nagapattinam), and tribal (The Nilgiris) population respectively.

Kanyakumari with a population of 2,169,821 (2022, estimated) has 120 functional AB-HWCs (SHCs) out of a total of 267 SHCs [5,8,9].

Nagapattinam with a population of 1,875,244 (2022, estimated) has 128 functional AB-HWCs (SHCs) out of a total of 258 SHCs [5,8,9].

The Nilgiris with a population of 853,131 (2022, estimated) has 127 functional AB-HWCs (SHCs) out of a total of 194 SHCs [5,8,9].

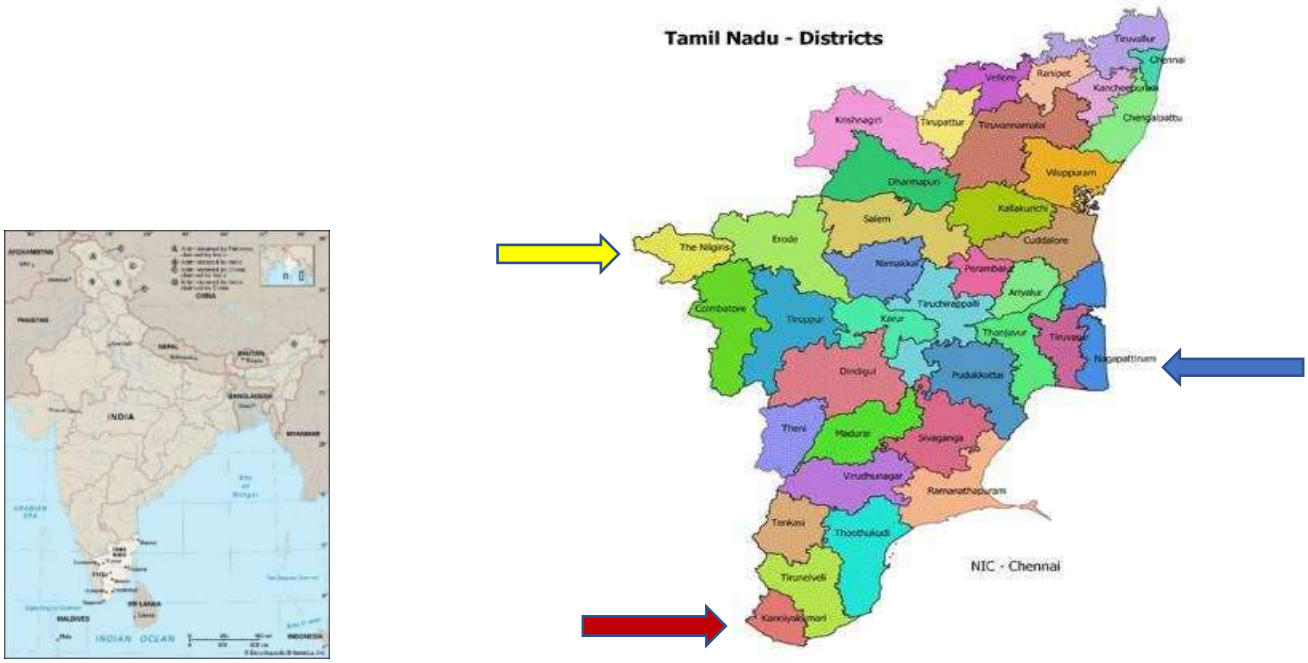

Figure 2: Map showing Tamil Nadu state with the three study districts, Kanyakumari, Nagapattinam and The Nilgiris

Sampling (Figure 3 and 4):

a) ***Community survey:*** A community survey was conducted in each of the 3 districts to assess reach, type, and perception of the quality of services received using a semi structured questionnaire.

- The community survey included 40 households from the catchment area of a sample of 5 randomly selected AB-HWCs and HSCs respectively. We surveyed 200 households per district from the catchment area of AB-HWCs and similarly 200 households per district from the catchment area of HSCs – A total of 400 households per district were surveyed as part of this study.

Study tool for community survey:

A pretested semi structured questionnaire comprising of:

i. Socio demographic characteristics of the study population
ii. Morbidity survey (past 2 weeks morbidity)
iii. Non-Communicable Disease survey
iv. Health care seeking behavior of the study population
v. Perceptions of the study population on public health service delivery

b) ***Facility survey:*** For the facility survey, the proposed plan was to select approximately 20% of functional AB-HWCs (HSCs) from each of the districts (24 from Kanyakumari, 26 from Nagapattinam and 25 from the Nilgiris). Parallelly to assess the service delivery at HSCs, equal number of HSCs were also evaluated.

As per the proposal, we surveyed the required number of facilities in Kanyakumari and Nagapattinam. In Nilgiris, we were able to survey the requisite number of HWCs (25) but only 20 HSCs (as others were already converted into HWC in the blocks that we selected).

Following study tools were employed for this cross-sectional evaluation of the functioning of health facilities (Table 1):

i. A pretested semi-structured questionnaire – which was administered to each of the HCWs in both HWCs and HSCs.

ii. Observational checklist for infrastructure and facilities available in the health facility

iii. Review of records at the health care facility for utilization and coverage of services

iv. Knowledge test and Objective Structured Clinical Examination (OSCE) to assess knowledge and skills of HCWs.

v. Exit -interview for five patients per healthcare facility

Tools used	Purpose	What method used	From whom
Form A: Section I	To obtain general information of the health facility: Type of facility, location, catchment population, intersectoral coordination, and services available.	Interviewed	MLHP or VHN
Form A: Section II	To collect information on the number of healthcare providers in the facility	Interviewed	MLHP or VHN
Form B: Section I	To obtain information from MLHP on experience, education, training received, supervision and monitoring, challenges faced, roles performed, confidence in performance of roles, and suggestions for improvement	Interviewed	MLHP
Form B: Section II	To obtain information from VHN on same topics as given in Section I of Form B	Interviewed	VHN
Form B: Section III	To obtain information from WHV on same topics as given in Section I of Form B. In addition, information on outreach services provided, reach of services – number followed up, number currently registered, population served, MTM services and reports / registers maintained, were obtained.	Interviewed	WHV
Form B: Section IV	To obtain information from HI on experience, education, training received, supervision and monitoring, challenges	Interviewed	HI

	faced, roles performed, confidence in performance of roles, and suggestions for improvement and reports / registers maintained.		
Form B: Section V	To obtain information from one ASHA on the same information as Form B Section III of WHV	Interviewed	ASHA
Form C	To obtain information on the health facility – Facility Audit	Observation by walk-through, Interview	MLHP / VHN
Form D	To obtain information on load of services	Record review, Interview	MLHP / VHN
Form E	To obtain information from patients who sought services in the health facility on purpose of seeking service, distance of health facility from home, suggestions to improve services, satisfaction on services received, services received for current visit	Interview	Any patient who received services at the health facility – 5 per health facility as available

Table 1: Details of tools used for facility data collection.

Qualitative component:

i. **Focus Group Discussions:** 1 per block in each district, comprising of 6 – 8 people from the community who were utilizing private facilities for their healthcare needs.

ii. **In depth interviews:**

- Anganwadi workers (1 per block)
- Anganwadi helper / Chattunava aaya (1 per block)
- Self-help groups (1 per block)
- Representative from Panchayat (1 per block)
- Patients (or their caregivers) getting palliative care.

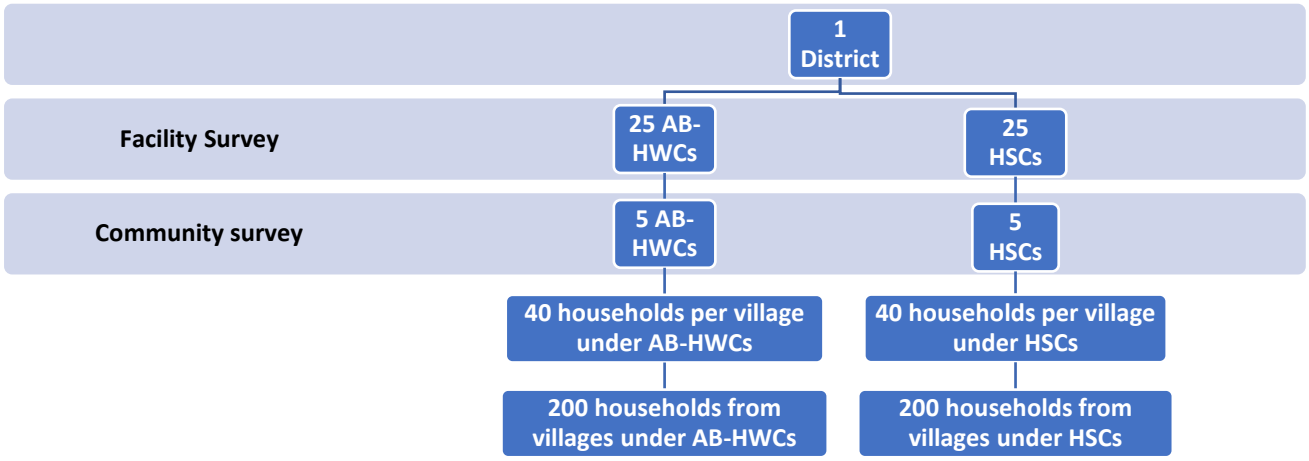

Figure 3. Flowchart showing the sampling methodology for one district.

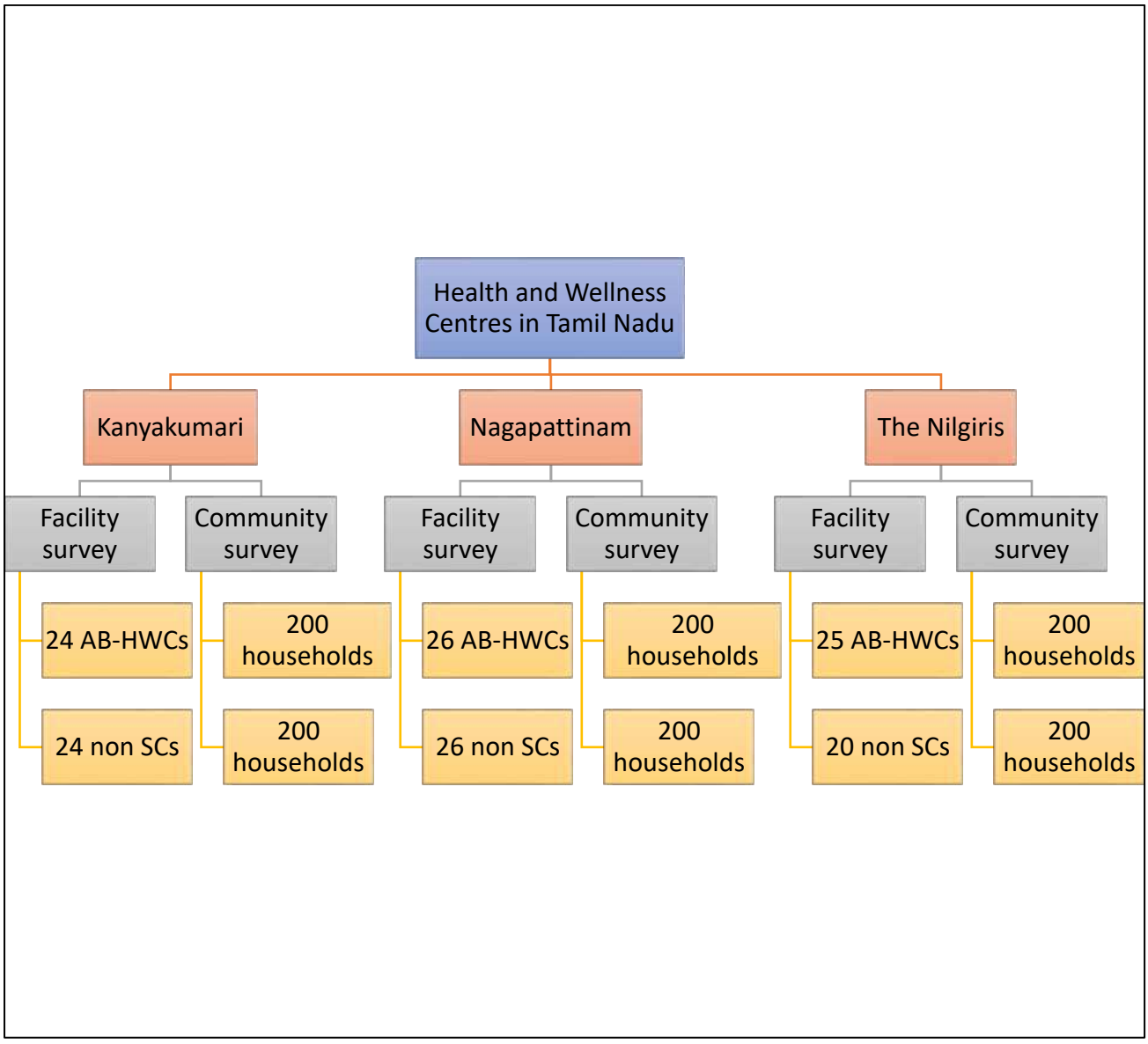

Figure 4: Flowchart showing the sampling methodology for the study.

Blocks selected per study district:

To get the required number of HWCs and HSCs, the blocks within each district were selected purposively, and the health facilities were then selected randomly within each block. We selected the following blocks in the 3 study districts:

Kanyakumari: Four out of the nine blocks were selected. They were:

a) Thiruvattar
b) Munchirai
c) Kurunthancode
d) Killiyoor

Nagapattinam: Five out of the eleven blocks were selected for the survey. They were:

a) Vedaraniyam
b) Thirumarugal
c) Nagapattinam
d) Kilvelur
e) Keelaiyur

Nilgiris: Two predominantly tribal blocks were selected out of the total four blocks. The blocks selected were:

a) Gudalur
b) Kotagiri

A total of 11 blocks were selected in the 3 study districts of Tamil Nadu (Figure 5).

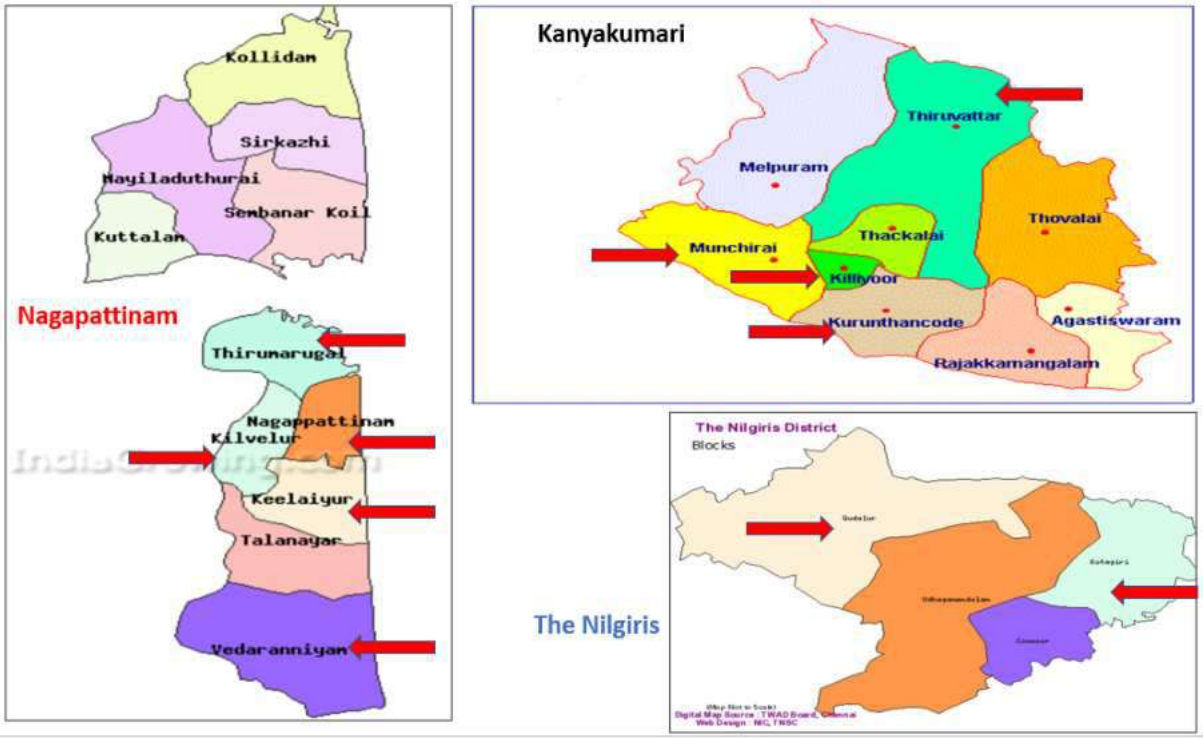

Figure 5: The study blocks selected in the 3 study districts.

Data collection method (Table 2):

After obtaining ethical clearance from the Institutional Ethics Committee of St John's Medical College, Bangalore, and required permission from Govt of Tamil Nadu and the DHOs of the respective districts, the data collection was initiated. The nurses were recruited and trained for both community and facility surveys. Pilot survey was carried out in one block of Tamil Nadu outside the study area.

For the community survey, the questionnaire was administered to the head of the family or any available adult in the family. Quality checks were performed at multiple levels to make sure the information collected was reliable and accurate.

The list of health facilities in the selected blocks of each of the 3 districts were collected from the Deputy Director Health (DD-Health) office. From the list, the required number of HWCs and HSCs were randomly selected. The health facilities in the 3 districts were visited by our trained project staff, and the required data was collected. The Knowledge and Skills assessment of the MLHPs and VHNs of the surveyed HWCs and HSCs respectively was carried out at the

DD-Health office of each district on a common date. The staff were called to the office and the knowledge test and OSCE assessment was performed by the trained investigators.

Data was collected using EpiCollect 5. Scoring (by adopting appropriate weightage based on the essential criteria of HWCs and SCs) was given to each item of the facilities and services. The domain wise total score was computed and categorised as adequate (more than 75%), moderately adequate (51-75%) and inadequate (0-50%).

Data was analyzed using SPSS version 25. Descriptive statistics such as Minimum, Maximum, Mean (±Standard Deviation) and Median were used as appropriate. Chi square test was used to test the association between study variables. p value <0.05 was considered statistically significant.

Key themes	Who will be assessed	What will be assessed	Method of data collection
Leadership and governance	• MLHP/VHN	• Monitoring and supportive supervision	• HCW's semi-structured interview schedule • Observational checklist for infrastructure and facilities available in the health facility • Health scenarios to assess knowledge and skills of HCWs • Record review – utilization and coverage of services • Community: semi-structured interview on perceptions of health service delivery
Health workforce	• HCWs – all (MLHP, VHN, WHV, HI and ASHA)	• Numbers available • Training received • Knowledge of standard treatment guidelines • Skills- self assessed based on roles expected	
Essential products and technologies		• Availability of drugs, supplies, and equipment	
Health service delivery	• HCWs – all cadres • Patient • Community	• Services offered as per HWCs and HSCs guidelines • Teleconsultation availability • Referral • Lab services • Pharmacy services • Infrastructure and other facilities	
Health information systems	• HCWs	• Availability of computers/tablets/phones for online data entry • Showcasing - monthly consolidated data • Registers and reports	

Community ownership and partnership	• HCWs • Community and patient	• Accessibility and availability of services • Effective and adequate coverage of services	• Semi-structured exit -interview for patients

Table 2: Key components and data collection method used as per WHO Health systems building blocks

Results

Three districts of Tamil Nadu were selected purposively for this evaluation, based on the predominant urban (Kanyakumari), rural (Nagapattinam), and tribal (The Nilgiris) nature of the population respectively. Results of this study are reported in the following order: Community survey (health needs assessment) followed by facility survey (infrastructure, facility staff details, record review and patient exit interview details).

Community Survey findings:

A total of 400 households per district were surveyed as part of this study. The district and centre wise distribution of these households is shown in Table 3.

Households from catchment area of which public health facility	**Kanyakumari**	**Nagapattinam**	**Nilgiris**	**Total**
Health and Wellness Centres	200	204	200	604
Health Sub Centres	200	196	200	596
Total	**400**	**400**	**400**	**1200**

Table 3: Distribution of households according to health facility

The characteristics of the study population is depicted in Table 4. A total of 4411 households were surveyed as part of this study across the 3 study districts. A little more than half (52%) of the study population were female with average family size of 3.8. The age and sex wise distribution of the total study population is showed in Figure 6.

Table 4: Characteristics of the study population

Parameters	**Kanyakumari**	**Nagapattinam**	**Nilgiris**	**Total**
Number of Households	400	400	400	1200
Number of Individuals	1424	1546	1441	4411
Female / Male	53.7% / 46.1%	49.9% / 50.1%	52.7% / 47.3%	52.0%/48.0%
Average family size	3.6	3.9	3.8	3.8
Reproductive age group women (18 – 49 years)	375 (49%)	427 (55.5%)	360 (47.4%)	1162 (50.7%)
Children <5 years	85 (6%)	82 (5.3%)	109 (7.6%)	276 (6.3%)
Elderly (>60 years)	199 (14%)	200 (12.9%)	202 (14%)	601 (13.6%)
Adults (>= 30 years)	826 (58%)	904 (58.5%)	823 (57.1%)	2553 (57.9%)

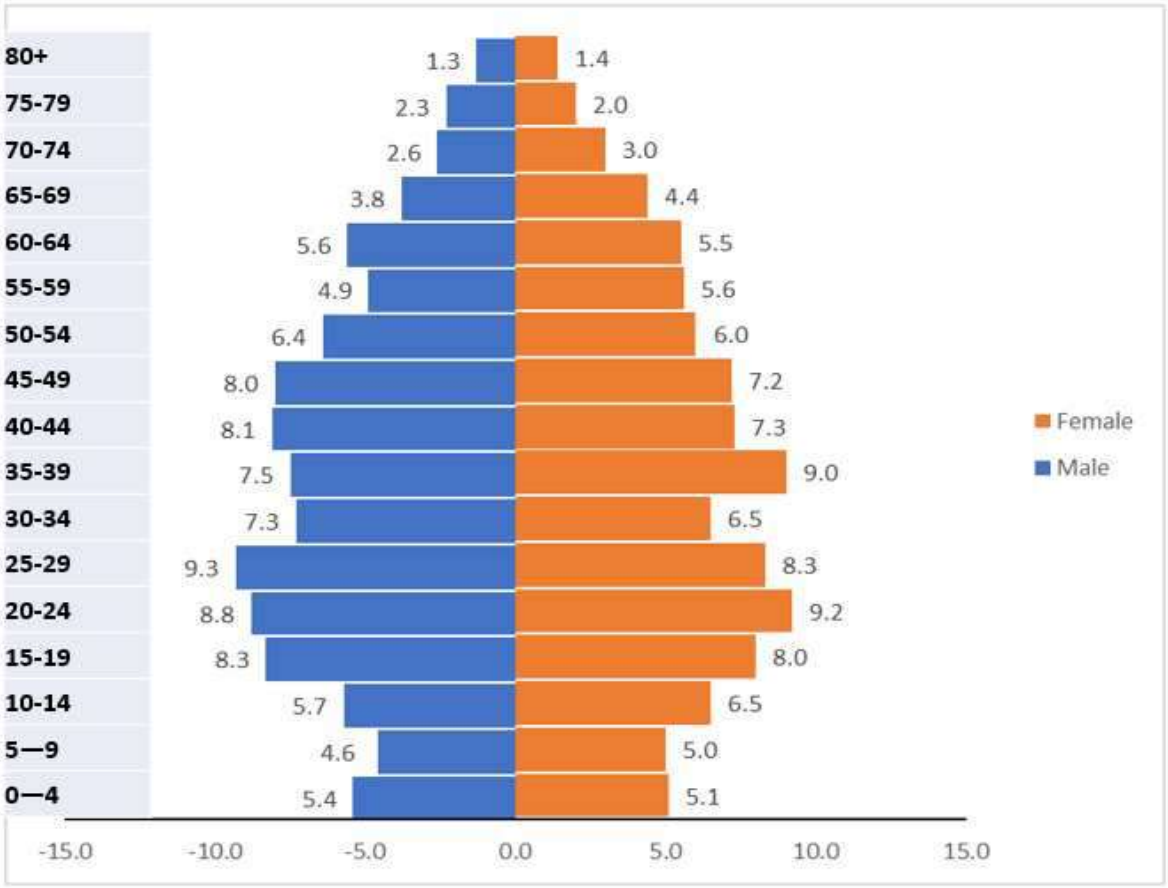

Figure 6: Age and sex wise distribution of the study population

Table 5 shows the characteristics of the surveyed households in the 3 districts. Majority of the surveyed population were Hindus in Nagapattinam and Nilgiris, while Christians were more among the study population in Kanyakumari. A little more than half of the houses were Pucca in Kanyakumari and Nagapattinam, while in Nilgiris the houses were mainly semi pucca. Maximum were having own house, piped source of drinking water, ration card and sanitary latrine in all the 3 districts. Cooking fuel used was majorly LPG, but in Nagapattinam and Nilgiris, solid wood was also used as fuel for cooking. The Priority Household (PHH) card was available with more than half of the surveyed population in all the 3 districts.

Religion	**Kanyakumari (n = 400)**	**Nagapattinam (n = 400)**	**Nilgiris (n = 400)**	**Total (n = 1200)**
Hindu	182 (45.5%)	389 (97.3%)	326 (81.5%)	897 (74.8%)
Muslim	1 (0.3%)	2 (0.5%)	37 (9.2%)	40 (3.3%)
Christian	217 (54.3%)	9 (2.2%)	37 (9.2%)	263 (21.9%)
Social group				

SC	9 (2.3%)	125 (31.3%)	96 (24.0%)	230 (19.2%)
ST	0 (0%)	6 (1.5%)	166 (41.5%)	172 (14.4%)
OBC	42 (10.5%)	211 (52.8%)	138 (34.5%)	391 (32.7%)
General	349 (87.3%)	58 (14.5%)	0 (0%)	407 (33.8%)
Type of house				
Pucca	230 (57.5%)	226 (56.5%)	55 (13.8%)	511 (42.6%)
Semi pucca	163 (40.8%)	66 (16.5%)	326 (81.5%)	555 (46.3%)
Kutcha	7 (1.8%)	108 (27.0%)	19 (4.8%)	134 (11.2%)
Own house	392 (98%)	397 (99.3%)	336 (84.0%)	1125 (93.8%)
Source of drinking water - Borewell / Piped	345 (86.3%)	398 (99.5%)	393 (98.3%)	1136 (94.7%)
Ration card	390 (97.5%)	397 (99.3%)	392 (98.0%)	1179 (98.3%)
PHH card	216 (54%)	250 (62.5%)	260 (65.0%)	726 (60.5%)
Toilet facility				
Sanitary latrine with piped sewer system / septic tank	399 (99.8%)	363 (90.8%)	329 (82.3%)	1096 (91.3%)
Pit latrine / Public facility	1 (0.2%)	1 (0.1%)	8 (2.1%)	10 (0.9%)
No facility / open space	0 (0%)	36 (9.0%)	63 (15.8%)	99 (8.2%)
Cooking fuel				
LPG / Electricity	351 (87.8%)	255 (63.6%)	257 (64.3%)	863 (71.9%)
Solid (wood etc)	17 (4.3%)	142 (35.4%)	138 (34.5%)	297 (24.8%)
Kerosene & Others	32 (8%)	3 (0.8%)	5 (1.3%)	39 (3.3%)

Table 5: Characteristics of the surveyed households in the 3 districts

Table 6 shows the status of health insurance of the surveyed population in the 3 districts. About one thirds of the total population did not have any Health Insurance, proportion being the highest in Nilgiris with 56.3%. Majority of the individuals surveyed in Nagapattinam (78.3%) had Ayushman Bharat while only 43.7% and 37.8% in Kanyakumari and Nilgiris respectively.

Health Insurance	**Kanyakumari (n = 1424)**	**Nagapattinam (n = 1546)**	**Nilgiris (n = 1441)**	**Total (n = 4411)**
Kalaingar Kaappittu Thittam / Ayushman Bharat	622 (43.7%)	1210 (78.3%)	544 (37.8%)	2376 (53.9%)
Employees State Insurance scheme/ CGHS	145 (10.2%)	2 (0.1%)	35 (2.4%)	182 (4.1%)
Other privately purchased health insurance	113 (7.9%)	88 (5.7%)	9 (0.6%)	210 (4.8%)
Others	34 (2.4%)	2 (0.1%)	41 (2.8%)	77 (1.7%)
None	510 (35.8%)	244 (15.8%)	812 (56.3%)	1566 (35.5%)
Presence of Aadhaar Card	1374 (96.5%)	1470 (95.1%)	1393 (96.7%)	4237 (96.1%)

Table 6: Health insurance status of the surveyed population

Figure 7 shows the type of health facilities the surveyed population preferred for most of their illness. Overall government health facilities were preferred marginally over private health facilities, but in Kanyakumari we observed more preference towards private health care services (63.5%). Preference for government health care services was most in Nagapattinam (76%). Among govt health facilities, PHC was the preferred choice in all the 3 districts, while SC/HWC was also preferred in Kanyakumari (Table 7). Among private health facilities, the surveyed population preferred private hospital unanimously (Table 8).

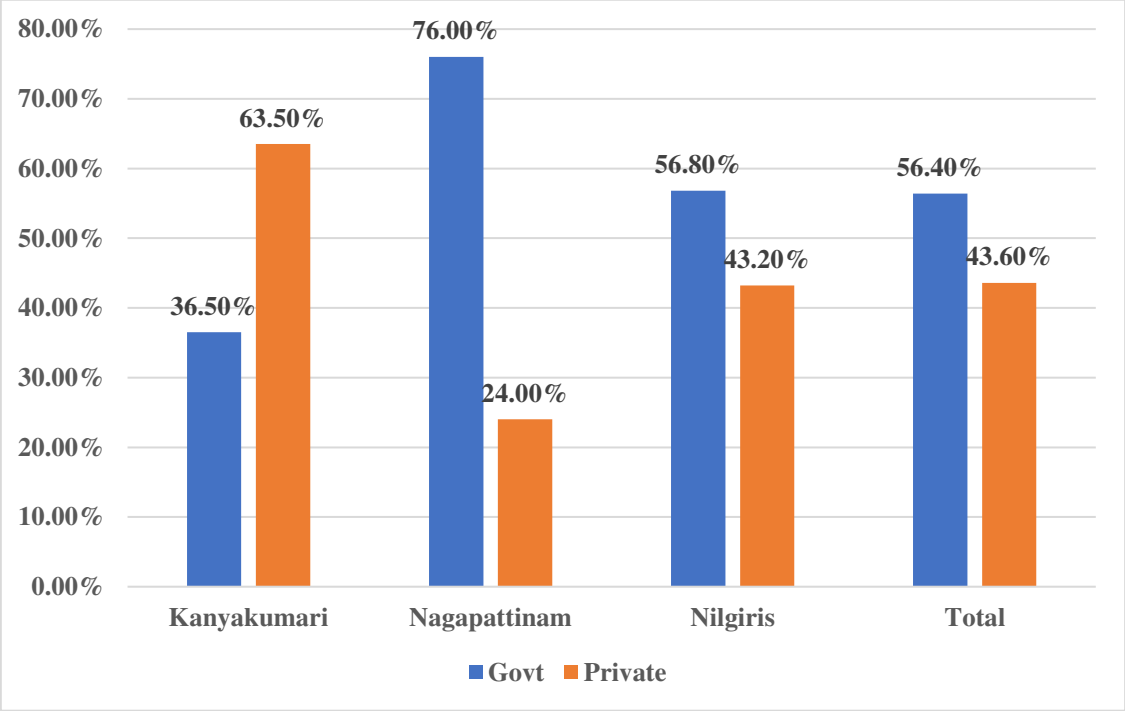

Figure 7: Type of health facilities preferred for most of the illness by the surveyed household

Type of health facilities preferred	Kanyakumari		Nagapattinam		Nilgiris		Total	
	HWC (n=71)	SC (n=75)	HWC (n=102)	SC (n=125)	HWC (n=142)	SC (n=162)	HWC (n=315)	SC (n=362)
SC/HWC	42.3%	28%	3.9%	6.4%	9.2%	2.5%	14.9%	9.1%
PHC	42.3%	50.7%	70.6%	64%	63.4%	50%	61%	55%
GH	1.4%	2.7%	6.9%	3.2%	2.8%	1.9%	3.8%	2.5%
SDH	4.2%	10.7%	17.6%	26.4%	3.5%	14.2%	8.3%	17.7%
DH	5.6%	4.0%	0%	0%	11.3%	29.6%	6.3%	14.1%
Medical College	4.2%	4%	1.0%	0%	9.9%	1.9%	5.7%	1.7%

Table 7: Type of Govt health facilities preferred for most of the illness.

Private	Kanyakumari (n=254)	Nagapattinam (n=96)	Nilgiris (n=173)	Total (n=523)
Private doctor - OPD	2.7%	35.4%	10.4%	11.2%
Private hospital	89.1%	50%	89.6%	82.1%
Medical college hospital	8.2%	14.6%	0%	6.7%

Table 8: Type of Private health facilities preferred for most of the illness.

Table 9 shows that SCs/HWCs were the nearest government health facilities from most of the household, but they were > 5kms distance from about one third of the households in Nilgiris and Nagapattinam.

Nearest government healthcare facility from the household	Kanyakumari	Nagapattinam	Nilgiris	Total
SC/HWC	90.3%	80.8%	50.8%	73.9%
PHC	9.3%	7.5%	38%	18.3%
SDH	0%	6.3%	8%	4.8%
DH	0.3%	5.3%	3.3%	2.9%
Medical College	0.3%	0.3%	0%	0.2%

Table 9: Nearest government healthcare facility from the household

Awareness and utilization of HWCs (Table 10): Two thirds of the surveyed population in Kanyakumari and Nilgiris were aware of the new/upgraded HWC. Those who were aware of the HWC but did not utilize the HWC in the last 1 year, the reason given by the respondents from Kanyakumari were unavailability of medicines and less facilities. While in Nilgiris, respondents shared that absence of doctors was the main reason to avoid seeking healthcare in HWC. Although being near to the household, the awareness and utilization of HWCs was the least in Nagapattinam district.

	Kanyakumari		Nagapattinam		Nilgiris		Total	
	HWC n=200	SC n=200	HWC n=205	SC n=196	HWC n=204	SC n=200	HWC n=609	SC n=596
Aware of the new/upgraded HWC	136 (68.0%)	135 (67.5%)	35 (17.2%)	4 (2.0%)	130 (65.0%)	129 (64.5%)	301 (49.8%)	268 (45.0%)
Used the HWC facility for any health problem in the last 1 year	49 (24.5%)	40 (20%)	32 (15.7%)	4 (2.0%)	77 (38.5%)	109 (54.5%)	158 (26.2%)	153 (25.7%)

Table 10: Awareness and utilization of HWCs in the surveyed population

Acute illness (2-week morbidity) details (Table 11)**:**

Acute ailments were found in 10.7% of the surveyed population, in the last 2 weeks prior to survey, higher proportion in Kanyakumari (14.5%). Almost all (97.5%) sought treatment in health facilities in Nilgiris, while in Kanyakumari and Nagapattinam one fourths did not seek any treatment in health facilities and opted for home remedies. Fever and musculoskeletal pain were the most reported acute ailments in the last 2 weeks (Figure 8).

	Kanyakumari (n=1424)	Nagapattinam (1546)	Nilgiris (1441)	Total (4411)
Presence of acute ailments	206 (14.5%)	145 (9.4%)	120 (8.3%)	471 (10.7%)
Sought any treatment at health facility – Yes	163 (79.1%)	100 (69%)	117 (97.5%)	380 (80.7%)
No	43 (20.9%)	45 (31%)	3 (2.5%)	91 (19.3%)

Table 11: Presence of acute ailments in the surveyed population

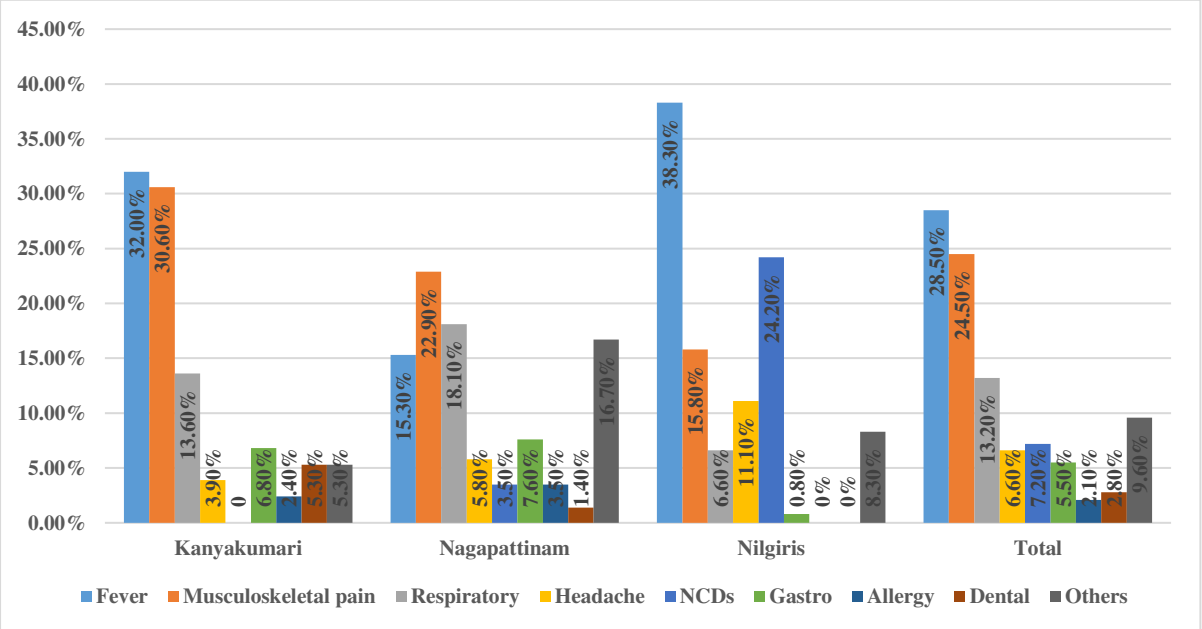

Figure 8: Type of acute ailments reported in the surveyed population.

Table 12 shows the details of healthcare seeking for acute illness in the study districts. Among those who sought treatment at the health facilities, 55% and 37.6% visited government facilities in Nagapattinam and Nilgiris respectively. In Kanyakumari, the majority (70.6%) availed care at private health facility. Availability of all facilities in one place and trust in the treating doctor emerged as major reasons for choosing either government or private health facilities for acute

illness. In Nagapattinam, the proximity of the health facilities also emerged as a strong reason preference. The median amount spent on travel was less than Rs 100 in Kanyakumari and Nagapattinam, but it was Rs 200 in Nilgiris. Cumulative amount spent for consultation in private health facilities ranged from Rs 500 to Rs 1000, which included travel, consultation and drugs.

Where did you avail treatment from?	**Kanyakumari (n=163)**	**Nagapattinam (n=100)**	**Nilgiris (n=117)**
Govt	**48 (29.4%)**	**55 (55%)**	**44 (37.6%)**
SC/HWC	14 (29.2%)	9 (16.4%)	3 (6.8%)
PHC/CHC	23 (47.9%)	17 (30.9%)	25 (56.8%)
SDH	4 (8.3%)	5 (9.1%)	14 (31.8%)
DH	2 (4.2%)	20 (36.4%)	1 (2.3%)
Medical College	5 (10.4%)	4 (7.3%)	1 (2.3%)
Private	**115 (70.6%)**	**45 (45%)**	**73 (62.4%)**
Private doctor – OPD	14 (12.2%)	24 (53.3%)	14 (19.2%)
Private hospital	89 (77.4%)	21 (46.7%)	57 (78.1%)
Private medical college	12 (10.4%)	0%	2 (2.7%)
Reasons for satisfaction with service (n)			
Close by	5	40	27
Less cost / free of cost	36	3	23
Trust/Good Doctor	63	40	102
Timely Service	54	4	14
All facility in one place	104	67	17
Amount Spent on Travel (Govt / Pvt) in INR- Median (IQR)			
Govt facility	20 (0,60)	100 (0,100)	200 (100, 375)
Pvt facility	100(30,200)	110(92,200)	200 (100,400)
Cumulative amount spent (Pvt) in INR- Median (IQR)	500 (350,1000)	1000 (500,1500)	500 (300,1000)

Table 12: Details of healthcare seeking for acute illness in the study districts.

Chronic ailments:

The prevalence of chronic disease was around 20% in the surveyed population. Diabetes was more prevalent than Hypertension in Kanyakumari and Nagapattinam, while Hypertension was more prevalent in Nilgiris (Table 13).

Parameters	Kanyakumari (n = 1424)	Nagapattinam (n = 1546)	Nilgiris (n = 1441)	Total (n = 4411)
Presence of Chronic Diseases	304 (21.3%)	282 (18.2%)	274 (19%)	860 (19.5%)
Diabetes	178 (12.5%)	153 (9.9%)	93 (6.5%)	424 (9.6%)
Hypertension	112 (7.9%)	102 (6.6%)	144 (10%)	358 (8.1%)
COPD / Asthma	42	5	15	62
Heart disease	16	13	20	49
Mental illness	8	11	9	28
Thyroid	3	11	19	33
Stroke	9	4	12	25
Cancer	3	4	2	9
Others (Neurological, Lipid disorders)	3	17	34	54

Table 13: Presence of chronic diseases in the surveyed population

Diabetes/Hypertension:

For diabetes and hypertension, two thirds of the surveyed population in Nagapattinam and Nilgiris chose govt health facilities for consultation, while in Kanyakumari more than half of them went to private health facilities. Nearby location and free of cost were the reasons in favor of choosing government health facilities. But for private good doctor and all facilities at one place were the reported reasons. Similar trend was observed for purchasing medicines too in all the 3 districts (Table 14). Availability of all medicines in private, and free/less cost of medicines in government were the reasons reported in all the 3 districts. The satisfaction score (out of 10) was ranging from 7-8 for government health facilities, and 8-9 for private health facilities. Totally 58 individuals out of the studied sample in the 3 districts were hospitalized in the last one year, out of which 33 went to private hospital. The medical expenses during hospitalization for NCDs were managed by the income and savings of the respondents.

Diabetes/Hypertension	Kanyakumari (n = 290)	Nagapattinam (n = 255)	Nilgiris (n = 237)	Total (n = 782)
Allopathy system of medicine	283 (97.5%)	249 (97.6%)	235 (99%)	767 (98.1%)
Where do you routinely go for your doctor consultation?				
Govt	141 (48.6%)	164 (64.3%)	157 (66.2%)	462 (59.1%)
Private	149 (51.4%)	91 (35.6%)	80 (33.8%)	320 (40.9%)
Where do you get your medicines from?				
Govt	140 (48.3%)	157 (61.5%)	159 (67%)	456 (58.3%)
Private	150 (51.7%)	98 (38.5%)	78 (33%)	326 (41.6%)

Table 14: Healthcare seeking for Diabetes/Hypertension in the surveyed population.

MTM scheme for NCDs:

Table 15 summarizes the utilization of MTM Scheme for NCDs through WHVs at home in all the 3 surveyed districts. Among those reported to be suffering from HT/DM/both HT and DM, nearly three fourths were visited by WHV at home in Nilgiris. The proportion was little less in Kanyakumari (58.3%) and Nagapattinam (48.6%). Those who were visited by the WHV at home, were checked for their blood sugars, Blood Pressure and the drugs were provided to them. Most of them were visited by WHV every 1-2 months and provided medicines for more than 1 month. One thirds of those having DM/HTN in Nilgiris that the supply of drugs is infrequent, and quantity also varies. In Nagapattinam and Kanyakumari, 25.8% and 12.8% had some trouble getting medicines through MTM. Before the introduction of MTM services, one fourth of the NCD patients in Nilgiris were not taking any medicines for NCDs. While in Kanyakumari, 51.7% of patients were buying medicines from private hospitals before MTM services. However, there was not much difference between HWC villages and non-HWC villages in these districts.

	Kanyakumari (n = 290)	Nagapattinam (n = 255)	Nilgiris (n = 237)	Total (n = 782)
Ever Visited under the MTM scheme by the WHV	169 (58.3%)	124 (48.6)	176 (74.3%)	469 (59.9%)
Blood sugar/Blood Pressure checked by the WHV	159 (54.8%)	127 (49.8%)	176 (74.3%)	462 (59.1%)
Supplied drugs for DM/HTN by the WHV	122 (42.1%)	108 (42.4%)	172 (72.6%)	402 (51.4%)
How often is the WHV visiting you?				
Every month	79 (27.2%)	138 (54.1%)	60 (25.3%)	277 (35.4%)
Between 1 month to 2 months	103 (35.5%)	67 (26.3%)	146 (61.6%)	316 (40.1%)
> 2 months	108 (37.2%)	50 (19.6%)	31 (13.1%)	189 (24.1%)
For how many days are the drugs supplied?				
< 1 month	55 (18.9%)	19 (7.5%)	92 (39.8%)	166 (22.3%)
>1 month	235 (81.1%)	236 (92.5%)	145 (61.2%)	616 (78.7%)
Problems in getting drugs regularly under the scheme	36 (12.4%)	66 (25.8%)	75 (31.6%)	177 (22.6%)
Before MTM where were you collecting the drugs from?				
Govt	108 (37.2%)	164 (64.3%)	158 (66.7%)	430 (55%)
Private	150 (51.7%)	90 (35.3%)	21 (8.8%)	261 (33.3%)
None	32 (11.1%)	1 (0.1%)	58 (24.5%)	91 (11.6%)

Table 15: Utilization of MTM scheme for NCDs in the surveyed population

Facility Survey:

Table 16 shows the characteristics of the health facilities (HWCs and HSCs) surveyed in the 3 study districts. Among 145 health facilities surveyed, more than half of the HWCs were functional in their own building in all the 3 districts, while around 60% of SCs in Nilgiris and Nagapattinam were operating in rented buildings. The intersectoral coordination with other departments (Women and Child Development, Education, Sanitation etc) and the outreach

services (School health, immunization, promoting yoga etc) were adequate (>90%) in most of the health facilities.

	Kanyakumari (n=48)		Nagapattinam (n=52)		Nilgiris (n = 45)	
Characteristics	**HWC (n=24)**	**SC (n=24)**	**HWC (n=26)**	**SC (n=26)**	**HWC (n =25)**	**SC (n =20)**
Catchment population – Mean (min-max)	5640 (2203-7551)	5611 (2033-8298)	5402 (2970-8584)	6250 (3519-9596)	3177 (1135-4900)	5578 (1845-10596)
Intersectoral coordination						
Adequate	62.5%	58.3%	100%	100%	80%	65%
Moderately adequate	20.8%	37.5%	0%	0%	12%	30%
Inadequate	16.7%	4.2%	0%	0%	8%	5%
Outreach activities						
Adequate	100%	100%	100%	100%	96%	90%

Table 16: Characteristics of the health facilities surveyed (as reported by MLHP/VHN)

Infrastructure at health facilities: The infrastructure of the health facilities was observed and enquired from MLHP/VHN; and reported using an observation checklist. More than 90% of HWCs and SCs in both Kanyakumari and Nagapattinam had dedicated space for OPD consultation, as compared to only 88% HWCs and 70% SCs in Nilgiris. As compared to SCs, HWCs had better infrastructure in all 3 districts. Availability of drinking water was the least commonly present facility in all the health facilities in the 3 districts. Table 17 provides the infrastructure details of health the facilities surveyed.

	Kanyakumari (n=48)		Nagapattinam (n=52)		Nilgiris (n = 45)	
Infrastructure (in %)	**HWC (n=24)**	**SC (n=24)**	**HWC (n=26)**	**SC (n=26)**	**HWC (n=25)**	**SC (n=20)**
Dedicated space for OPD consultation	95.8%	100%	100%	92.6%	88%	70%
Separate area for examination / dressing / injection	79.2%	47.8%	92%	48.1%	60%	35%

Space for medication – placed in order of expiry date	87.5%	87%	84.6%	44.4%	72%	80%
Clean and functional toilet	66.7%	78.3%	88.5%	44.4%	48%	50%
Availability of drinking water with signage	45.8%	50%	53.8%	18.5%	40%	40%
Availability of waste disposal area with signage	62.5%	50%	69.2%	19.2%	44%	25%
Place available to teach yoga /exercise/meditation	79.2%	82.6%	69.2%	33.3%	33.3%	20%
Fire extinguisher	4.2%	4.2%	7.7%	3.7%	0%	5%
Infrastructure						
Adequate	45.8%	29.2%	34.6%	11.5%	16%	15%
Moderately adequate	20.8%	45.8%	53.8%	15.4%	20%	10%
Inadequate	33.3%	25%	11.5%	73.1%	64%	75%

Table 17: Infrastructure of the health facilities surveyed (as observed)

Availability of equipment: Table 18 provides the district wise availability of the equipment at the health facilities surveyed. With regards to availability of equipment's, majority of health facilities were having general equipment's like weighing machine, BP apparatus, Pulse oximeter etc. But with regards to MCH and NCD related specialized equipment, all the health facilities were observed to be inadequately equipped, SCs being poorer than HWCs. We observed 5 randomly taken MCP (Mother and Child Protection Card) in all these health facilities. More than 95% of the health facilities in all the 3 districts had MCP card updated with EDD (Expected Date of Delivery), Blood Group and Inj TT status. Weight, BP, and Haemoglobin was also updated on subsequent visits.

	Kanyakumari (n=48)		**Nagapattinam (n=52)**		**Nilgiris (n = 45)**	
General Equipment	**HWC (n=24)**	**SC (n=24)**	**HWC (n=26)**	**SC (n=26)**	**HWC (n=25)**	**SC (n=20)**
Adequate	8.3%	4.2%	61.5%	23.1%	44%	20%
Moderately adequate	91.7%	87.5%	34.6%	69.2%	48%	45%

Inadequate	0%	8.3%	3.8%	7.7%	8%	35%
MCH Equipment						
Adequate	0%	8.3%	0%	0%	0%	5%
Moderately adequate	33.3%	33.3%	38.5%	7.7%	12%	0%
Inadequate	66.7%	58.3%	61.5%	92.3%	88%	95%
NCD Equipment						
Adequate	0%	0%	0%	3.8%	0%	5%
Moderately adequate	4.2%	20.8%	34.6%	3.8%	20%	40%
Inadequate	95.8%	79.2%	65.4%	92.3%	80%	55%
PPE availability						
Adequate	0%	0%	26.9%	3.8%	4%	10%
Moderately adequate	8.3%	0%	11.5%	3.8%	12%	0%
Inadequate	91.7%	100%	61.5%	92.3%	84%	90%

Table 18: Availability of equipment at the health facilities surveyed.

Table 19 shows the availability of drugs at the health facilities surveyed. More than 90% of the health facilities (both HWCs and SCs) in all 3 districts had any one oral analgesic, anti-helminthic and ORS sachets. Nagapattinam HWCs had better medicine availability as compared to other 2 districts. Less than 1/5th of the facilities in Nilgiris had any anti diabetic and antihypertensive drugs. Almost all the HWCs in Nagapattinam and 2/3rd HWCs in Kanyakumari had at least one anti diabetic as well as antihypertensive. SCs in all 3 districts were observed to be lacking essential drugs required for Sub Centres.

	Kanyakumari (n=48)		**Nagapattinam (n=52)**		**Nilgiris (n = 45)**	
Drugs	**HWC (n=24)**	**SC (n=24)**	**HWC (n=26)**	**SC (n=26)**	**HWC (n=25)**	**SC (n=20)**
Local anaesthetic						
Lignocaine (Topical)	4.2%	0%	3.8%	0%	0%	0%
Analgesic, antipyretics, anti-inflammatory						
Adult analgesic (Paracetamol / Diclofenac)	87.5%	95.8%	100%	92.6%	100%	95%
Syrup paracetamol	50%	79.2%	96.2%	100%	88%	80%
Antiallergic						
Tab Cetirizine / Chlorpheniramine	25%	12.5%	96.2%	33.3%	0%	0%
Oral Liquid Chlorpheniramine	0%	4.2%	3.8%	0%	4%	10%
Intestinal antihelmenthes (anti-worm)						
Tab Albendazole	91.7%	95.8%	100%	96.3%	100%	95%
Syp Albendazole	33.3%	16.7%	0%	11.1%	56%	35%

Anti-bacterial						
Tab Ciprofloxacin / Amox	17.4%	12.5%	92.3%	44.4%	4%	0%
Tab Metronidazole	12.5%	12.5%	92.3%	37%	4%	0%
Syp Amoxicillin	16.7%	18.3%	7.7%	0%	0%	0%
Anti fungal						
Tab Fluconazole	0%	0%	7.7%	0%	4%	0%
Any Anti-malarial	0%	0%	3.8%	0%	4%	0%
Dermatological medicines (Topical)						
Clortimazole – cream 1%	13%	8.3%	65.4%	29.6%	8%	5%
Povidone iodine (Betadine)-Solution	17.4%	29.2%	80.8%	51.9%	76%	70%
Silver sulphadiazine-Cream	0%	12.5%	53.8%	11.1%	12%	5%
Gastrointestinal medicines						
Tab Ranitidine	16.7%	13%	73.1%	14.8%	12%	10%
Tab Domperidone	12.5%	12.5%	73.1%	11%	0%	0%
Tab Dicyclomine	12.5%	26.1%	80.8%	63%	36%	15%
ORS (Oral rehydration salt)	95.8%	100%	100%	92.6%	80%	75%
Tab Zinc sulphate – dispersible	70.8%	91.7%	61.5%	74.1%	96%	100%
Vitamins and minerals						
Cholecalciferol (vitamin D)	87.5%	73.9%	23.1%	14.8%	8.0%	5.3%
Ear, nose, and throat medicines						
Ciprofloxacin Drops	4.2%	12.5%	19.2%	0%	4%	5%
Normal saline (NaCl) nasal drops	0%	0%	0%	0%	12%	10%
Emergency medicine kit						
Inj. Adrenaline	16.7%	16.7%	76.9%	88.9%	28%	25%
Inj Hydrocortisone	12.5%	8.7%	26.9%	11.1%	20%	15%
Inj. Dexamethasone	13%	0%	57.7%	57.7%	20%	10%
Medicines that can be indented as per requirement						
Anti hypertensives						
Tab Amlodipine	70.8%	37.5%	3.8%	0%	4%	20%
Tab Atenolol	26.1%	12.5%	100%	48.1%	16%	5%
Tab Enalapril	41.7%	4.2%	100%	48.1%	16%	5%
Any anti anginal – Isosorbide / Clopidogrel	20.8%	0%	100%	48.1%	8.0%	0%
Any Diuretics – Tab Furosemide / Hydrochlorthiazide / Spironolactone	25%	4.2%	26.9%	11.1%	8%	0%
Anti Diabetic						
Tab Metformin	66.7%	29.2%	84.6%	48.1%	12%	5%
Tab Glimepiride	62.5%	25%	88.5%	48%	4.0%	10%
Any Anticonvulsant – Tab Carbamazepine / Diazepam	4.2%	4.2%	3.8%	7.4%	4%	5%

/ Phenobarbitone / Phenytoin / Sodium Valproate						
COPD						
Tab Salbutamol	12.5%	4.2%	57.7%	7.4%	0%	0%

Table 19: Availability of drugs at the surveyed health facilities

Also, the infection control practices were inadequate in health facilities of Nagapattinam and Nilgiris. The infection control practices observed are depicted in Table 20.

	Kanyakumari (n=48)		**Nagapattinam (n=52)**		**Nilgiris (n = 45)**	
Infection control	**HWC (n=24)**	**SC (n=24)**	**HWC (n=26)**	**SC (n=26)**	**HWC (n=25)**	**SC (n=20)**
Clean surfaces and equipment. No stains of blood / body fluids	100%	91.3%	96.2%	48.1%	44%	45%
Wash basin with availability of water	79.2%	75%	61.5%	33%	20.8%	25%
Designated space for waste disposal colour coded bins / bags	100%	90.5%	95.8%	91.7%	85%	78.9%
Blue bag	79.2%	75%	72%	14.8%	36%	35%
Red bag	87.5%	78.3%	88.5%	88.9%	68%	60%
Yellow bag	83.3%	54.2%	61.5%	22.2%	36%	45%
Black bag	62.5%	66.7%	38.5%	59.3%	28%	45%
Infection control practices						
Adequate	75%	62.5%	65.4%	11.5%	24%	30%
Moderately adequate	4.2%	12.5%	0%	61.5%	28%	25%
Inadequate	20.8%	25%	34.6%	26.9%	48%	45%

Table 20: Infection control materials and practices at the health facilities

Health facilities staff details (Table 21):

The details of the health facilities staff are shown in Table 21. HWC staff included MLHP, VHN, HI and WHV, while SCs had only VHN, HI and WHV. ASHAs were present in health facilities of Nilgiris only. Majority of the staff were female. Only the HIs were males. Mid-Level Health Provider (MLHP) having educational level of BSc Nursing or GNM, were available in each of the HWCs. All the HWCs and SCs were having at least one Village Health

Nurse (VHN), majority being ANM. Health Inspectors were present in 75% of the health facilities with almost all of them having Diploma course in HI done.

Their educational qualification is depicted in Figures 9, 10 and 11.

	Kanyakumari		Nagapattinam		Nilgiris	
Staff details	**HWC (n=89)**	**SC (n=65)**	**HWC (n=94)**	**SC (n=55)**	**HWC (n =115)**	**SC (n =83)**
Gender - n (%)						
Male	18 (20.2)	18 (27.7)	18 (19.1)	1 (1.8%)	18 (15.7)	14 (16.9)
Female	71 (79.8)	47 (72.3)	76 (80.9)	54 (98.2)	97 (84.3)	69 (83.1)
Mean Age	36.7±9.3	40.9±9.5	33.2±8.9	36.8±9.5	35.1±11.4	39.5±9.1
Designation (n)						
MLHP	24	-	26	-	25	-
VHN	24	24	26	27	24	20
WHV	23	23	26	26	25	20
HI	18	18	18	1	18	14
ASHA	0	0	0	0	24	29

Table 21: Characteristics of staff at the health facilities surveyed.

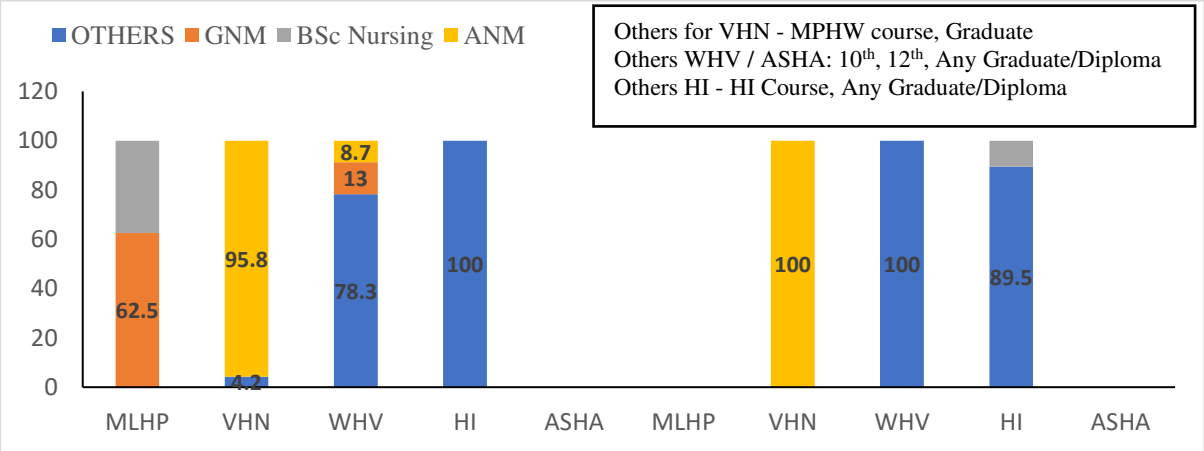

Figure 9: Educational qualification of staff at the surveyed health facilities in Kanyakumari district

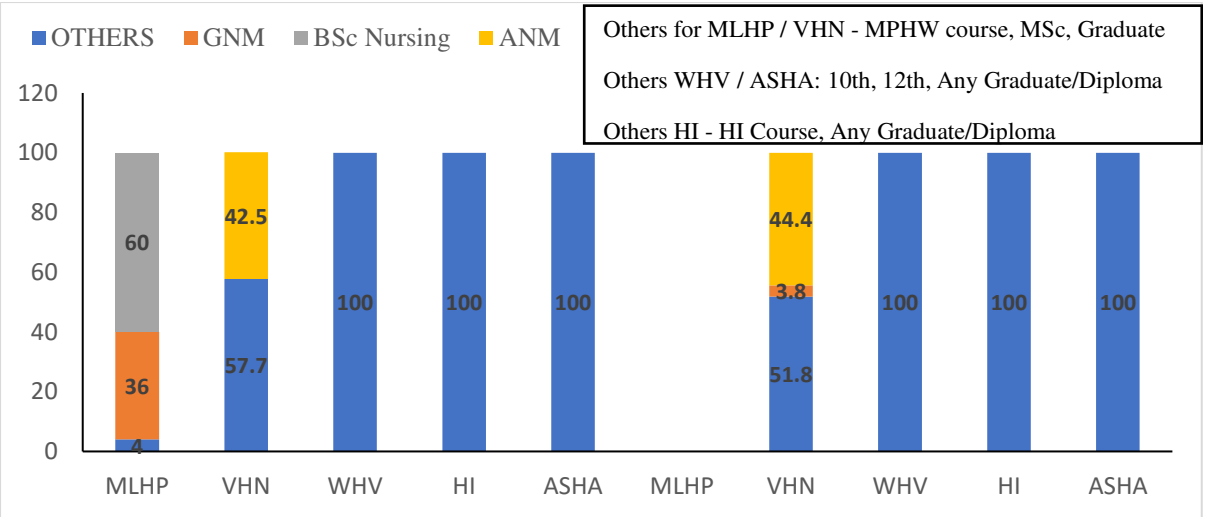

Figure 10: Educational qualification of staff at the surveyed health facilities in Nagapattinam district

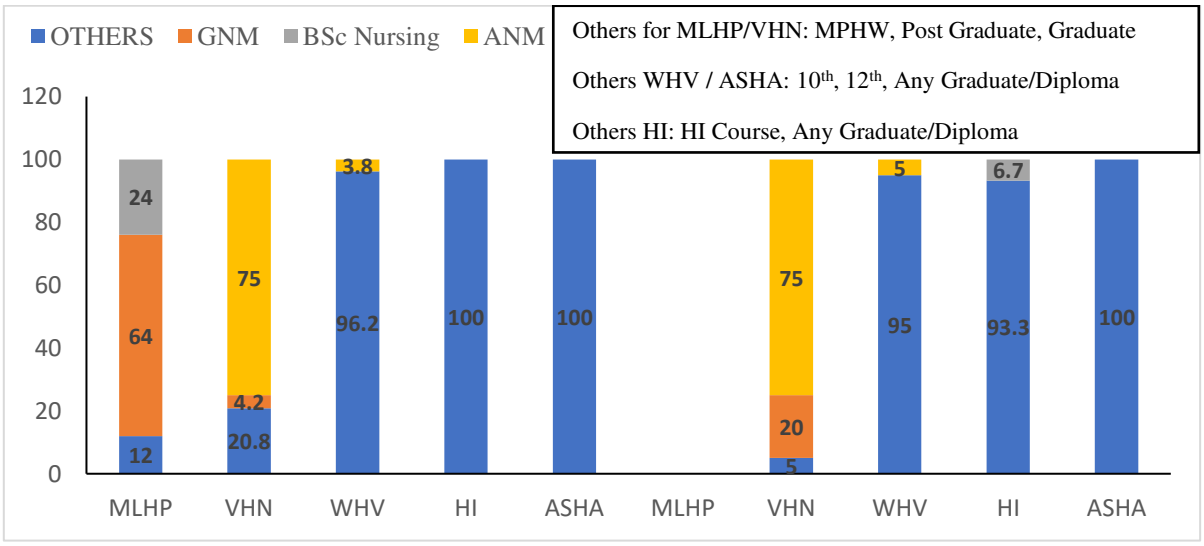

Figure 11: Educational qualification of staff at the surveyed health facilities in Nilgiris district

Mid-Level Health Provider (MLHP)

The details about the experience, training and services provided by MLHP at the surveyed HWCs in the 3 districts are shown in Table 22. The training topics were divided into various components: Community health, skilled birth attendance, newborn care, adolescent health, reproductive and sexual health, infection control, NCDs and communicable diseases. Majority of the MLHPs had adequate training on the topics mentioned in the last 2 years, Nagapattinam MLHPs (92.3%) being more trained as reported. The services provided by the MLHPs were

divided into health facility-based services and outreach services. These two in turn were divided into Maternal health related services (ANC registration, PNC care, TT immunization etc), Child health related services (Immunization, growth monitoring, adolescent health clinics etc), general adult health services (injections, elderly care, palliative care etc), NCD services (screening for NCD, follow up, health education etc) and communicable disease related services (dispensing medications, follow up reminder, health education etc). Considering the services provided at the centre, MLHP in both Kanyakumari and Nilgiris were providing inadequate services with regards to MCH and general adult health services. Nagapattinam MLHPs were doing moderately adequate to adequate services in this regard. In all the districts, the services of MLHPs were focused on NCD care.

	Kanyakumari (n=24)	**Nagapattinam (n=26)**	**Nilgiris (n =25)**
Experience in years – Median (IQR)	6 (2.5-10.7)	2.5 (2-3.5)	4.6 (1.5-9)
Experience in this health facility - Median (IQR)	1.5 (1-1.5)	1.5 (1-1.5)	1.5 (1.2-1.6)
MLHP Training scoring			
Adequate	63.6%	92.3%	66.7%
Moderately adequate	13.6%	3.8%	4.2%
Inadequate	22.7%	3.8%	29.2%
Health services provided at centre			
Maternal services			
Adequate	4.5%	42.3%	8.3%
Moderately adequate	22.7%	30.8%	8.3%
Inadequate	72.7%	26.9%	83.3%
Child health services			
Adequate	18.2%	15.4%	16.7%
Moderately adequate	13.6%	80.8%	41.7%
Inadequate	68.2%	3.8%	41.7%
General health services			
Adequate	0%	80.8%	29.2%
Moderately adequate	13.6%	15.4%	18.1%
Inadequate	86.4%	3.8%	52.8%
NCD services			
Adequate	63.6%	96.2%	87.5%
Moderately adequate	36.4%	0%	8.3%
Inadequate	0%	3.8%	4.2%
Communicable Disease services			
76-100%	4.5%	3.8%	0%

51-75%	4.5%	15.4%	4.2%
≤50%	90.9%	80.8%	95.8%
Outreach services provided			
Maternal outreach services			
Adequate	9.1%	38.5%	13%
Moderately adequate	18.2%	53.8%	47.8%
Inadequate	72.7%	7.7%	39.1%
Child outreach services			
Adequate	27.3%	76.9%	41.7%
Moderately adequate	9.1%	19.2%	16.7%
Inadequate	63.6%	3.8%	41.7%
NCD Outreach services			
Adequate	90.9%	96.2%	83.3%
Moderately adequate	9.1%	0%	8.3%
Inadequate	0%	3.8%	8.3%
Communicable Outreach services			
Adequate	31.8%	92.3%	25%
Moderately adequate	18.2%	3.8%	29.2%
Inadequate	50%	3.8%	45.8%
Confidence in the services providing			
76-100%	59.1%	96.2%	91.7%
51-75%	40.9%	0%	4.2%
≤50%	0%	3.8%	4.2%

Table 22: Details of the MLHPs at the surveyed health facilities

Village Health Nurse:

The details about the experience, training and services provided by VHN at the surveyed HWCs and HSCs in the 3 districts are shown in Table 23. Except for Nilgiris HWCs and HSCs, majority of the VHNs in Kanyakumari and Nagapattinam had adequate to moderately adequate training on the topics mentioned in the last 2 years. Also, the VHNs of HWCs were trained on more topics as compared to VHNs of HSCs in all the 3 districts in the last 2 years. The services provided by the VHNs were also divided into health facility-based services and outreach services, similar to MLHP. Considering the services provided at the centre, VHNs in all the 3 districts were providing adequate services with regards to MCH care. VHNs in the health facilities of Nagapattinam were doing moderately adequate to adequate services in NCD, communicable diseases and general adult health services. NCD (95.5%) and Communicable disease (86.4%) services by VHNs in HWCs of Kanyakumari were extremely inadequate

compared to other 2 districts and HSCs. Similar pattern was reported in the outreach services pertaining to NCD and Communicable disease care among VHNs of Kanyakumari HWCs. The VHNs were confident in the services they were providing in the HWCs and HSCs in all the 3 districts as reported.

	Kanyakumari (n=48)		**Nagapattinam (n=52)**		**Nilgiris (n = 45)**	
	HWC (n=24)	**SC (n=24)**	**HWC (n=26)**	**SC (n=26)**	**HWC (n=25)**	**SC (n=20)**
Experience in years – Median (IQR)	16 (4.8, 24.5)	10.5 (5,24.7)	12 (37, 22.7)	14.5 (4, 24.5)	9 (6,18)	4 (1.6,8.7)
Experience in this health facility - Median (IQR)	5 (0.8,11.5)	5 (3,12)	4.7 (2.5, 12.2)	12.5 (2.1, 22)	4 (1,6.7)	0.95 (0.4, 3.7)
Training scoring						
Adequate	54.5%	45.8%	76.9%	52%	33.3%	20%
Moderately adequate	27.3%	12.5%	23.1%	48%	4.2%	15%
Inadequate	18.2%	41.7%	0%	0%	62.5%	65%
Health services provided at centre						
Maternal health services						
Adequate	86.4%	100%	100%	100%	91.7%	95%
Moderately adequate	9.1%	0%	0%	0%	4.2%	5%
Inadequate	4.5%	0%	0%	0%	4.2%	0%
Child health services						
Adequate	90.9%	100%	100%	100%	91.7%	90%
Moderately adequate	4.5%	0%	0%	0%	4.2%	10%
Inadequate	4.5%	0%	0%	0%	4.2%	0%
General adult health services						
Adequate	4.5%	4.2%	26.9%	12%	16.7%	15%
Moderately adequate	4.5%	4.2%	61.5%	76%	29.2%	50%
Inadequate	90.9%	91.7%	11.5%	12%	54.2%	35%
NCD services						
Adequate	4.5%	33.3%	73.1%	76%	58.3%	65%
Moderately adequate	0%	12.5%	7.7%	20%	0%	25%
Inadequate	95.5%	54.2%	19.2%	4%	41.7%	10%
Communicable disease services						
Adequate	0%	37.5%	19.2%	4%	12.5%	10%
Moderately adequate	13.6%	8.3%	65.4%	92%	25%	15%
Inadequate	86.4%	54.2%	15.4%	4%	62.5%	75%
Outreach services provided						
Maternity services						

Adequate	90.9%	100%	96.2%	100%	91.3%	94.1%
Moderately adequate	0%	0%	3.8%	0%	4.3%	5.9%
Inadequate	9.1%	0%	0%	0%	4.3%	0%
Child health services						
Adequate	90.9%	87.5%	100%	100%	91.7%	95%
Moderately adequate	0%	8.3%	0%	0%	4.2%	5%
Inadequate	9.1%	4.2%	0%	0%	4.2%	0%
NCD services						
Adequate	0%	29.2%	57.7%	56%	58.3%	70%
Moderately adequate	0%	0%	23.1%	16%	8.3%	10%
Inadequate	100%	70.8%	19.2%	28%	33.3%	20%
Communicable disease services						
Adequate	13.6%	47.8%	92.3%	92%	29.2%	10%
Moderately adequate	13.6%	0%	3.8%	4%	29.2%	40%
Inadequate	72.7%	52.2%	3.8%	4%	41.7%	50%
Confidence Scoring						
76-100%	71.4%	70%	96.2%	96%	95.7%	100%
51-75%	28.6%	30%	0%	4%	4.3%	0%
≤50%	0%	0%	3.8%	0%	0%	0%

Table 23: Details of the VHNs at the HWCs and Sub Centres surveyed.

Knowledge and Skills assessment of MLHPs and VHNs:

The details of the Knowledge and Skills assessment of the MLHPs and VHNs of the surveyed HWCs and SCs is shown in Table 24. The mean knowledge score of MLHPs of Nagapattinam HWCs was higher than the MLHPs of other 2 districts, and more than the VHNs of all 3 districts. Also, VHNs of Kanyakumari and Nilgiris scored well compared to their respective MLHPs in the knowledge test. Skills as assessed by OSCE score were better for MLHPs as compared to VHNs in Kanyakumari and Nagapattinam, and vice versa in Nilgiris.

	Kanyakumari		**Nagapattinam**		**Nilgiris**	
	MLHP (n=22)	**VHN (n=14)**	**MLHP (n=24)**	**VHN (n=26)**	**MLHP (n=23)**	**VHN (n=16)**
Mean knowledge score (out of 50)	39.36 ± 6.59	40.39 ± 3.97	43.20 ± 2.53	39.13 ± 5.14	38.68 ± 7.83	41.96 ± 2.55
Mean OSCE score (out of 50)	33.02 ± 4.33	28.55 ± 2.71	30.62 ± 6.47	26.88 ± 5.21	28.37 ± 4.61	30.54 ± 4.84

Table 24: Details of the Knowledge and Skills assessment of the MLHPs and VHNs of the surveyed HWCs and SCs respectively.

Women Health Volunteer (WHV):

Table 25 provides the experience, training, services and details of work done by WHVs of both HWCs and HSCs in all 3 districts. Except for Kanyakumari, the outreach services for WHV were found to be moderately adequate to adequate for other 2 districts (>75%). The number of ANC, PNC mothers and newborn visited per month were more in Nagapattinam and Nilgiris district. The WHVs of all 3 districts were majorly visiting adults with DM and HTN at home on monthly basis. In Nagapattinam, WHVs had to travel more as depicted by the distance of farthest village travelled, compared to Kanyakumari and Nilgiris. Number of villages covered by the WHVs were comparable in Kanyakumari and Nilgiris, little less in Nagapattinam which can be ascribed to the sparsely populated villages in the district. Median number of line listed individuals in Kanyakumari and Nagapattinam were comparable, lower number was found in Nilgiris. WHV visits an average of 10-20 homes visit per day in all the 3 districts, maximum of which for drug distribution under MTM scheme.

	Kanyakumari (n=48)		**Nagapattinam (n=52)**		**Nilgiris (n = 45)**	
	HWC (n=24)	**SC (n=24)**	**HWC (n=26)**	**SC (n=26)**	**HWC (n=25)**	**SC (n=20)**
Experience in years	2 (1.2-12)	2 (0.2-9)	2 (0.2-5)	1.6 (0.2-3)	11 (0.7-15)	13 (0.6-15)
Experience in this health facility	2 (1.5-2.5)	2 (0.2-2)	2 (0.2-5)	1.6 (0.2-3)	8 (0.2-15)	3 (0.6-15)
WHV training						
Adequate	0%	0%	23.1%	4.0%	45.8%	60%
Moderately adequate	4.5%	0%	53.8%	76%	20.8%	10%
Inadequate	95.5%	100%	23.1%	20%	33.3%	30%
Outreach services provided						
Maternity services						
Adequate	9.1%	4.2%	11.5%	0%	34.8%	30%
Moderately adequate	9.1%	4.2%	69.2%	64%	52.2%	60%
Inadequate	81.8%	91.7%	19.2%	36%	13%	10%
Child health services						
Adequate	9.1%	12.5%	76.9%	60%	91.7%	95%
Moderately adequate	9.1%	4.2%	7.7%	20%	4.2%	5%
Inadequate	81.8%	83.3%	15.4%	20%	4.2%	0%
NCD services						

Adequate	0%	29.2%	57.7%	56%	58.3%	70%
Moderately adequate	0%	0%	23.1%	16%	8.3%	10%
Inadequate	100%	70.8%	19.2%	28%	33.3%	20%
Communicable disease services						
Adequate	36.4%	69.6%	76.9%	88%	37.5%	25%
Moderately adequate	4.5%	0%	7.7%	4%	16.7%	20%
Inadequate	59.1%	30.4%	15.4%	8%	45.8%	55%
WHV confidence scoring						
76-100%	65%	57.1%	87.5%	100%	91.7%	95%
51-75%	35%	42.9%	8.3%	0%	4.2%	5%
≤50%	0%	0%	4.2%	0%	4.2%	0%
How many of the following do you need to visit in a month - Median (Min-Max)						
Pregnant women	0-3	0-6	0-23	0-10	0-15	0-12
Newborn	0-2	0-2	0-12	0-11	0-26	0-13
Post natal women	0-2	0-8	0-12	0-11	0-13	0-13
Adult with diabetes	260 (2-520)	272 (20-500)	1 (0-27)	1 (0-450)	1 (0-300)	3 (0-140)
Adult with hypertension / stroke / heart problems	469 (53-552)	210 (33-585)	1 (0-20)	1 (0-41)	1 (0-300)	2 (0-157)
Anyone with cancer / palliative	12 (1-30)	13 (3-51)	5 (1-54)	19 (0-52)	4 (0-43)	5 (0-26)
Elderly	149 (2-250)	50 (0-307)	9 (0-150)	32 (0-125)	10 (0-60)	10 (0-200)
Anyone with mental health issues	3 (0-10)	2 (0-10)	4 (0-15)	2 (0-16)	1 (0-13)	1 (0-5)
Farthest village travelled under MTM (in kms) – Mean ± SD	5.2 ± 1.3	5.1 ± 2.5	6.4 ±3.7	12.7 ± 7.5	5.7 ± 5.1	4.9 ± 2.7
No. of villages covered – Median (IQR)	7(5,8)	6 (5,8)	3 (2,6)	3 (2,6)	5 (3,10)	6 (3,10)
Number of Patients with NCDs in Line List	678 (163-997)	522 (192-1200)	517 (32-1505)	875 (274-1401)	151 (0-354)	100 (11-1202)
Number of home visits per day	20 (10-20)	20 (10-25)	20 (10-20)	20 (10-40)	20 (5-34)	10 (10-20)
Number of home visits per day for	8 (4-30)	10 (2-30)	10 (3-15)	10 (4-15)	5 (2-20)	5 (3-20)

drug distribution under MTM						

Table 25: Details of the WHVs at the HWCs and Sub Centres surveyed.

Health Inspector:

Table 26 provides the experience, training, services, and details of work done by HIs of both HWCs and HSCs in all 3 districts. For HI interview, training regarding WASH, Reproductive & Sexual health, school health, registration of vital events, disaster & emergency preparedness, NCDs and Communicable diseases were asked for. The HIs of the HSCs in all the 3 districts were inadequately trained, more so in Nagapattinam. The training of HIs of HWCs of Nilgiris (79.2%) was more inadequate followed by Kanyakumari (45%) and Nagapattinam (30.8%). Except for Kanyakumari, the outreach services of HIs were found to be moderately adequate to adequate for other 2 districts (>75%). HIs of HSCs in Nagapattinam district were providing inadequate services with respect to all-child health, NCDs, communicable diseases and general health services. NCD services were inadequate across HIs of all the 3 districts. Other services except NCDs were reported to be averagely performed in all the 3 districts.

	Kanyakumari (n=48)		**Nagapattinam (n=52)**		**Nilgiris (n = 45)**	
	HWC (n=24)	**SC (n=24)**	**HWC (n=26)**	**SC (n=26)**	**HWC (n=25)**	**SC (n=20)**
Experience in years	4 (2-31)	8 (2-30)	3 (0.7-3.6)	3 (1-3)	1.5 (0.1-15)	10 (0.1-27)
Experience in this health facility	1 (0.6-10)	2 (0.3-18)	1.5 (0.7-2)	1.5 (1-1.5)	1.3 (0.1-3.5)	2.2 (0.1-12)
Training score						
Adequate	4.5%	8.3%	26.9%	0%	0%	20%
Moderately adequate	50%	16.7%	42.3%	4%	20.8%	30%
Inadequate	45%	75%	30.8%	96%	79.2%	50%
General services						
Adequate	59.1%	37.5%	57.7%	0%	66.7%	70%
Moderately adequate	9.1%	16.7%	11.5%	4%	4.2%	5%
Inadequate	31.8%	45.8%	30.8%	96%	29.2%	25%
Child health services						
Adequate	54.5%	66.7%	65.4%	4%	62.5%	40%
Moderately adequate	22.7%	0%	3.8%	0%	4.2%	10%
Inadequate	22.7%	33.3%	30.8%	96%	33.3%	50%

NCD services						
Adequate	13.6%	12.5%	7.7%	0%	34.8%	15%
Moderately adequate	0%	0%	0%	0%	0%	0%
Inadequate	86.4%	87.5%	92.3%	100%	65.2%	85%
Communicable Disease services						
Adequate	54.5%	54.2%	69.2%	4%	79.2%	55%
Moderately adequate	18.2%	12.5%	0%	0%	4.2%	25%
Inadequate	27.3%	33.3%	30.8%	96%	16.7%	20%
Confidence score						
76-100%	88.2%	82.4%	88.9%	100%	90%	93.8%
51-75%	11.8%	17.6%	11.1%	0%	0%	0%
≤50%	0%	0%	0%	0%	10%	6.3%

Table 26: Details of the HIs at the HWCs and Sub Centres surveyed.

Accredited Social Health Activist (ASHA):

Table 27 shows the details of ASHAs working in the health facilities of Nilgiris district. More than half of them were adequately trained in outreach activities related to MCH and NCD care, as reported. In terms of outreach services provided, majority of ASHA workers were doing moderately adequate to adequate services in MCH and NCD care, but inadequate communicable disease care. The number of ANC, PNC mothers and newborn visited per month were around 10 each. The ASHAs were majorly visiting adults with DM, HTN, cancer and elderly at home on monthly basis. Number of villages covered by the ASHAs of HSCs were more than that of HWCs. ASHA visits an average of 10-20 homes visit per day in Nilgiris, maximum of which for drug distribution under MTM scheme.

ASHA	**Nilgiris (n = 45)**	
	HWC (n=25)	**SC (n=20)**
Experience in years	8 (1-13)	12 (3-13)
Experience in this health facility	8 (1-13)	10 (2-13)
Training score		
Adequate	60.9%	63.2%
Moderately adequate	4.3%	10.5%
Inadequate	34.8%	26.3%
Outreach services provided		
Maternity services		
Adequate	17.4	47.4
Moderately adequate	65.2	52.6

Inadequate	17.4	0
Child health services		
Adequate	69.6	47.4
Moderately adequate	17.4	42.1
Inadequate	13	10.5
NCD services		
Adequate	39.1	57.9
Moderately adequate	30.4	15.8
Inadequate	30.4	26.3
Communicable disease services		
Adequate	17.4	5.3
Moderately adequate	30.4	21.1
Inadequate	52.2	73.7
ASHA confidence scoring		
76-100%	95.7%	95%
51-75%	4.3%	5%
≤50%	0%	0%
How many of the following do you need to visit in a month - Median (Min-Max)		
Pregnant women	3 (0-7)	3 (0-7)
Newborn	0-4	0-17
Post natal women	3 (0-5)	3 (0-11)
Adult with diabetes	0-50	0-30
Adult with hypertension / stroke / heart problems	0-60	0-43
Anyone with cancer / palliative	0-32	0-24
Elderly	0-30	0-40
Anyone with mental health issues	0-7	0-3
Farthest village travelled under MTM (in kms) – Mean ± SD	3.7 ± 2.5	4.2 ± 2.8
No. of villages covered – Median (IQR)	3 (3,5)	5 (4,13)
Number of Patients with NCDs in Line List - Median (IQR)	47 (10,93)	30 (4,71)
Number of home visits per day - Median (IQR)	20 (10,20)	15 (10,20)
Number of home visits per day for drug distribution under MTM - Median (IQR)	4 (2,7)	10 (3,15)

Table 27: Details of the ASHAs at the HWCs and Sub Centres of Nilgiris.

Challenges faced by health facility staff:

The health facility staff in all the surveyed HWCs and HSCs were asked about the challenges they face in their day-to-day work in providing health care to the community. Figure 12 shows the challenges faced by the health facility staff in the surveyed health facilities. Majority of them (34%) reported that there is a lack of community cooperation in providing the health

services especially the tribal people. People use bad words to the facility staff especially those who are under the influence of alcohol, don't allow them to check blood sugar and do blood smear for Malaria. There is lack of public support in form of referral and follow up especially with ANC mothers. The next big challenge was the field area which was too vast to cover by the field staff. Also, the field staff from the tribal areas of Nilgiris reported that their field area is forest area, and they face wild animals and difficult terrains while providing services. Transportation issues and covering the assigned population by walking came up as a major challenge. The staff also reported that the workload is more compared to the number of staff available. The work they reported were centre related work, MTM related community level services, maintaining numerous registers, feeding data online and attending review meetings at PHC and block level. The health facility staff were also not satisfied with the salary they were getting. Apart from salary/renumeration, manpower related issues were constant conflict between different levels of health staff, one staff working for 2-3 health facilities and contractual nature of job. Few of the health staff felt that poor quality of building and lack of infrastructure like toilet facility, availability of drinking water, etc were some of the challenges faced by them.

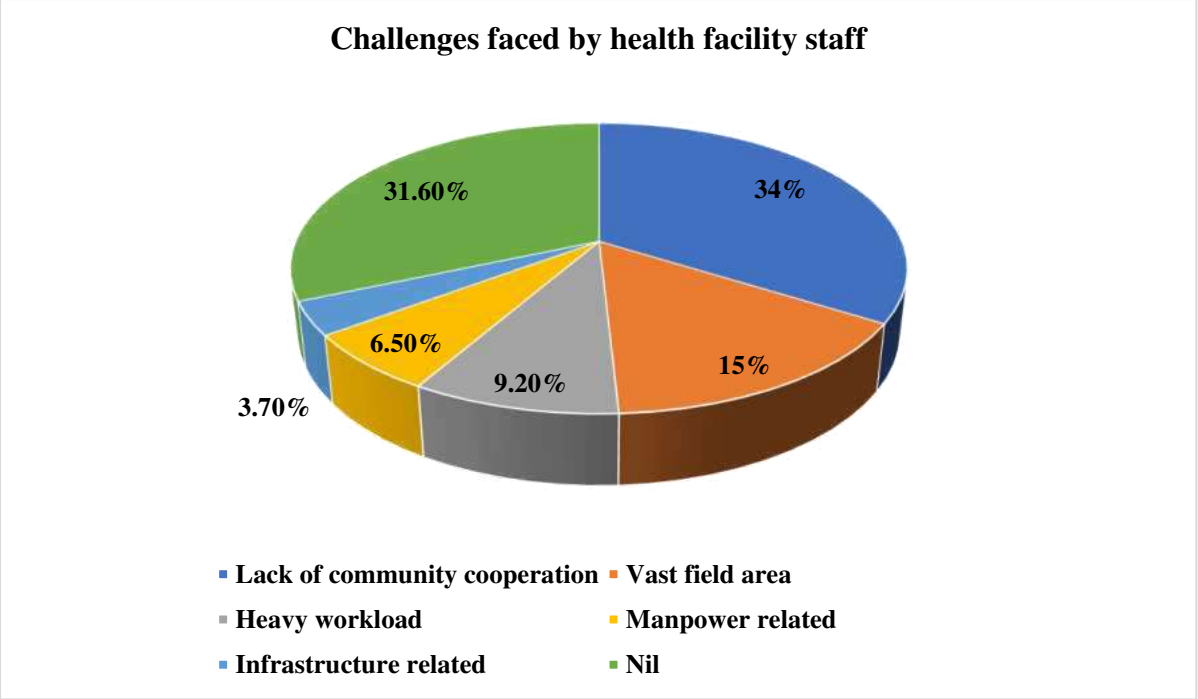

Figure 12: Challenges faced by health facilities staff.

Suggestions by staff for improvement of health facilities:

The suggestions given by surveyed health facilities staff for improvement of the services is showed in Figure 13. Improvement in infrastructure in terms of new building, separate building, compound wall, waiting area, toilet facility, drinking water availability etc emerged as the most common reported suggestion (36.6%). Next major suggestion was to increase salary and provide work-based incentives (16.4%). Regular supply of drugs, lab supplies and providing better equipment, were suggested by few of the health staff. Filling up the vacant staff positions, making their post permanent, one staff should be assigned duties for one health facility only and keeping Medical Officer visit to the health facilities, were some of the manpower related suggestions given by the staff. Also doing training and retraining of the staff for better provision of health services came as a suggestion. Providing vehicle to cover the field area or paying travel allowance came up as a suggestion for field-based health services.

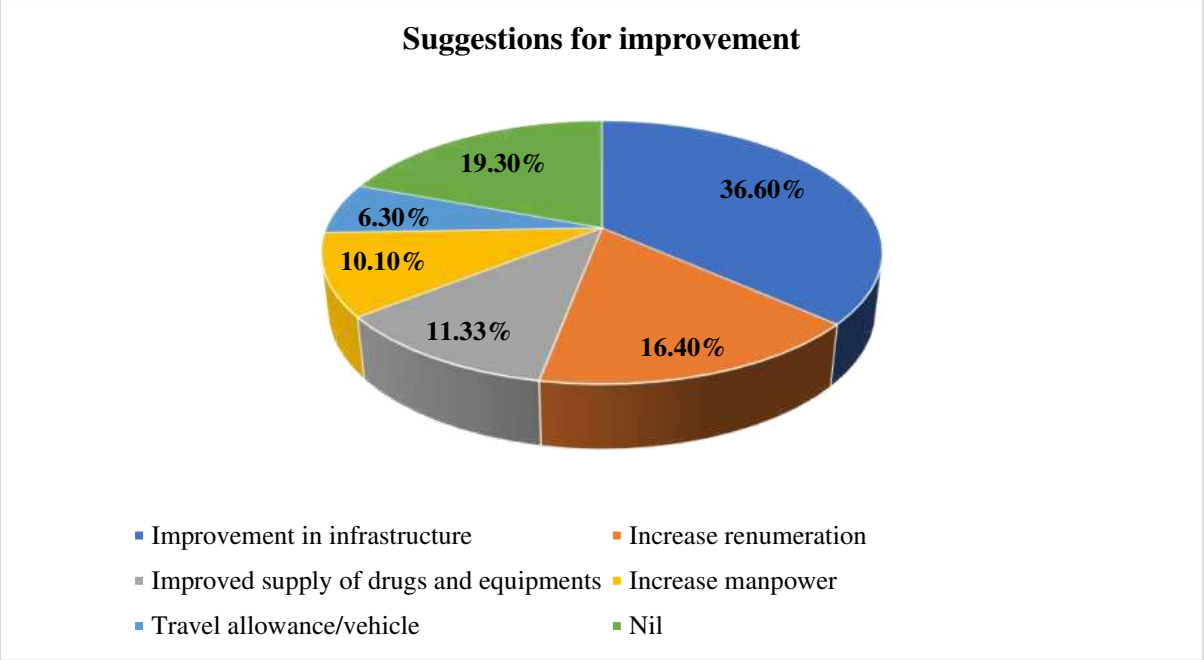

Figure 13: Suggestions for improvement by health facility staff.

Record review at the health facilities: The record review at the surveyed health facilities in the 3 study districts is given in Table 28. In Kanyakumari and Nilgiris HWC, median of 200 patients attended OPD for any NCD services whereas in Nagapattinam, median of 60 patients attended. The number of telemedicine consultations made were noted to be higher for hypertension. Similarly, the referrals to higher centres (including PHC) were higher for DM and HTN especially in Nagapattinam district.

	Kanyakumari (n=48)		Nagapattinam (n=52)		Nilgiris (n = 45)	
Number: Median (Min- max)	**HWC (n=24)**	**SC (n=24)**	**HWC (n=26)**	**SC (n=26)**	**HWC (n=25)**	**SC (n=20)**
Total no. registered in OPD per month	418 (40-665)	26 (0-425)	471 (388-932)	448 (38-628)	591 (270-722)	512 (0-587)
No of patients who attended OPD for any NCD	207 (17-346)	138 (8-268)	61 (20-448)	261 (0-638)	82 (1-391)	166 (0-216)
For Diabetes	118 (12-302)	0 (0-105)	32 (6-381)	92 (0-459)	29 (2-344)	33 (0-67)
For Hypertension	162 (10-319)	8 (0-160)	35 (6-431)	112 (0-459)	55 (3-359)	155 (0-177)
No. of ANC registered over last 3 months	18 (10-25)	20 (8-31)	16 (6-72)	19 (10-29)	6 (3-76)	17 (2-41)
No. of PNC attended over last 3 months	15 (5-25)	18 (6-31)	14 (6-35)	16 (4-34)	7 (1-33)	17 (2-45)
No of emergencies managed over last 3 months	0	0-8	0-5	0-4	0-13	0-18
No. of children immunized over last 3 months	88 (0-168)	88 (0-171)	69 (36 - 171)	70 (32-161)	36 (0-120)	53 (0-154)
Number of teleconsultations made in the last 3 months – Median (Min-Max)						
Diabetes	36 (4-58)	0 (0-3)	20 (1-71)	0 (0-2)	10 (0-51)	0
HTN	36 (4-64)	0 (0-30)	23 (1-68)	0 (0-45)	90 (0-120)	0
Number of referrals made in the last 3 months – Median (Min-Max)						
Maternal complications	0-7	0-19	0-22	0-16	0-25	0-23
Neonatal complications	0	0-21	0-3	0-1	0-2	0-2
Diabetes	0-37	0-54	46 (9-416)	36 (0-559)	2 (0-42)	1 (0-39)
HTN	0-47	0-53	59 (11-682)	50 (0-572)	4 (0-37)	2 (0-40)
Number of tests done in the last 3 months – Median (Min-Max)						
Pregnancy test	18 (0-25)	21 (7-30)	13 (0-29)	19 (0-29)	5 (0-15)	4 (0-60)
Hb	17 (0-25)	17 (0-27)	20 0-543	25 (0-130)	4 (0-33)	6 (0-62)
Blood sugar- RBS	123 (25-329)	0 (0-151)	442 (32-878)	301 (21-582)	512 (15-782)	250 (0-383)
Vital Statistics in the last 1 year (1stApr 2022 – 31st March 2023)						

No of births	43-111 (66)	26-102 (68)	25-92 (60)	23-101 (71)	5-69 (30)	16-216 (47)
No of deaths	23-76 (37)	8-50 (30)	10-58 (31)	16-64 (33)	1-55 (19)	17-181 (26)
Drugs dispensed in the last 3 months – Median (Min-Max)						
Total number of drugs dispensed (OPD)	0 (0, 95)	12 (0, 89)	927 (435-9301)	48 (0-322)	105 (15-317)	210 (74-577)
Total number of drugs dispensed (outreach/camp/MTM)	198 (66-205)	8 (4-132)	47 (20-64)	87 (36-511)	82 (20-272)	225 (112-5092)
Equipment (Computer/laptop/tab) for data entry available (%)						
Available functional	65%	44.4%	80%	43%	22.7%	40%
Available not functional	10%	22.2%	15%	0%	4.5%	20%
Not available	25%	33.3%	5%	57%	72.7%	40%

Table 28: Record review of the surveyed health facilities

Patients exit interview: An average of 5 patients per health facility were interviewed. A total of 720 patients were interviewed after their visit to any of these surveyed health facilities. Majority of them were females, aged 30-60 years and presented with general health problem (≈30%), hypertension (≈30%), diabetes (≈25%), ANC (≈10%) and PNC (≈5%). The median distance travelled by these patients in all the 3 districts for both HWCs and SCs was 1km, taking 10-15 minutes for them to reach the health centre. Majority of the patients at exit interview were positive about the health facilities, except regarding the availability of medicines and more waiting time (>30 minutes). For most of the patients, general physical examination was done, BP checked, health condition explained, and medicines described. The details of the patient exit interviews are shown in Table 29.

	Kanyakumari (n=230)		**Nagapattinam (n=265)**		**Nilgiris (n = 225)**	
Characteristics of the patients interviewed	**HWC (n=120)**	**SC (n=110)**	**HWC (n=130)**	**SC (n=135)**	**HWC (n=125)**	**SC (n=100)**
Sex						
Male	34 (28%)	35 (32%)	34 (26%)	36 (27%)	42 (34%)	31 (31%)
Female	86 (72%)	75 (68%)	96 (74%)	99 (73%)	83 (66%)	69 (69%)

Age – Median (IQR)	55 (40, 63)	50 (30, 62)	55 (34, 65)	53 (38, 63)	55 (42, 63)	49 (32, 63)
Mean years of Education - Median (IQR)	8.0 (5.0, 10.0)	8.0 (5.0, 12.0)	7.5 (4.0, 10.0)	8.0 (5.0, 12.0)	8.0 (5.0, 10.0)	8.5 (5.0, 12.0)
Do you visit this health facility when you have any health problem						
Sometimes / May be / Never	7 (5.9%)	15 (13.9%)	26 (20%)	23 (16%)	16 (12.9%)	11 (11.0%)
Always	113 (94%)	95 (86%)	104 (80%)	112 (84%)	109 (87%)	89 (89%)
Will you come back to this health facility for a follow-up						
Sometimes / May be / Never	4 (3.3%)	18 (16.4%)	22 (17.0%)	32 (24%)	33 (26%)	13 (13.0%)
Always	116 (96.6%)	92 (83.6%)	108 (83%)	103 (76%)	92 (74%)	87 (87%)
Is it easy for you to come to this health facility						
Sometimes / May be / Never	7 (5.9%)	15 (13.5%)	18 (14%)	21 (15.5%)	13 (10%)	11 (11%)
Always	113 (94%)	95 (86.4%)	112 (86%)	114 (84.4%)	112 (90%)	89 (89%)
Is the normal waiting time less than 30 minutes						
Sometimes / May be / Never	51 (42.9%)	68 (61.8%)	67 (51.5%)	60 (44.5%)	63 (50.1%)	51 (51%)
Always	69 (57%)	42 (38.2%)	63 (48.4%)	75 (55.5%)	62 (49.9%)	49 (49%)
Are there adequate medications available						
Never	1 (0.8%)	3 (2.7%)	9 (6.9%)	4 (3.0%)	1 (0.8%)	5 (5.0%)
Sometimes	54 (45.0%)	46 (41.8%)	45 (34.6%)	73 (54%)	65 (52%)	29 (29%)
Always	65 (54.2%)	61 (55.4%)	76 (58.4%)	58 (42.9 %)	59 (47.2%)	66 (66%)
Do you see the same health staff every time you visit this health facility						
Sometimes / May be / Never	26 (21.9%)	30 (27.3%)	43 (33%)	46 (34%)	35 (28%)	7 (7.0%)

Always	94 (78%)	80 (72.7%)	87 (67%)	89 (65.9%)	90 (72%)	93 (93%)
Can you call the facility staff if you have any urgent health problem						
Sometimes / May be / Never	46 (38.3%)	56 (50.1%)	64 (49.2%)	82 (60.7%)	82 (66.5%)	45 (45%)
Always	74 (61.6%)	54 (49%)	66 (50.7%)	53 (39.2%)	43 (34.4%)	55 (55%)
Would you recommend this health facility to a friend or relative						
Sometimes / May be / Never	21 (17.5%)	33 (30%)	25 (10.2%)	44 (22.6%)	46 (36.7%)	8 (8%)
Always	99 (82.5%)	77 (70%)	105 (80.7%)	91 (67.4%)	79 (63.2%)	92 (92%)
What all was done at this visit for you?						
Physical examination done	116 (97%)	102 (93%)	108 (83%)	108 (80%)	122 (98%)	95 (95%)
BP checked	109 (91%)	103 (94%)	121 (93%)	129 (96%)	118 (94%)	96 (96%)
Blood tests done	22 (18%)	26 (24%)	19 (15%)	20 (15%)	21 (17%)	21 (21%)
Eye examination done	6 (5.0%)	14 (13%)	2 (1.5%)	2 (1.5%)	1 (0.8%)	3 (3.0%)
Foot examination done	3 (2.5%)	15 (14%)	6 (4.6%)	6 (4.4%)	11 (8.8%)	7 (7.0%)
Cancer screening	1 (0.8%)	10 (9.1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Gave prescription	1 (0.8%)	12 (11%)	6 (4.6%)	9 (6.7%)	3 (2.4%)	4 (4.0%)
Explained about my condition	105 (88%)	94 (85%)	87 (67%)	101 (75%)	121 (97%)	74 (74%)
Explained about medications	92 (77%)	88 (80%)	89 (68%)	95 (70%)	109 (87%)	77 (77%)
Gave health record	37 (31%)	37 (34%)	27 (21%)	28 (21%)	23 (18%)	21 (21%)
Referred me to a specialist	1 (0.8%)	12 (11%)	2 (1.5%)	5 (3.7%)	3 (2.4%)	6 (6.0%)
Advised admission to health facility	0 (0%)	11 (10%)	2 (1.5%)	2 (1.5%)	3 (2.4%)	4 (4.0%)

Table 29: Details of the patient exit interviews at the surveyed health facilities.

Approx 80% of the patients who visited HWC reported that because the HWC was accessible and near to their house, they come to this specific health facility. Other reasons to

choose the HWC being free treatment (11.7%), good care (5.6%) and staff behaviour (3%). Among the patients who visited SC, for 83.9% of them SC was close to their house. Other reasons to choose the SC were reported to be getting free treatment (9.1%) and good care (7%). The patients who visited HWC liked the care being provided the most (47.5%), followed by staff caring behaviour (40%), free treatment (9.3%) and nearby distance (3.2%). Similarly, for those who visited HSC, good healthcare services (60.3%) and the staff behaviour (33%) were the most frequently reported reasons for liking the HSC.

Challenges faced by patients for accessing services at these health facilities (Figure 14): Majority of the patients (71.5%) at exit interview conveyed that they don't face any challenges in accessing health care in their respective health facilities. In the challenges documented, non-availability of the staff at times was the commonest (14.5%), followed by inadequate medicine supply (5.1%), lack of transport facilities to the centre (4.7%), inadequate infrastructure (2.6%) and lack of emergency services (1.6%).

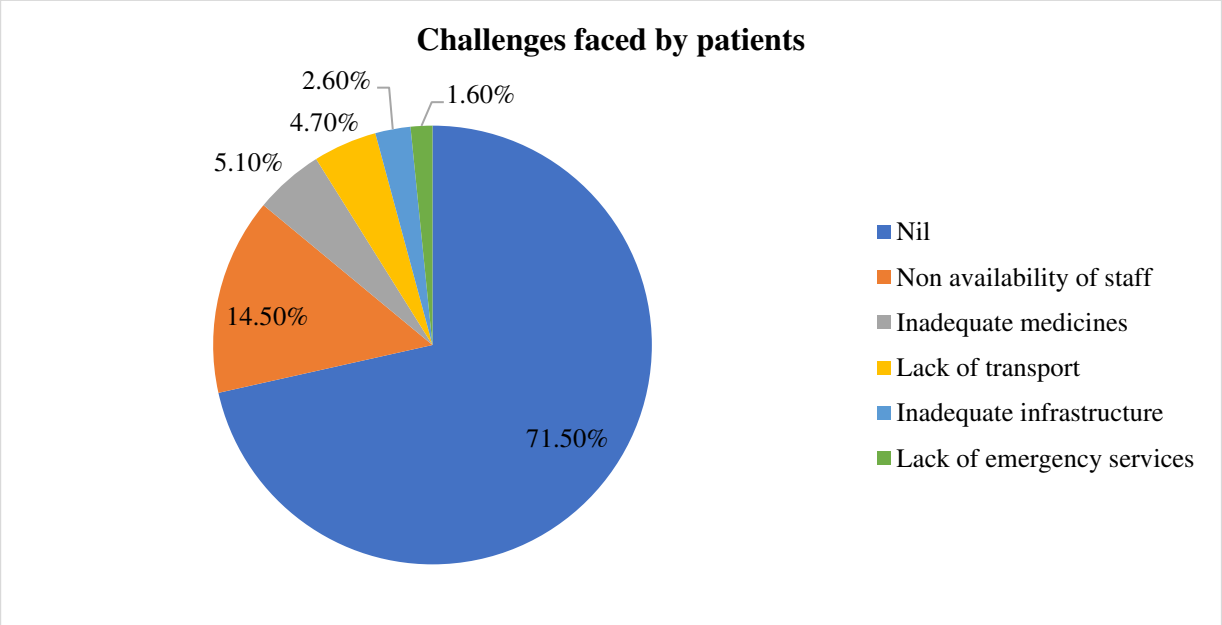

Figure 14: Challenges faced by patients in accessing health care at the surveyed health facilities

Suggestions given by patients at exit interviews for improving services at these health facilities (n=720) are depicted in Figure 15. Majority (33.6%) suggested that improving the building and infrastructure of the health facilities should be a priority. Adding injection facilities,

making doctor available at least once a week and keeping the medicines available would be useful.

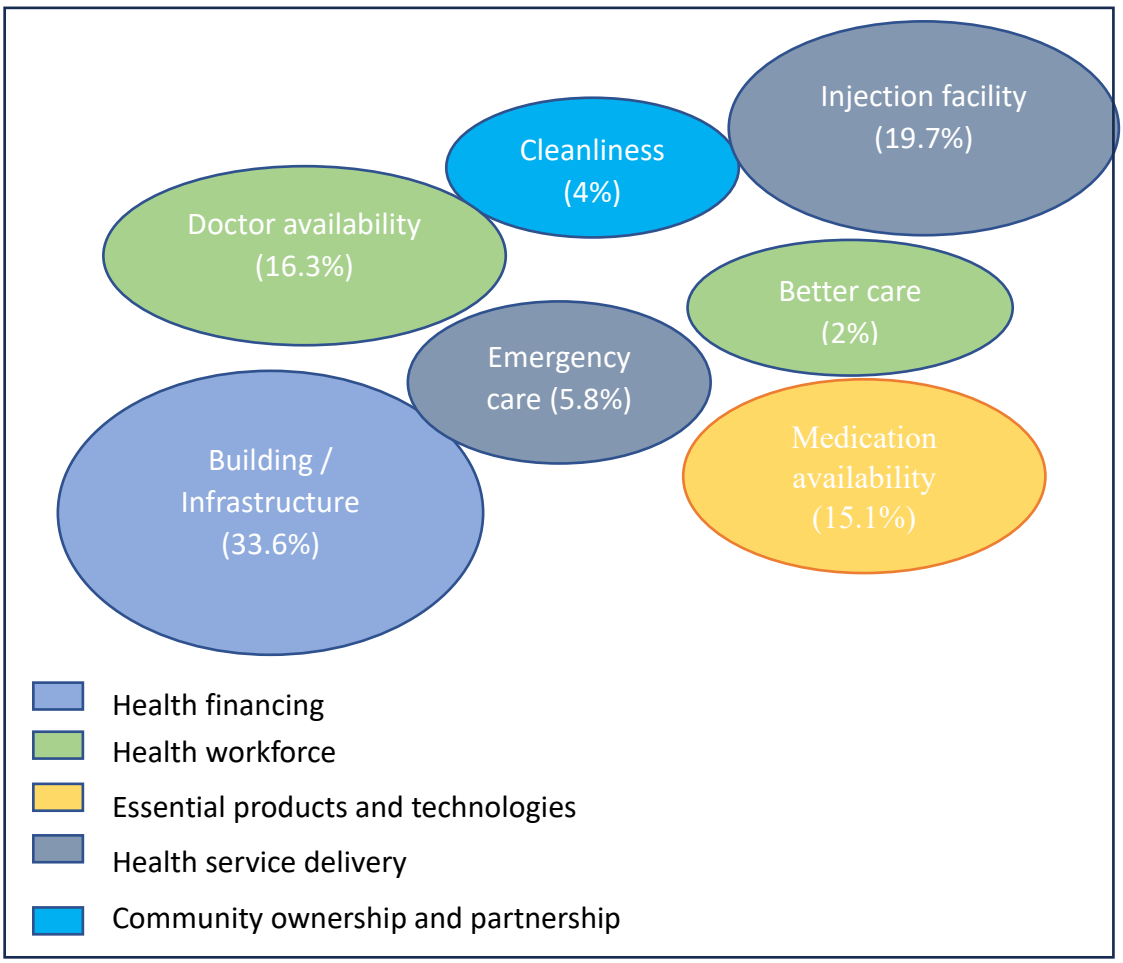

Figure 15: Suggestions given by patients at exit interviews for improving services.

Qualitative Research

We interviewed 10 PHC Medical Officers, 1 from each of the blocks surveyed in the 3 districts. They were in age group of 29-39 years, mainly MBBS with 2-12 years' experience, 2 of whom were male and the rest females. We also interviewed 10 Anganwadi Workers (one from each block), aged between 28-58 years. One of the AWW was a postgraduate, four with a graduate degree, three completed 12^{th} standard, and two completed 10^{th} standard. Similarly, 10 Anganwadi Helpers were surveyed, aged between 37-55 years with education of 3rd to 10th standard. As part of this study, 10 Panchayat councillors were also interviewed, among those 7 were male. The male Panchayat councillors were aged between 36-54 years, with education ranging from 10th to degree while three females were aged between 36-60 years and had education ranging from 7th to 10th Standard. We interviewed 11 patients in community receiving Palliative Care from HWC staff; 8 with stroke aged between 45-83 years, five of whom were males; one was an elderly lady with a fracture, and another was an 11-year-old with mental retardation. Also 10 Self Help Group (SHG) between 37-53 years of age and with education from 10th to degree, were interviewed.

As part of the qualitative component of the study, we conducted 10 Focus Group Discussions (1 per block in each district), comprising of 6 – 8 people from the community who were utilizing private facilities for their healthcare needs. FGDs- 10, one of which with men and the rest with women.

Awareness of services

i. **Medical Officers:** Medical officers were generally aware of the usual services HWC provides and about NCD screening, follow-up and teleconsultation services, and treatment for NCDs. Few could mention the extended services such as Geriatric care, palliative care, and emergency services. Also aware of the outreach services provided by the HWC. Two mentioned approximately 10-20 teleconsultations using the e-Sanjeevani app. The new doctor was unaware of this service. And teleconsultations were sometimes

not possible due to the absence of MOs. They did not see teleconsultation as part of referral services. “There is no need to go to the hospital often and the health centre is very helpful and useful (MO-7). MOs were mostly aware of the health personnel in an HWC and perceived the work of WHV was for home visits, screening for NCD, and referring and providing medications at home.

ii. **Community awareness:** There seemed to be visibility of outreach services performed by the HWC and the different staff- especially of camps and home visits, MTM, checking of blood sugar and BP, treating minor ailments, etc. The HWCs were mostly accessible and used for minor problems by the community. Yet they were aware of the limitations in the provision of all services or medications at the HWC.

Panchayat Members: The community was aware of some of the services offered and the new personnel appointed in the HWC yet nearly half of them had not availed any of the services of the HWC. Reported that many diabetics and hypertensive used the services. “But people are using the HWC to a large extent” (Panchayat member – F-1); “MTM scheme is very helpful, distribution of drugs direct to homes, tension free and easy to access” (Panchayat councilor-M-6); and it is “hygienic and have a good relationship with people” (Panchayat member -F-10).

Anganwadi Worker (AWW): Most were aware of the HWC staff, and services offered by them. A few who did not use the health facilities were unaware of the services of HWC. There was a good working relationship between HWC staff and Anganwadi workers, but due to workload, this might be affected. “WHV does door-to-door and conducts BP, and sugar tests and recommends patients to go to the HWC/PHC near them. They also go to people's homes and give them medicines" (AWW-1); “Providing sanitary napkins and iron tablets for adolescent girls” (AWW-9)

Anganwadi Helper: They were aware of the HWC, and its services and worked in collaboration with the staff. As mentioned, “HWC staff visit the Anganwadi regularly and to

check children, provide necessary medical facilities, they do a good job by reminding and vaccinating pregnant mothers and children, they create awareness among the people…The people are mostly using the government facilities because services are improved in various ways" (AWW-Helper-6).

Palliative care / geriatric patients: The families were using services to some extent although not fully aware of all the services offered. Those requiring services at home seem to be receiving it every month. Although those with paralysis/stroke mentioned that they receive physiotherapy and get advice at home from the HWC staff they feel a physiotherapist would be useful. They had ambivalent feelings about the services with some saying it was feasible while others claim it could improve. Some of the quotes to substantiate this summary:

- "They come often but not frequently. They advise on the dosage of tablets for my father-in-law (83 years). Before coming for a check-up, they informed us earlier. They spend 15-20 minutes". (Daughter-in law of elderly -1);
- "I have received physiotherapy …. appointment to check BP and sugar…..the staff are attentive" (65years-Male; 62 years- Male with stroke).
- One also mentioned that "The HWC staff do their duty at the right time and also provide all the necessary services to the patient" (palliative-Male-45years-paralysis-7);
- "Posters are pasted on the wall making awareness about diseases" (Palliative-80 years-female-10)

Self Help Group member: Most were aware of the health services, and location of the HWC, which was deemed useful since it was easily accessible to people. The traditional thought that all services must be available such as providing injections, doctor; or admission of patients etc. was obvious among these women. HWC seemed to be the first choice for minor health problems, yet they were ambivalent about services provided, with some being satisfied while others not. Infrastructure and basic amenities need to be improved. A few also worked with the HWC staff in conduct of camps.

- "Need chairs for patients, drinking water facilities, electricity. No basic facility, no bed facility" (SHG-1)
- "While using private health facilities all pretests are done before seeing the doctors and staff are carefully monitored, but none of these are done in government facilities, so people don't use government facilities". (SHG-Palm Workers Development)
- "People don't have confidence in the workers and medicines they provide. So people don't fully cooperate". (SHG-2)
- "they also consult with the PHC doctor as there is not enough medicines". (SHG-3).
- "Posters are pasted in the walls making awareness about diseases. There is healthy relations with the HWC staff" (SHG-4).
- "Work with the HCW staff while providing services and conducting camps." (SHG-5).

FGD findings: During the FGD when asked about the awareness of HWCs and the services offered, women in the community were mostly unaware of the services of the HWC but they knew about MTM. "Only We knew about MTM. They come to our doorstep, Check BP, sugar and provide medicines" (FGD-1). Women were aware of the personnel such as VHN and HI of the HWCs. While some women were positive about HWC services "Medicines are now being given to people from door to door…The service provided now is helpful to people (FGD-6 – Women; FGD-10, Women)". They were unaware of HWC but generally use the word government facilities.

Men too seem to be unaware of the HWC and seem to generalize it to all government facilities although they had used HWC:

"VHN sister will go morning to see some outside place and ASHA and MLHP will go to the field. So, no one will be present inside the HWC. If we go to the center also no use, it will be closed so, why should we go there" (FGD-4-Men).

Their perception of the facilities was not encouraging, "Before I used to take sugar medicine from government hospital but I have not felt any changes in my sugars level, I think low dose medicine from the HWC; So I thought to go to the private hospital".(FGD-4-Men)

Challenges faced by community:

The challenges mentioned included:

- "Lack of cooperation from the field staff" (MO-1)
- "Access due to the improper road and poor climatic conditions" (MO-5) or it being located "far from their homes" (Panchayat councillor- F – 2)
- Lack of basic amenities especially for the elderly "The HWC is mostly used by elderly people, but there are no basic needs especially .... no chairs to sit on….no toilet facilities, no drinking water facilities, etc." (Panchayat councillor-M—3; Elderly-Male-3; SHG-1)
- "Patients referred from the HWC to PHC do not come for follow-up" (MO-7)
- "HWC staff give medicine for BP, sugar, and fever" (Women-FGD 3) but "we cannot see or consult a doctor, medical facilities for all diseases are not available in HWC". (SHG-5)
- "In government hospitals, they divide the patients with discrimination (i.e.) rich and poor" (Women FGD-4)" or "staffs are not available at every time…" (Panchayat councilor-F-2) nor do "HWC staff approach panchayat member" for any assistance (Panchayat councilor-M-3).
- "For any procedures if there is no observation room it is very difficult" (FGD-5-Men).
- "There are no challenges because the HWC is in the middle of the village. So it is easily accessible for the people and their health needs" (AWW-10, similar quote SHG-6)

Suggestions: the suggestions included

i. Infrastructure changes: Presently HWC functioning in old buildings or in community hall. There was a need to increase visibility by locating it where it was visible. As mentioned "Building to be improved, blood sampling is not done properly" (MO-11); "Improve the old building, toilet facility, and water facility" (FGD-2 women); "Setting up an HWC in

a common area" (FGD-7, Women); Surroundings need to be improved (Elderly -65 years Male); transport for health staff to reach all people (Palliative -80 years-Female-6)

ii. Health workforce: "For safety reasons, two people must be appointed" (Palliative-80 years-Female-6). "HWC workers are not regular, after appointing within a few months they got transferred to other centres. Whenever I visit the centre the MLHP is not available. Need to appoint one permanent staff" (AWW Helper-2).

iii. Need for "IEC material in a way that people can easily understand" (MO-6)

iv. Service improvement as mentioned, "Needs a doctor to visit once a week and a vehicle to go to all areas (FGD-8, Women) and "better skills with regard blood sampling" (MO-11); "more attention for palliative patients" (Panchayat councilor-4); "a 24-hour nurse to be at the center" (Panchayat councilor-5), "employ a doctor in a HWC and medicines should be increased to improve medical services and provide medicines for all" (SHG-9).

Summary & Conclusion

The upgradation of existing sub health centres to HWCs for providing comprehensive health care was an effort towards equitable distribution and universal health coverage. This study was aimed to evaluate the extent of functioning and utilization of HWCs, and the factors impeding the utilization of health care services by the community. Findings from this study would serve as a baseline to bring about further changes in streamlining the inputs, modifying processes, and improving coverage and quality of services.

Three districts of Tamil Nadu were selected purposively for this evaluation. Kanyakumari reflecting predominantly the urban Tamil Nadu, Nagapattinam for rural setup and Nilgiris based on predominantly tribal population. The district wise summary of the study is as follows:

Kanyakumari district:

Community survey:

i. The surveyed population in Kanyakumari (68%) had moderate awareness of the HWCs, the utilization was only 22% in the last 1 year.
ii. One thirds of the surveyed population didn't have any health insurance, AB / Kalaingar Kaappittu Thittam was available with less than half of the population.
iii. For acute illness, more than two thirds of the surveyed population visited govt health facilities.
iv. The prevalence of NCDs in the surveyed population was 21.3%, having higher prevalence of DM followed by HTN. For NCD care and drugs, more than 50% of the patients preferred private health facility.
v. Around 50% of them were visited by WHV and availed MTM medicines at home too. Only a few reported to have some problems in getting medicines under MTM.

Infrastructure:

i. More than two thirds of the HWCs and three fourths of the HSC had good infrastructure, but drinking water was available in less than half of the surveyed health facilities.

ii. General equipment were adequate, but NCD related equipment were inadequate in more than half of the health facilities.

iii. PPEs were not available in most of the surveyed health facilities (HWCs and HSCs both)

iv. Drugs: Overall, both HWCs and HSCs in Kanyakumari had one adult analgesic, anthelminthic, ORS sachets and Zinc tablets. Most of the facilities didn't have any antiallergic, antibiotic or any emergency medicine. Anti hypertensives and anti-diabetics were also not available at the time of survey in around 25% of HWCs and 60% of HSCs.

Manpower (Health facility staff):

i. More than two thirds of MLHPs had adequate training in the last 2 years. MLHPs in the health facilities of Kanyakumari were doing moderately adequate to adequate services only for NCDs both in health facilities, and outreach. Other health services were inadequate.

ii. VHNs in Kanyakumari had adequate to moderately adequate training on the topics mentioned in the last 2 years. Also, the VHNs of HWCs were trained on more topics as compared to VHNs of HSCs. VHNs were providing adequate services with regards to MCH care. NCD and Communicable disease services by VHNs in HWCs of Kanyakumari were extremely inadequate (95.5% and 86.4% respectively) compared to HSCs. Similar pattern was reported in the outreach services pertaining to NCD and Communicable disease care among VHNs of Kanyakumari HWCs.

iii. WHVs training was inadequate in almost all the health facilities surveyed. WHVs were doing inadequate MCH and NCD services, compared to communicable diseases especially the HSCs WHV. An average of 300 adults of DM/HTN were visited per month by them, and the farthest village travelled by them was maximum of 5 km. They made around 20 home visits per day, majority for drug distribution under MTM.

iv. More than three quarters of the health facilities had one independent HI. HIs training was adequate in 50% of HWCs and <25% HSCs. General, child health and communicable

services were adequate, while NCD services were inadequate for HIs in facilities of Kanyakumari.

Record review:

i. OPD numbers in HWCs (>400 patients /month) were more than HSCs (<25 patients /month).

ii. NCD patients attending OPD were around 150-200 in both HWCs and HSCs, while ANCs were around 20 mothers /month in both.

iii. Both the HWCs and HSCs had attended hardly any emergency in last 3 months (<5).

iv. Teleconsultations especially for NCDs were around 10-15 patients / month in HWCs, not much in HSCs.

v. Less than 10 referrals per month in both HWCs and HSCs in Kanyakumari.

vi. Among lab investigations, blood sugar was the most commonly done investigation, in around 50 patients/month.

vii. Drugs dispensed at facilities (≈30/month) was less than in outreach activities (>50/month).

viii. Functional laptop/tab/computer for data entry was available in more than two thirds of HWCs and less than half of the HSCs.

Patient Exit Interview:

i. Patients' opinion in terms of healthcare was better for HWCs as compared to HSCs.

ii. The waiting time of more than 30 minutes was a concern for some of them.

iii. Also, adequate medicines were not available in almost half of the times they visited.

iv. The inadequate infrastructure of health facilities in terms of toilet, drinking water and unavailability of staff (because of more community visits) were the major challenges faced.

v. Suggestions by patients were mainly regarding improving building infrastructure and availability of medicines.

Nagapattinam district:

Community survey:

i. The awareness and utilization of HWCs was minimal in the surveyed population of Nagapattinam (<10%).
ii. More than three fourths of the surveyed households had AB health insurance / Kalaingar Kaappittu Thittam.
iii. For acute illness, more than half of the surveyed population visited govt health facilities.
iv. The prevalence of NCDs in the surveyed population was 18.2%, where DM was more than HTN. For NCD care and drugs, more than 2/3rd of the patients preferred govt healthcare. Around 50% of them were visited by WHV and availed MTM medicines at home too. About one quarter of them reported to have some problems in getting medicines under MTM.

Infrastructure:

i. Majority (>90%) of the HWC's has adequate infrastructure. Only one fourth of the HSC had adequate infrastructure. Functional toilets and drinking water were not available in more than half of the surveyed health facilities.
ii. The general equipment were adequate, but MCH and NCD related equipment were inadequate in majority of the surveyed HSCs.
iii. PPEs were not available in most of the surveyed health facilities (HWCs and HSCs both)
iv. Drugs: Overall, both HWCs and HSCs in Nagapattinam had one adult analgesic, anthelminthic, ORS sachets and Zinc tablets. Majority of the HWCs had one antibiotic and one anti-gastritis medicine. Inj Adrenaline was available in more than 75% of the

HWCs and HSCs in Nagapattinam. Anti hypertensives and anti-diabetics were also available in almost 100% of HWCs and >50% of HSCs.

v. Infection control practices where inadequate in most of the surveyed health facilities especially HSCs, where only <50% had clean surface and equipment.

Manpower (Health facility staff):

i. More than 90% of MLHPs had adequate training in the last 2 years. MLHPs in the health facilities of Nagapattinam were doing moderately adequate to adequate services in MCH, NCDs and general adult health services, but inadequate communicable disease care.

ii. VHNs of HWCs were trained on more topics as compared to VHNs of HSCs. VHNs were providing adequate services with regards to MCH care. VHNs in the health facilities of Nagapattinam were doing moderately adequate to adequate services in NCD, communicable diseases and general adult health services.

iii. More than 80% of WHVs had adequate training in the health facilities surveyed. WHVs were doing adequate MCH, NCD and communicable disease services. An average of 50 adults of DM/HTN were visited per month by them. They made around 20 home visits per day, the majority for drug distribution under MTM. Their field area was vast, ranging from 7-12 kms.

iv. More than three quarters of surveyed HWCs had one independent HI, while for HSCs, one HI was given responsibility of 3-4 HSCs. HIs training was adequate in >70% of HWCs and <5% HSCs. General adult health, child health and communicable services were adequate in HWCs of Nagapattinam, while all the services were inadequate in HSCs.

Record review:

i. OPD numbers were comparable in HWCs and HSCs (>450 patients /month), slightly more in HWCs.

ii. NCD patients attending OPD were more in HSCs (around 250) compared to HWCs (60), while ANCs were around 20 mothers /month in both.

iii. Attended hardly any emergency in last 3 months (<5 over 3 months).

iv. Teleconsultations especially for NCDs were around 10-15 patients / month in HWCs, not much in HSCs.

v. An average of 20 referrals per month, mainly for uncontrolled NCDs and complications of NCD in both HWCs and HSCs in Nagapattinam.

vi. Among lab investigations, blood sugar was the most commonly done investigation, in around 100 patients/month.

vii. Drugs dispensed at facilities was more in HWCs(≈300/month) compared to HSCs (≈15/month).

viii. Functional laptop/tab/computer for data entry was available in 80% of HWCs and less than half of the HSCs.

Patient Exit Interview:

i. Patients' opinion in terms of healthcare was better for HWCs as compared to HSCs.

ii. The waiting time of more than 30 minutes was a concern for some of them.

iii. Also, adequate medicines were not available in almost half of the times they visited.

iv. Inadequate infrastructure of health facilities in terms of functional toilets, drinking water and unavailability of staff (because of more community visits) and lack of medicines were the major challenges faced.

v. Suggestions were mainly regarding improving building infrastructure and availability of medicines.

<u>Nilgiris district:</u>

Community survey:

i. Surveyed population in Nilgiris (65%) had moderate awareness of the HWCs, and the utilization was also little less than 50% in the last 1 year.

ii. More than half (56.3%) of the surveyed population in Nilgiris didn't have any health insurance, and only one thirds had AB / Kalaingar Kaappittu Thittam Insurance.

iii. The amount spent on travel for healthcare seeking in Nilgiris (Median of Rs 200) was more compared to the other 2 districts (Median of Rs 100).

iv. Acute ailments were found in 10.7% of the surveyed population, in the last 2 weeks prior to survey, more in Kanyakumari (14.5%). In Nagapattinam (55%) and Nilgiris (37.6%) were preferred for scute illness, while in Kanyakumari, the majority (70.6%) availed care at private health facility.

v. The prevalence of NCDs in the surveyed population was 19%. Diabetes was more prevalent than Hypertension in Kanyakumari (12.5% DM, 7.9% HTN) and Nagapattinam (9.9% DM, 6.6% HTN), while Hypertension was more prevalent in Nilgiris (10% HTN, 6.5% DM). For NCD care and drugs, more than 2/3rd of the patients preferred govt healthcare.

vi. More than 70% of them were visited by WHV and availed MTM medicines at home too. About 2/3rd of them reported to have some problems in getting medicines under MTM.

Infrastructure:

i. Only one fourth of the HSC and one third of the HWCs had adequate infrastructure. Functional toilets and drinking water were not available in more than half of the surveyed health facilities.

ii. General equipment were inadequate in around 60% of HSCs, MCH equipment were not adequate in more than 80% of the surveyed HWCs and HSCs. NCD-related equipment were inadequate in 80% of HWCs and 55% HSCs.

iii. PPEs were not available in most of the surveyed health facilities (HWCs and HSCs both).

iv. Drugs: Overall, both HWCs and HSCs in Nilgiris had one adult analgesic, anthelminthic, ORS sachets and Zinc tablets. Antibiotics, gastrointestinal medicines and emergency

medicines were inadequate in almost all the surveyed health facilities. Anti hypertensives and anti-diabetics were available only in 20% of HWCs and HSCs.

v. Infection control practices were very poor in most of the surveyed health facilities.

Manpower (Health facility staff):

i. More than 60% of the MLHPs were inadequately trained in the last 2 years. And they were primarily doing NCD services in both facility and community.

ii. More than two thirds of the VHNs of both HWCs and HSCs were inadequately trained in Nilgiris district. VHNs in the health facilities of Nilgiris were doing moderately adequate to adequate services in MCH and NCD care but not in communicable diseases.

iii. More than 70% of WHVs had adequate training in the health facilities surveyed. WHVs were doing adequate MCH and NCD services, and less communicable disease services. An average of 100 adults of DM/HTN were visited per month by them. They made around 20 home visits per day, the majority for drug distribution under MTM. Their field area was under 5 kms.

iv. More than three quarters of the health facilities had one independent HI. His training was adequate in 80% of HWCs and 50% HSCs. General, child health and communicable services were adequate, while NCD services were inadequate for HIs in facilities of Nilgiris.

v. ASHAs were posted only in health facilities of Nilgiris. More than half of them were adequately trained in outreach activities related to MCH and NCD care, as reported. In terms of outreach services provided, majority of ASHA workers were doing moderately adequate to adequate services in MCH and NCD care, but inadequate communicable disease care. The number of ANC, PNC mothers and newborn visited per month were around 10 each. The ASHAs were majorly visiting adults with DM, HTN, cancer and elderly at home on monthly basis. Number of villages covered by the ASHAs of HSCs

were more than that of HWCs. ASHA visits an average of 10-20 homes visit per day in Nilgiris, maximum of which for drug distribution under MTM scheme.

vi. Also, the field staff from the tribal areas of Nilgiris reported that their field area is forest area, and they face wild animals and difficult terrains while providing services.

Record review:

i. OPD numbers were comparable in HWCs and HSCs (≈500 patients/month), slightly more in HWCs.

ii. NCD patients attending OPD were more in HSCs (≈160) compared to HWCs (≈80), while ANCs were around 20 mothers /month in both.

iii. Both HWCs and HSCs had attended more than 10 emergencies in the last 3 months.

iv. Teleconsultations especially for NCDs were around 25-30 patients / month in HWCs, none in HSCs.

v. Less than 10 referrals per month, mainly for uncontrolled NCDs and complications of NCD in both HWCs and HSCs in Nagapattinam.

vi. Among lab investigations, blood sugar was the most commonly done investigation, in around 100 patients/month.

vii. Drugs dispensed in the outreach activities was more in HSCs compared to HSCs.

viii. Functional laptop/tab/computer for data entry was available only in 22% of HWCs and less than half of the HSCs.

Patient Exit Interview:

i. Patients' opinion in terms of healthcare was better for HWCs as compared to HSCs.

ii. The waiting time of more than 30 minutes was a concern for some of them.

iii. Also, adequate medicines were not available in almost half of the times they visited.

iv. Patients highlighted challenges in terms of location of health facilities, crossing animal zone and difficulty in commuting to the health facilities, both HWCs and HSCs.

Inadequate infrastructure of health facilities in terms of functional toilets and drinking water were the next major challenge faced.

v. Suggestions were mainly regarding improving building infrastructure and availability of medicines.

To summarize, the community survey in our study pointed out that utilization of these health centres (both HWCs and HSCs) for NCDs was higher compared to acute illness, which could be due to the better services with respect to NCD screening and door to door distribution of drugs (MTM services). The impact of the services provided by MLHPs and VHNs in this regard could be one of the success factors for the community utilization of government facilities. But the overall awareness and utilization of HWC per se, was moderate in Kanyakumari and Nilgiris, and very low in Nagapattinam.

Overall, the intersectoral coordination and the outreach services were robust in the 3 districts. As compared to HSCs, HWCs had better infrastructure in all 3 study districts. Drinking water availability and lack of functional toilets were the major concerns both for health facility staff and the patients. This in turn was affecting the functional abilities of the health centres.

The availability of drugs at HWCs is essential for patients. In our study, the availability of atleast one drug from each group was considered adequate. Oral analgesic, anti-helminthic and ORS sachets were the predominant drugs found. HSCs in all 3 districts were observed to be lacking essential drugs required for Sub Centres. This could be one of the reason for less utilization of the health centres in our study.

Capacity building of HCWs at all levels must be geared towards repeated training, better communication with patients, identification of complications and appropriate referrals, which was lacking in our study. The MLHPs educational qualification was comparable in all the 3 districts (BSc Nursing or GNM). The facility assessment clearly pointed to gaps in the provision of care due to vital shortage of health workforce training coupled with lack of available equipment, as well as some shortage in supply of essential medications for management of NCDs.

Given the chronicity of NCDs, it is important to forge long-term engagement of the community members with the healthcare system.

Patients were satisfied with services received and access services based on proximity and their perception of health facility staff. This was encouraging despite challenges faced by the facilities on inadequate infrastructure, supplies of equipment and drugs, as well as shortage of training of HCWs.

The qualitative research in our study revealed that the community was utilizing the NCD outreach services and were aware of the comprehensive health services being provided, but its visibility was not so much. Teleconsultations, camps, outreach services, and geriatric/palliative care seemed to be perceived well by the community. Awareness building on services within the community and the main purpose was not the management of complicated cases but prevention of illness, identification, and early management, referrals seem to be happening.

There is a global consensus that universal health coverage can only be achieved on the foundation of stronger primary health care system. There is a renewed attention on strengthening and delivering comprehensive primary health care services in India through health and wellness centres. This study revealed scarcity in both infrastructural facilities and training of workforce. Likewise, community awareness and overall utilization of HWCs was also low. Community mobilization, engagement and health promotion efforts are crucial for the delivery of NCD prevention and management measures along with promoting community ownership of the healthcare services that are made available to them.

Recommendations

1) The community awareness and utilization need to be scaled up in all the 3 districts, by conducting more outreach activities including health camps.
2) Overall, for all the 3 districts, the infrastructure of the existing HWCs and HSCs need to be improved and maintained for cleanliness – better building, proper waiting area, consultation and examination area, functional toilet and availability of drinking water to be prioritized.
3) Coupled with workforce shortage (especially HI) and one staff managing more than one health centre, capacity building of HCWs at all levels must be geared towards better communication with patients, identification of complications and appropriate referrals.
4) Re skilling and up skilling the HCWs by repeated and robust trainings for improving their health careservices.
5) Organisation approaches that would require improvement includes a more robust health information system that not only facilitates registration of patients so that follow-ups and linkages between facility and field level HCWs are planned strategically especially for those with NCDs.
6) In Kanyakumari for primary care, to counterweight the inclination towards private sector, either more HSCs to be converted into HWCs, or the existing HSCs to be merged with nearby HWCs with increased staff, and greater community engagement activities.
7) In Nagapattinam and Nilgiris, the HSCs and already converted HWCs are relevant, as they cater to lot of patients given the geography of the districts and lack of sufficient private health sector.
8) Need up more clinical skills like physiotherapy, better equipment, regular availability of drugs and more lab investigations to improve community utilization of these health facilities.

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ANNEXURE-1

Community Survey Questionnaire

Section 1: House listing

1. Fieldworker name: …….
2. Name of the district: …….
3. Name of the block: …….
4. Name of the village: ……
5. Date of interview: ……
6. Household ID: ……
7. Household availability: ……

1.	Primary Respondent Available
2.	Door locked-if so time to visit …….
3.	Primary Respondent is not available – if so time to visit …….
4.	Busy -if so time to visit ……..
5.	Refusal (They are not interested to take survey)
6.	Others/Remarks (Specify) ……

8. Household address:

   ……

   ……

   ……

   ……

9. Primary respondent Name: ……
10. Choice of language for interview: ……
11. Mobile number: ……
12. Head of the family: ……
13. Religion: ……

    1 = Hindu, 2 = Muslim, 3 = Christianity, 4 = Others (specify)

14. Social group: ……

    1 = Scheduled tribe, 2 = Scheduled caste, 3 = Other backward class, 4 = General

15. Number of family members: ……

Section 2: Health care seeking behaviour

1. Type of health facility preferred for most of the illnesses (Specify):

   …….

   Options: 1 = Government, 2 = Private

Government		Private	
Sub centre = G1	Sub District/ Taluk Hospital = G4	Private doctor (OPD) = P1	Private medical college hospital = P3
PHC = G2	District Hospital = G5	Private hospital = P2	
CHC = G3	Medical College Hospital = G6	Others = P4 (specify) ……	
Others = G7 (Specify) ……..			

2. Nearest government healthcare facility from the household: …….

   Options: Sub centre = 1, PHC = 2, CHC = 3, Sub District/ Taluk Hospital = 4, District Hospital = 5, Medical College Hospital = 6, Others = 7 (specify)

3. Distance of the nearest Govt functional healthcare provider from the household (km):

   ……

4. Time to reach the nearest Govt functional healthcare provider from the household (minutes):

   ……and mode of transportation: …….

   Mode of transportation, options: 1 = walk, 2 = bicycle, 3 = auto, 4 = 2-wheeler, 5 = 4-wheeler, 6 = bus, 7 = others (specify)

5. Are you aware of the new/upgraded HWC at ……..? 1. Yes 2. No

6. Have you used the HWC facility for any health problem in the last 1 year? 1. Yes 2. No

   ……

7. Aware of HWC but did not seek care from HWC though ill / sought care from other facility level: Reason ……

   1 = Less facilities, 2 = Medicines not available, 3 = Far distance, 4 = Specialist doctor not available, 5 = Others (specify)

Section 3: Household listing

S No	Name	Individual ID	Relationship to head	Sex	Age (in yrs)	Marital status	Education	Health Insurance	Aadhaar card – Y/N
1			Head						
2									
3									
4									
5									
6									
7									
8									
9									
10									

Relationship to head: 1 = Head, 2 = Spouse (wife/husband), 3 = Son/Daughter, 4 = Parent, 5 = Parent-in-law, 6 = Brother/Sister, 7 = Brother/Sister-in-law, 8 = Grandson/Granddaughter, 9 = Niece/ nephew, 10 = Domestic Help, 11 = Other Relatives

Sex: 1 = Male, 2 = Female, 3 = Other

Marital Status: 1 = Currently married, 2 = Widow/ widower/ divorced/ separated / deserted, 3 = Never married

Health Insurance: 1. Kalaingar Kaappittu Thittam / Ayushman Bharat 2. Employees State Insurance scheme (ESI) / CGHS, 3. Other privately purchased health insurance, 4. Others. 5. None

Section 4: Household characteristics

1. Type of house (on observation): 1. Pucca 2. Semi pucca 3. Kutcha
2. Ownership status of house: 1. Own 2. Rented / Leased 3. Others (specify)
3. Source of drinking water: 1. Borewell / Piped 2. Others (Specify) ……
4. Toilet facility: 1. Sanitary latrine with piped sewer system / septic tank 2. Pit latrine 3. Public facility 4. No facility / open space
5. Cooking fuel: 1. LPG / Electricity 2. Kerosene 3. Solid (wood etc) 4. Others (specify)……
6. Ration card available: 1. Yes 2. No
7. Do you have 1. BPL card 2. APL card 3. None of the above

Section 5: Two-week morbidity details

1. Acute Ailments	2. Name of ailment	3. Did you seek any treatment? 1. Yes 2. No	4. If no, what was the reason?	5. Where did you avail treatment from? 1. Govt 2. Private 3. None	6. Which system of medicine? 1. Allopathy 2. Others	7. Name of the facility	8. Were you satisfied with the services? 1. Yes 2. No	9. Reasons for satisfaction with service
Ailment 1								
Ailment 2								
Ailment 3								

4. If no, what was the reason? Options: 1 = Home remedies, 2 = Pharmacy, 3 = Medicine available at home, 4 = Others (Specify)

5. Options

Government		Private	
Sub centre = G1	Sub District/ Taluk Hospital = G4	Private doctor (OPD) = P1	Private medical college hospital = P3
PHC = G2	District Hospital = G5	Private hospital = P2	
CHC = G3	Medical College Hospital = G6	Others = P4 (specify) ……	
Others = G7 (Specify) …….			

9. Reason for satisfaction, options: 1 = Close by, 2 = Less cost / free of cost, 3 = Trust/Good Doctor, 4 = Timely Service, 5 = All facility in one place, 6 = Others (Specify)

Acute Ailments	10. Change of place of treatment 1. Yes 2. No	11. List all the places of treatment in sequence 1. Govt 2. Private	12. Name all the places of treatment in sequence	13. Amount Spent on Travel	14. Cumulative amount spent (consultation, investigations, medicines)
Ailment 1					
Place 1					
Place 2					
Ailment 2					
Place 1					
Place 2					
Ailment 3					
Place 1					
Place 2					

Section 6: Chronic Disease Survey

1. Do you have any chronic ailment? 1. Yes 2. No

2. If yes, which Chronic Disease (specify) ……

Options: Diabetes Mellitus = 1, Hypertension = 2, COPD / Asthma = 3, Kidney diseases = 4 Heart Disease = 5, Mental Illness = 6, , Cancers = 7, Stroke = 8, Others = 9 (Specify)

3.1 Name of ailment	3.2 Which system of medicine? 1. Allopathy 2. Others	3.3 Where do you routinely go for your doctor consultation? 1. Govt 2. Private 3. None	3.4 Reason for preference	3.5 Routinely where do you get your medicines from? 1. Govt 2. Private 3. None	3.6 Reason for preference for buying medicines	3.7 Please tell me on a scale of 0 to 10 how satisfied are you with the facility, where 0 means not satisfied at all and 10 means you are completely satisfied
Diabetes						
Hypertension						
Others, specify…… ……						

3.3 Options:

Government		Private	
Sub centre = G1	Sub District/ Taluk Hospital = G4	Private doctor (OPD) = P1	Private medical college hospital = P3
PHC = G2	District Hospital = G5	Private hospital = P2	
CHC = G3	Medical College Hospital = G6	Others = P4 (specify) ……	
Others = G7 (Specify) …….			

3.4 Reasons for preference, options: 1 = Close by, 2 = Less cost / free of cost, 3 = Trust/Good Doctor, 4 = Timely Service, 5 = All facility in one place, 6 = Others (Specify)

3.6 Reason for preference for buying medicines, options: 1 = Close by, 2 = Less cost / free of cost, 3 = All medicines are available, 4 = Others (Specify)

3.1 Name of ailment	3.8 Any hospitalization in the past 1 year for the illness	3.9 Where were you hospitalized? 1. Govt 2. Private	3.10 Reason for preference	3.11 How did you manage the medical expenses? 1. income 2. savings 3. borrowed 4. Selling Property / Jewellery 5. Insurance

Diabetes				
Hypertension				
Others, specify……				

3.10 Reasons for preference, options: 1 = Close by, 2 = Less cost / free of cost, 3 = Trust/Good Doctor, 4 = Timely Service, 5 = All facility in one place, 6 = Referred by some other doctor, 7 = Others (Specify)

3.1 Name of ailment	3.12 Have you ever been visited under the MTM scheme by the WHV? 1. Yes 2. No	3.13 Was your Blood Sugar/ BP checked by the WHV 1. Yes 2. No	3.14 Were you supplied drugs for diabetes/ hypertension by the WHV 1. Yes 2. No	3.15 How often is the WHV visiting you? 1. Every week 2. Between 8 - 15 days 3. 16 days – 1 month 4. > 1 month	3.16 For how many days are the drugs supplied? 1. < 7 days 2. Between 8 - 15 days 3. 16 days – 1 month 4. > 1 month	3.17 Do you have any problems in getting drugs regularly under the scheme? 1. Yes 2. No	3.18 Before MTM where were you collecting the drugs from? 1. Govt 2. Private 3. None
Diabetes							
Hypertension							
Others, specify……							

ANNEXURE- 2

FORM A: HEALTH SERVICES SURVEY

Instructions: *Complete the information in the following Sections as given*

- *Form A: Form A will take approximately 20-30 minutes to complete.*
- *Section I- Provides general information of the health facility. Complete the information by interviewing the MLHP/VHN of the Health Facility.*
- *Section II provides a list of all health personnel-sanctioned and available. Obtain the information from a senior staff or look at their register.*

SECTION I- GENERAL INFORMATION OF THE FACILITY

1. Facility Name: ……
2. Date of assessment: ……
3. Name of the investigator: ……
4. Type of facility: □ Health and Wellness Centre □ Sub Centre
5. Name of the block: ……
6. Name of the village: ……
7. Distance of the facility from village bus stand (in kms) ……
8. Catchment population: TOTAL ……SLUM: ……
9. Building:
   - Own building
   - Rented building
10. Do you have intersectoral coordination? □ YES □ NO, if YES with whom all? *(tick all that is applicable)*
    - Water board
    - Sanitation
    - Waste management
    - Education
    - Police
    - Pollution Control Board
    - Women and Child Department
    - Any other

11. What are the Outreach services you have? (Complete details of services available)

Outreach Service	Response	
□ ICDS / Anganwadi	□ Yes	□ No
□ School Health	□ Yes	□ No
□ Immunisation	□ Yes	□ No
□ ANC	□ Yes	□ No
□ General health check ups	□ Yes	□ No
□ IEC-Education	□ Yes	□ No
□ Promoting yoga	□ Yes	□ No
□ Nutrition rehabilitation	□ Yes	□ No
□ Screening / Outreach camps (Specify…… ……..……..……..……)	□ Yes	□ No
□ Adolescent health clinics	□ Yes	□ No
□ Mahila Arogya Samiti	□ Yes	□ No
□ Patient Support Groups	□ Yes	□ No

SECTION II- PERSONNEL INFORMATION

Instructions: *This tool is used to collect information on the number of healthcare providers in the facility. You could get this information from the senior most staff of the facility.*

1. Facility Name: ……..
2. Date of assessment:

   ……..
3. Name of the investigator:

   …….

I. Complete the following information:

	MLHP (Mid Level Health Provider)	**VHN (Village Health Nurse)**	**HI (Health Inspector)**	**WHV (Woman Health Volunteer)**	**ASHA (Accredited Social Health Activist)**

Number of sanctioned posts					
Number of staff posts currently filled and working here					
Number of staff posts currently filled and deputed somewhere else					

II. Record the details of staff available currently

S.No.	Name of the staff currently available	Gender 1. Male 2. Female 3. Other	Age (years)	Designation 1. MLHP 2. VHN 3. HI 4. WHV 5. Other, specify	Educational Qualification: 1. AYUSH 2. Diploma (GNM) – Nurse 3. Graduate (BSc) – Nurse 4. ANM 5. Other, specify
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					

ANNEXURE-3

FORM B: HWC – Sub Center Assessment form

Instructions: Complete the information in Form B

- Section I provides information from MLHP.
- Section II provides information from the VHN.
- Section III provides information from the WHV attached to the HWC/Sub Center to complete the form
- Section IV provides information from the HI.

SECTION I (For MLHP)

12. Name of the Facility: ……

13. Type of facility: □ Health and Wellness Centre □ Sub Centre

14. Village and block:

……..……

15. Date of assessment:

……

16. Name of the investigator:

……

17. Name of the MLHP: ……Ph No.:

……..

18. Experience (years): Total: ……In this health facility:

……

19. Did you attend any Training / Workshop / Conference in the last 2 years on the following topics (*Tick all those that are applicable)*?

8.1 Community health – to assess burden of disease and plan for health activities □

8.2 Skilled birth attendance: Specify…… □

8.3 Newborn care

8.3.1 Basic newborn care □

8.3.2 Newborn Resuscitation □

8.3.3 Kangaroo Mother Care □

8.3.4 Care of small babies –home based newborn care □

8.4 Rashtriya Bal Swasthya Karyakram (Identification and early intervention on any of the four Ds for children 0-18 years)

8.4.1 Defects at birth □

8.4.2 Deficiencies □

8.4.3 Diseases □ Respiratory diseases □ Diarrhea □ any other □ …….

8.4.4 Development delays and disability □

8.5 Infection Control □

8.6 Reproductive and sexual health

8.6.1 Family planning □

8.6.2 Contraception □

8.6.3 Screening for STIs □

8.7 Rashtriya Kishor Swasthya Karyakram or on Adolescent Health □

8.8 Non communicable diseases

8.8.1 Diabetes □

8.8.2 Hypertension □

8.8.3 Cancers □

8.8.4 Injuries □

8.8.5 Mental Health and wellness □ specify what?.....

8.8.6 Elderly care □ specify what?.....

8.8.7 Minor problems of ENT □

8.8.8 Minor problems of Eyes □

8.8.9 Minor problems of Oral cavity □

8.8.10 Anaemia Mukt Bharat

8.9 Communicable diseases

8.9.1 Tuberculosis □

8.9.2 Malaria / Dengue □

8.9.3 Diarrhoea □

8.9.4 HIV / STIs □

8.9.5 Other communicable diseases □ Specify:…….

9. What are the services you are providing in the health facility

Maternity	Child health	General Adult	NCD	Communicable
□ ANC registration □ Immunisation - TT □ Dispenses IFA □ Calcium □ □ Blood sampling HIV □ VDRL □ Hb □ Malaria □ Hepatitis B □ □ Urine test Albumin □ Sugar □ □ Insertion of CuT □ Oral contraceptives □ PNC Care □ Referrals □ Health education □ Others (specify)…… …… …… ……..	□ Immunisation □ Injections □ Growth monitoring □ Dressings □ ORS □ Health education □ Adolescent health clinics □ Dispenses medications □ Others (specify) …… …… …… …… …… …… …… …… …… ……	□ Injections □ Starting IV □ Taking ECG □ Blood sampling □ Common Eye ailments □ ENT ailments □ Oral ailments □ □ Dispenses medications. □ Elderly care □ Palliative care □ Emergency medical care, specify …… …… …… … □ Minor surgical interventions (dressing / abscess) □ Health education □ Others (specify)…… …… …… …… ……	□ Screening for diabetes / hypertension □ Follow-up □ Do ECG □ Health education □ Check foot □ Screen and follow up for mental health illness □ Cancer screening Specify…… …… …… … □ Dispenses medications. □ Others (specify) …… …… …… …… …… …… …… …… ……	□ Dispenses medications DOTS □ Leprosy □ Malaria □ HIV □ STIs □ Others □ (specify)… …… …… …… …… ……. □ Follow-up reminder □ Referral □ Health education

10. What are the outreach services you are providing for the health facility?

Maternity	Child health	NCD	Communicable
□ ANC registration □ Health education □ Postnatal visits □ Newborn visits □ Others (Specify)…… …… ……	□ Immunisation □ Growth monitoring □ School health visits □ Referrals □ ORS □ Health education □ Others	□ Home based screening for diabetes / hypertension □ Call for follow-up □ Remind for eye check □ Check foot □ Palliative care □ Health education □ Explain on physical activity □ Dispensing medications under MTM scheme	□ Follow-up reminder □ Remind for sputum check □ Health education for prevention of infection □ Others (specify) …… …… ……

……	(Specify)…… …… …… ……	☐ Others (specify)…… ……..	

11. What are the challenges you face in providing the required services? (Write in local language as mentioned by the person)

……
……
……
……
……

11. What are the common duties you perform?

Rate these on a scale of 0-4, where:	Also rate these duties based on how confident you are in performing them on a scale of 1-4 where:
0 means very rare, less than once a month	1 means not at all confident
1 means once a month	2 means need some assistance
2 means once a week / once in 15 days	3 means need very little assistance
3 means alternate days	4 means very confident
4 means daily	

How often you perform the duty						**How confident you are to perform the duty**			
0	**1**	**2**	**3**	**4**	**Common duties / roles**	**1**	**2**	**3**	**4**
					1. Taking history of diabetes / hypertensive patient				
					2. Doing a risk assessment for non communicable diseases				
					3. Checking BP of a hypertensive patient				
					4. Examination of a stroke patient				
					5. Taking history and examination of a pregnant woman				
					6. Examination of a newborn				
					7. Screening for eye, ENT, oral health problems				
					8. Indenting and dispensing drugs for diabetes / hypertensive patients				

					9. Doing lab tests – urine / blood				
					10. Doing ECG				
					11. Starting IV				
					12. Giving injections (IM/SC)				
					13. Doing dressings				
					14. Making referrals				
					15. Doing teleconsultation with PHC MO / specialists				
					16. Maintenance of registers				
					17. Sending reports to govt office (ID/NCD/Pregnant)				
					18. Supervision of WHVs				
					19. Supervision of VHN / HI				
					20. Maintenance of equipment				
					21. Maintenance of cleanliness of facility				
					22. Ensuring posters and notices are updated				
					23. Identing and storage of drugs				
					24. Dispensing drugs				
					25. Maintenance of vaccines – cold chain				
					26. Waste segregation				
					27. Coordinating with VHN/HIs for organising community awareness programs				
					28. Coordinating with VHN/HIs for organising patient support groups				
					29. Interacting with other departments for health promotion and primary prevention (Water, Sanitation, biomedical waste etc.)				

12. What are some of the suggestions that you could give us to improve the services of your center?

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SECTION II (For VHN)

1. Name of the Facility: ……
2. Type of facility: □ Health and Wellness Centre □ Sub Centre
3. Village and block:
   ……
4. Date of assessment:
   ……
5. Name of the investigator:
   ……
6. Name of the VHN: ……Ph No.:
   ……..
7. Experience (years): Total: ……In this health facility:
   ……
8. Did you attend any Training / Workshop / Conference in the last 2 years on the following topics (Tick all those that are applicable)?
   8.1 Community health – to assess burden of disease and plan for health activities □
   8.2 Skilled birth attendance: Specify…… □
   8.3 Newborn care
      8.3.1 Basic newborn care □
      8.3.2 Newborn Resuscitation □
      8.3.3 Kangaroo Mother Care □
      8.3.4 Care of small babies –home based newborn care □
   8.4 Rashtriya Bal Swasthya Karyakram (Identification and early intervention on any of the four Ds for children 0-18 years)
      8.4.1 Defects at birth □
      8.4.2 Deficiencies □
      8.4.3 Diseases □ Respiratory diseases □ Diarrhea □ any other □
      …….
      8.4.4 Development delays and disability □
   8.5 Infection Control □
   8.6 Reproductive and sexual health
      8.6.1 Family planning □
      8.6.2 Contraception □
      8.6.3 Screening for STIs □
   8.7 Rashtriya Kishor Swasthya Karyakram or on Adolescent Health □
   8.8 Non communicable diseases
      8.8.1 Diabetes □
      8.8.2 Hypertension □
      8.8.3 Cancers □
      8.8.4 Injuries □
      8.8.5 Mental Health and wellness □ specify what?.....
      8.8.6 Elderly care □ specify what?.....
      8.8.7 Minor problems of ENT □
      8.8.8 Minor problems of Eyes □
      8.8.9 Minor problems of Oral cavity □

8.8.10 Anaemia Mukt Bharat

8.9 Communicable diseases

8.9.1 Tuberculosis □

8.9.2 Malaria / Dengue □

8.9.3 Diarrhoea □

8.9.4 HIV / STIs □

8.9.5 Other communicable diseases □ Specify:…….

9. What are the services you are providing for the health facility

Maternity	Child health	General Adult	NCD	Communicable
□ ANC registration □ Immunisation □ Dispensing IFA □ Ca □ □ Oral contraceptives □ Health education □ Postnatal care home visits □ Newborn care □ LBW care □ Health education □ Others (Specify)…… …… ……	□ Immunisation □ Growth monitoring □ Dressings □ ORS □ Health education □ Others (Specify)…… …… …… …… …… ……..	□ Injections □ Starting IV □ Taking ECG □ Blood sampling □ Check vitals □ Explain medications □ Health education □ Emergency medical care, specify …… …… …… …… □ Minor surgical interventions (dressing / abscess) □ Others (Specify)…… …… …… ……..	□ Screening for diabetes / hypertension □ Check vitals □ Call for Follow-up □ Check foot □ Remind for Eye check □ Cancer screening □ Health education □ Others (Specify)…… …… …… …… …… ……	□ DOTS □ Follow-up reminder □ Remind for sputum check □ Health education □ Others (Specify) …… …… …… …… …… …….

10.1 What are the outreach services you are providing for the health facility?

Maternity	Child health	NCD	Communicable
□ ANC registration □ Health education □ Postnatal visits □ Newborn visits □ Others (Specify)…… …… …… …… ……	□ Immunisation □ Growth monitoring □ School health visits □ Referrals □ ORS □ Health education □ Others (Specify)…… …… …… ……	□ Home based screening for diabetes / hypertension □ Call for follow-up □ Remind for eye check □ Check foot □ Palliative care □ Health education □ Explain on physical activity □ Dispensing medications under MTM scheme □ Others (specify)…… ……	□ Follow-up reminder □ Remind for sputum check □ Health education for prevention of infection □ Others (specify) …… …… …… …

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10.2 Did you have supervision / support from a senior person in the last 3 months?

□ Yes □ No

11. What are the challenges you face in providing the required services?

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12. What are the common duties you perform?

Rate these on a scale of 0-4, where:	Also rate these duties based on how confident you are in performing them on a scale of 1-4 where:
0 means very rare, less than once a month	1 means not at all confident
1 means once a month	2 means need some assistance
2 means once a week / once in 15 days	3 means need very little assistance
3 means alternate days	4 means very confident
4 means daily	

How often you perform the duty						**How confident you are to perform the duty**			
0	**1**	**2**	**3**	**4**	**Common duties / roles**	**1**	**2**	**3**	**4**
					1. Taking history of diabetes / hypertensive patient				
					2. Doing a risk assessment for non communicable diseases				
					3. Checking BP of a hypertensive patient				
					4. Examination of a stroke patient				
					5. Taking history and examination of a pregnant woman				
					6. Examination of a newborn				
					7. Administering immunisations				
					8. Doing dressings				
					9. Indenting and dispensing drugs for diabetes / hypertensive patients				
					10. Doing lab tests – urine / blood				
					11. Starting IV				
					12. Giving injections (IM/SC)				

					13. Making referrals				
					14. Maintenance of registers				
					15. Maintenance of online data				
					16. Attending meetings and giving reports to govt office (ID/NCD/Pregnant)				
					17. Ensuring WHVs make home visits – (tick all that is applicable) □ Newborn care □ Pregnant women □ Hypertensives □ Diabetics □ Cancer □ Elderly □ Stroke				
					18. Supervision of WHVs				
					19. Maintenance of equipment				
					20. Maintenance of cleanliness of facility				
					21. Ensuring posters and notices are updated				
					22. Identing and storage of drugs				
					23. Dispensing drugs				
					24. Outreach programs				
					25. Maintenance of vaccines – cold chain when administering immunisations				
					26. Waste segregation				
					27. Organising community awareness programs				
					28. Organising patient support groups				
					29. Interacting with other departments for health promotion and primary prevention (Water, Sanitation, biomedical waste etc.)				

10. What are some suggestions you can tell me that will help to improve the services of your center?

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SECTION III (For WHV)

1. Name of the Facility: ……Registration No. of Facility: …….
2. Type of facility: □ Health and Wellness Centre □ Sub Centre
3. Village and Block: ……..……
4. Date of assessment: ……
5. Name of the investigator: ……
6. Name of the WHV: ……Ph No.: ……..
7. Experience (years): Total: ……In this health facility: ……
8. Did you attend any Training / Workshop / Conference in the last 2 years on the following topics (Tick all those that are applicable)?

8.1 Maternal care

8.1.1 Identification of pregnant women □

8.1.2 Identification of pregnant women at risk □

8.1.3 Determining the need for referrals □

8.1.4. Educating women on planning for deliveries □

8.2 Newborn care

8.2.1 Basic newborn care □

8.2.2 KMC □

8.2.3 Care of small babies – Home Based Newborn Care □

8.3 Infection Control □

8.4 Reproductive and sexual health

8.4.1 Family planning □

8.4.2 Contraception □ oral contraceptives □ barrier (condom) □ intrauterine devices □

8.5 Rashtriya Kishor Swasthya Karyakram or on Adolescent Health □

8.6 Non communicable diseases

8.6.1 Diabetes □

8.6.2 Hypertension □

8.6.3 Cancer / palliative care □

8.6.4 Elderly care □

8.6.5 Anaemia Mukt Bharat □

8.6.6 Any other □ specify……..

8.7 Communicable diseases

8.7.1 Tuberculosis □

8.7.2 Malaria □

8.7.3 STIs/ HIV □

8.7.4 Malaria / Dengue □

8.7.5 Diarrhoea □

8.7.6 Other communicable diseases
(Specify)…….

9. What are the outreach services you are providing for the health facility?

Maternity	Child health	NCD	Communicable
□ ANC registration □ Health education □ Postnatal visits □ Newborn visits □ Others (Specify)…… …… …… …… ……	□ Growth monitoring □ School health □ Referrals □ ORS □ Health education □ Others (Specify)…… …… …… …… ……	□ Home based screening for diabetes / hypertension □ Call for follow-up □ Make home visits □ Remind for eye check □ Health education □ Check foot □ Explain on physical activity □ Dispensing medications under MTM scheme □ Palliative care □ Elderly care □ Others (specify)…… …… ……	□ Follow-up reminder □ Remind for sputum check □ Health education for prevention of infection □ Others (specify) …… …… ……

10. Outreach services

10.1 How many of the following do you need to visit in a month? (*Check records also*)

10.1.1 Pregnant women: ……

10.1.2 Newborns: ……

10.1.3 Postnatal women: ……

10.1.4 Adults with diabetes: ……

10.1.5 Adults with hypertension / stroke / cardiac problems: ……

10.1.6 Anyone with cancer / palliative: ……

10.1.7 Elderly: ……

10.1.8 Anyone with mental health issues: ……

10.2 Farthest village travelled for drug distribution (MTM) …… kms …… mode of transport used

10.3 How many villages are covered by you …….. Population …….. (*Check records also*)

10.4 What is the mode of the Transport you use frequently for MTM …….

10.5 Number of line listed individuals: ……

10.6 Number of Patients with Non Communicable Diseases (Diabetes / Hypertension / Cancer / Mental health issues etc) in Line List ……

10.7 For how many days drugs are given to a patient ……

10.8 Number of Home Visits per day:

a) Total: ……
b) For screening ……..
c) For drug distribution …….

11. Did you have supervision / support from a senior person in the last 3 months?

□ Yes □ No

12. What are the challenges you face in providing the required services?

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13. What are the common duties you perform?

Rate these on a scale of 0-4, where:	Also rate these duties based on how confident you are in performing them on a scale of 1-4 where:
0 means very rare, less than once a month	1 means not at all confident
1 means once a month	2 means need some assistance
2 means once a week / once in 15 days	3 means need very little assistance
3 means alternate days	4 means very confident
4 means daily	

How often you perform the duty						**How confident you are to perform the duty**			
0	**1**	**2**	**3**	**4**	**Common duties / roles**	**1**	**2**	**3**	**4**
					1. Follow-up of diabetes patient				
					2. Follow-up of a hypertensive patient				
					3. Follow-up of a stroke patient				
					4. Follow-up of a pregnant woman				
					5. Examination of a newborn				
					6. Follow-up of elderly				
					7. Checking weight of under-fives				
					8. Reminding for immunisations				
					9. Dispensing medications under MTM scheme				
					10. Ensuring people are going for referrals				
					11. Communicating with the MLHP/VHN/HI				
					12. Maintenance of registers Specify how many you have to maintain a) …… …… b) ……				

					…… c) …… …… d) …… …… e) …… …… f) …… ……				
					13. Attending meeting at govt office (ID/NCD/Pregnant)				
					14. Assisting in organising community awareness programs				
					15. Assisting in organising patient support groups				
					16. Interacting with other departments for health promotion and primary prevention (Water, Sanitation, biomedical waste etc.)				

13. What are some of the suggestions that you can tell me to help improve the services of your center?

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SECTION IV (For HI)

1. Name of the Facility: ……Registration No. of Facility: …….
2. Type of facility: □ Health and Wellness Centre □ Sub Centre
3. Village and Block:

   ……
4. Date of assessment:

   ……
5. Name of the investigator:

   ……
6. Name of the HI: ……Ph No.:

   ……..
7. Experience (years): Total: ……In this health facility:

   ……
8. Did you attend any Training / Workshop / Conference in the last 2 years on the following topics (Tick all those that are applicable)?

8.1 Water and Sanitation Health (WASH)

8.1.1 Environmental sanitation □

8.1.2 Waste management □

8.1.2 Chlorination of water □

8.2 Reproductive and sexual health

8.2.1 Family planning □

8.2.2 Contraception □

8.3 School Health □

8.4 Non communicable diseases

8.4.1 Diabetes □

8.4.2 Hypertension □

8.4.3 Cancer / palliative care □

8.4.4 Elderly care □

8.4.5 Anaemia Mukt Bharat □

8.4.6 Any other □ specify……..

8.5 Communicable diseases

8.5.1 Tuberculosis □

8.5.2 Malaria □

8.5.3 STIs/ HIV □

8.5.4 Dengue □

8.5.5 Diarrhoea □

8.5.6 Other communicable diseases
(Specify)…….

8.6 Registration of vital events □

8.7 Disaster and emergency preparedness □

9. What are the outreach services you are providing for the health facility?

General	Child health	NCD	Communicable
□ Check chlorination of drinking water sources □ Maintaining food hygiene at food establishments □ Investigation of food poisoning events □ Issue condoms under family welfare activities □ Ensure birth and death registration □ Others (Specify)…… …… …… ……	□ Arranging school health activities □ ORS depot holder □ Surveillance of Vaccine Preventable Diseases □ Acute Flaccid Paralysis surveillance □ Health education □ Others (Specify)…… …… …… …… ……	□ Home based screening for diabetes / hypertension □ Call for follow-up □ Others (specify)…… …… …… …… …… ……..	□ House to house survey for communicable diseases – Diarrhoea, TB, Leprosy etc □ Surveillance of Water borne Diseases □ Surveillance of Vector Borne Diseases – Malaria, Dengue etc □ Organize vector control measures □ Follow-up reminder □ Check water for contamination □ Health education for prevention of infection □ Others (specify) …… …… ……

10. Did you have supervision / support from a senior person in the last 3 months?

□ Yes □ No

11. What are the challenges you face in providing the required services?

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12. What are the common duties you perform?

Rate these on a scale of 0-4, where:	Also rate these duties based on how confident you are in performing them on a scale of 1-4 where:
0 means very rare, less than once a month	1 means not at all confident
1 means once a month	2 means need some assistance
2 means once a week / once in 15 days	3 means need very little assistance
3 means alternate days	4 means very confident
4 means daily	

How often you perform the duty						How confident you are to perform the duty			
0	**1**	**2**	**3**	**4**	**Common duties / roles**	**1**	**2**	**3**	**4**
					1. House to house survey for communicable diseases				
					2. Surveillance of Water borne Diseases				
					3. Surveillance of Vector Borne Diseases				
					4. Organizing vector control measures				
					5. Checking chlorination of drinking water sources				
					6. Home based screening for diabetes / hypertension				
					7. Arranging school health activities				
					8. Checking chlorination of drinking water sources				
					9. Communicating with the MO PHC / MLHP/ VHN / WHV				
					10. Maintenance of registers Specify how many you have to maintain a) …… b) …… c) …… d) …… e) …… f) ……				
					11. Attending meeting at govt office				
					12. Assisting in organising community awareness programs				
					13. Assisting in organising patient support groups				
					14. Interacting with other departments for health promotion and primary prevention (Water, Sanitation, biomedical waste etc.)				

13. What are some of the suggestions that you can tell me to help improve the services of your center?

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ANNEXURE-4

FORM C: Observation Checklist

Instructions for Filling the Form: *This form can be filled up by walking through the health facility and getting information from the senior staff or reviewing records □ (Tick all as is relevant)*

1. Name of the Facility: ……..
2. Block and Village: …….
3. Date of assessment: …….
4. Name of the investigator: ……
5. Type of facility: □ Health and Wellness Centre □ Sub Centre

	Infrastructure (Tick Y if available)			
1.	Dedicated space for OPD consultation	Y □	N □	Not applicable □
2.	Separate area (bed with screen) for examination / dressing / injection	Y □	N □	Not applicable □
3.	Space for medications – placed in order of expiry date	Y □	N □	Not applicable □
4.	**Other facilities** i. Clean and functional toilet available	Y □	N □	Not applicable □
	ii. Drinking water available with signage	Y □	N □	Not applicable □
	iii. Disposal of waste area available with signage	Y □	N □	Not applicable □
5.	iv. Place available to teach yoga/exercise/meditation	Y □	N □	Not applicable □
6.	v. Fire extinguisher	Y □	N □	Not applicable □
	Equipment and Instruments			
1.	Weighing machine functioning – Adults	Y □	N □	Not applicable □
2.	Digital weighing machine	Y □	N □	Not applicable □
3.	BP Apparatus	Y □	N □	Not applicable □
4.	Stethoscope	Y □	N □	Not applicable □
5.	Thermometer	Y □	N □	Not applicable □
6.	ECG machine	Y □	N □	Not applicable □

7.	Pulse oximeter	Y □ N □	Not applicable □
8.	Snellen's Chart	Y □ N □	Not applicable □
9.	Tuning fork	Y □ N □	Not applicable □
10.	Examination lamp	Y □ N □	Not applicable □
11.	Measuring tape	Y □ N □	Not applicable □
12.	Flash light / torch box type – prefocused	Y □ N □	Not applicable □
13.	Hemoglobinometer – set Sahli type complete	Y □ N □	Not applicable □
14.	Steriliser	Y □ N □	Not applicable □
15.	Kelly's hemostat forceps – curved 140mm ss	Y □ N □	Not applicable □
16.	Vulsellum uterine forceps – 25.5cm	Y □ N □	Not applicable □
17.	Cusco's Graves Speculum vaginal bivalve -small □ / medium □ / large □	Y □ N □	Not applicable □
18.	Sims retractor / depressor	Y □ N □	Not applicable □
19.	Sims speculum vaginal double ended ISS medium	Y □ N □	Not applicable □
20.	Cheatle's forceps	Y □ N □	Not applicable □
21.	Vaccine carrier	Y □ N □	Not applicable □
22.	Ice pack box	Y □ N □	Not applicable □
23.	Dressing kit	Y □ N □	Number……
24.	Fetoscope	Y □ N □	Number…….
25.	Hub cutter and needle destroyer	Y □ N □	Number…….
26.	Stadiometer	Y □ N □	Number…….
27.	Dental probe	Y □ N □	Number……
28.	Mouth mirror	Y □ N □	Number……
29.	Mouth gag	Y □ N □	Number……
30.	Tongue depressor	Y □ N □	Number……
31.	Mother and Child Protection Card (Thayi card) is available and updated (Randomly check any 3 cards of women attending ANC)	EDD	Y □ N □
		Weight	Y □ N □
		BP	Y □ N □
		Blood group	Y □ N □
		Hb	Y □ N □
		Inj.TT	Y □ N □
		T.IFA	Y □ N □
		T. Calcium	Y □ N □

	Drug storage room	Tick as appropriate	Comments
1.	Oxygen - Cylinder	Y □ N □	
	Local anesthetic		
2.	Lignocaine (Topical 2-5%)	Y □ N □	
	Analgesic, antipyretics, anti-inflammatory		
3.	Tab Diclofenac (Tab 50mg)	Y □ N □	
4.	Inj Diclofenac 25mg/ml	Y □ N □	
5.	Paracetamol – 500mg / 650 mg	Y □ N □	
6.	Syrup paracetamol (125mg/5ml or 250mg/5ml or 240mg/5ml)	Y □ N □	
	Antiallergic		
7.	Cetrizine 10mg	Y □ N □	
8.	Tab Chlorpheniramine 4mg	Y □ N □	
9.	Oral Liquid Chlorpheniramine 2mg/5ml	Y □ N □	
	Intestinal antihelmenthes (anti-worm)		
10.	Tab Albendazole 400mg	Y □ N □	
11.	Syp Albendazole	Y □ N □	
12.	Diethylcabamzin (Antifilarial) – Tab 50mg / 100 mg	Y □ N □	
	Anti-bacterial		
13.	Ciprofloxacin – Tab 250mg / 500 mg	Y □ N □	
14.	Metronidazole – Tab 200 mg / 400 mg	Y □ N □	
15.	Amoxicillin – Cap 250 mg / 500 mg	Y □ N □	
16.	Amoxicillin – Oral liq 250 mg/5ml	Y □ N □	
	Anti fungal		
17.	Fluconazole – Tab 100mg	Y □ N □	
	Anti-malarial		
18.	Chloroquine – Tab 150mg	Y □ N □	
19.	Primaquine – Tab 2.5mg / 7.5 mg / 15 mg	Y □ N □	
20.	Artesunate (A) + Sulphadoxine – Pyrimethamine (B). Combi pack (A+B)	Y □ N □	
	Dermatological medicines (Topical)		
21.	Clortimazole – cream 1%	Y □ N □	
22.	Gentian violet – Topical 0.25% to 2%	Y □ N □	
23.	Povidone iodine (Betadine)- Sol 4%-10%	Y □ N □	
24.	Silver sulphadiazine-Cream 1%	Y □ N □	

25.	Framycetin-Cream 0.5%	Y □ N □	
	Gastrointestinal medicines		
26.	Ranitidine – Tab 150 mg	Y □ N □	
27.	Domperidone- Tab 10mg	Y □ N □	
28.	Dicyclomine – Tab 10mcg	Y □ N □	
29.	Oral rehydration salts – as licensed	Y □ N □	
30.	Zinc sulphate – dispersible tab 20mg	Y □ N □	
	Vitamins and minerals		
31.	Cholecalciferol (vitamin D) – Tab 1000 IU □ / Tab 60000 IU □ / Oral liq -400 IU/ml □	Y □ N □	
	Ear, nose, and throat medicines		
32.	Ciprofloxacin-Drops 0.3%	Y □ N □	
33.	Clotrimazole – Drops 1%	Y □ N □	
34.	Normal saline (NaCl) nasal drops - 05% w/v	Y □ N □	
35.	Xylometazoline nasal drops– adult (0.1%) □ / child (0.05%) □	Y □ N □	
36.	Wax solvent ear drops: benzocaine, chlorbutol, paradichlorobenzene, turpentine oil	Y □ N □	
37.	Boro-spirit ear drops – 0.183 boric acid in 2.08 ml of alcohol	Y □ N □	
38.	Combo ear drops (Chloramphenicol [5%w/v] + Clotrimazaole [1%] +Lignocaine hydrochloride [2%])	Y □ N □	
39.	Liquid paraffin – methol drops (menthol 10gm+Eucalyptus 2ml + Camphor 10gm + Liquid paraffin to 100ml	Y □ N □	
	Emergency medicine kit		
40.	Inj. Adrenaline	Y □ N □	
41.	Inj Hydrocortisone	Y □ N □	
42.	Inj. Dexamethasone	Y □ N □	
43.	Glyceral trinitrate – sublingual Tab 0.5mg	Y □ N □	
	Medicines that can be indented as per requirement		
	Anti hypertensives		
44.	Amlodipin -Tab 2.5 mg □ / Tab 5mg □ / Tab 10mg □	Y □ N □	
45.	Atenolol - Tab 50mg □ / Tab 100mg	Y □ N □	
46.	Enalapril Tab 2.5 mg □ / Tab 5mg □	Y □ N □	
47.	Propanolol Tab 40mg □ / Tab 80mg □ / Tab 10mg □	Y □ N □	
	Cardiovascular (medicines used for angina)		
48.	Isosorbide -Tab 5mg □ / Tab 10mg □	Y □ N □	

49.	Clopidogrel – Tab 75mg	Y □ N □	
	Diuretics		
50.	Furosemide – Tab 40mg □ / oral liquid 10mg/ml □	Y □ N □	
51.	Hydrochlorothiazide – Tab 25mg	Y □ N □	
52.	Spironolactone – Tab 25 mg □ / Tab 50 mg □	Y □ N □	
	Anti Diabetic		
53.	Glimepiride – Tab 1mg □ / Tab 2mg □	Y □ N □	
54.	Insulin 40 IU/ml	Y □ N □	
55.	Intermediate acting (NPH) Insulin 40 IU/ml	Y □ N □	
56.	Premix Insulin 30:70 Inj. (Regular NPH) – 40 IU/ml	Y □ N □	
57.	Metformin – Tab 500mg □ / Tab750 mg □ / Tab 1 g □	Y □ N □	
	Anticonvulsants		
58.	Carbamazepine – Tab 100mg	Y □ N □	
59.	Diazepam – oral liquid 2mg/5ml	Y □ N □	
60.	Phenobarbitone – Tab 30mg □ / Tab 60mg □ / Oral liq 20mg/5ml □	Y □ N □	
61.	Phenytoin – Tab 50mg □/ Tab 100mg □ / Tab 300mg □/ ER Tab 300mg □/ Inj 25mg/ml □ / Inj. 50mg/ml □	Y □ N □	
62.	Sodium valproate – Tab 200mg □ / Tab 500mg □	Y □ N □	
	COPD		
63.	Salbutamol – Tab 2mg □ / Tab 4mg □/ Oral liq 2mg/5ml □ / Res solution to use in nebuliser 5mg/ml □ / Inhalation (MDI/DPI) 10mcg/dose □	Y □ N □	
64.	Additional medicines indented.		

	Lab visit		
1.	Diagnostic materials and reagents for screening? i. Glucometer	Y □ N □	
	ii. Glucometer testing strips	Y □ N □	
	iii. Slide drying rack	Y □ N □	
	iv. Specimen collection bottle	Y □ N □	
	v. Glass slide box with 25 slides	Y □ N □	
	vi. Urine pregnancy test kit	Y □ N □	
	vii. Rapid test kit for dengue	Y □ N □	
	viii. Rapid test kit for Malaria	Y □ N □	
	ix. Finger prick HIV rapid test	Y □ N □	
2.	Reagents such as i. Bleaching powder	Y □ N □	
	ii. Hypochlorite solution	Y □ N □	
	iii. Methylated spirit	Y □ N □	
	iv. Dipsticks for urine test (1 container with 25 strips) for protein and sugar)	Y □ N □	
3.	Comments		

	Availability & display of IEC material for		
1.	For mothers / newborn and children / adults	Specify	
2.	Other displays	Phone Numbers of Referral Hospitals	
		Patient Rights	
		Ambulance contact number	

	Comments:		
	Infection control		
1.	Examination and procedure / care area surfaces and equipment are clean. No stains of fresh or dried blood / body fluids on the floor / top surfaces	Y □ N □	
2.	Wash basin with running water or water stored in a bucket with mug; soap, clean cloth or towel available in the examination and procedure area	Y □ N □	
3.	Waste disposal colour coded bins / bags are arranged in one corner of the examination / procedure care area. i. Dustbins – Blue ii. Dustbin – Red iii. Dustbin - Yellow iv. Dustbin - Black	Y □ N □ Y □ N □ Y □ N □ Y □ N □ Y □ N □	
4.	Hand towels	Y □ N □	
5.	Gloves	Y □ N □	
6.	Mask	Y □ N □	
7.	Apron	Y □ N □	
8.	Goggles / Eye shield	Y □ N □	
9.	Cleaning material and detergent	Y □ N □	
10.	Comments		

ANNEXURE-5

Form D- Record Review

Instructions to Complete the Form: *Complete this form by getting information from MLHP / VHN for last 3 months:*

1. Name of the Facility: ……
2. Type of facility: □ Health and Wellness Centre □ Sub Centre
3. Block and Village name:

   ……..……
4. Date of assessment:

   ……
5. Name of the investigator:

   ……

6.A.1	Outcomes	Month 1 ……	Month 2 ……	Month 3 …….	Not Available
□	Total no. registered in OPD				
□	No. of ANC registered				
□	No. of PNC attended				
□	No. of outreach sessions conducted				
□	No of emergencies managed				
□	No of children with Acute malnutrition referred to NRCs				
□	No. of children immunized				
□	**No of children treated for** □ Anemia				
	□ Diarrhea				
□	**No of TB patients** □ on treatment				
	□ who completed their treatment				
□	**No of patients who were attended (in OPD / outreach) for any NCD** □ Diabetes new □ Diabetes old / repeat				

	□ Hypertension new □ Hypertension old / repeat				
	□ COPD – new / repeat				
	□ Cancer – new screened				
	□ Mental health – new screened / diagnosed				
□	**Number of referrals made** □ Maternal complications				
	□ Neonatal complications				
	□ Diabetes				
	□ HTN				
	□ Cancer				
	□ Palliative				
	□ COPD				
	□ Mental health issues				
	□ Adolescent health				
	□ Accidents and injuries				
	□ Others, specify …… …… ……				
□	**Number of telemedicine consultations made** □ Maternal complications				
	□ Neonatal complications				
	□ Diabetes				
	□ HTN				
	□ Cancer				
	□ Palliative				
	□ COPD				
	□ Mental health issues				
	□ Adolescent health				

	◻ Others, specify …… …… …… …… ……				
◻	Number of special clinics conducted and number of beneficiaries attended ◻ …… ◻ …… ◻ …… ◻ ……				
◻	Number of special days observed and number of beneficiaries attended ◻ …… ◻ …… ◻ …… ◻ ……				
	Vital Statistics (*if applicable) in the last 1 year (1st Apr 2022 – 31st March 2023)*				
	◻ No of births				
	◻ No of deaths				
	Number of tests done in the last month				Not Applicable
	◻ Pregnancy test				
	◻ Hb				
	◻ Blood sugar- RBS				
	◻ Smear test (Malaria)				
	◻ Malaria card test				
	◻ Dengue card test				
	◻ Collection of sputum sample for AFB				
	◻ Routine urine tests				
	◻ Urine dipstick – albumin & sugar				
	◻ Blood collection to send to referral lab				
	◻				
	◻				
	◻				
	Drugs				
	◻ Total number of drugs dispensed in OPD				
	◻ Total number of drugs dispensed in outreach clinics				

6.A.2	**Information Technology**			
1.	Unique identification number is given to each patient			
	1.1. At time of registration	□ Yes	□ No	□ Not Applicable
	1.2. Ordering tests	□ Yes	□ No	□ Not Applicable
	1.3. At Pharmacy	□ Yes	□ No	□ Not Applicable
	1.4. Referring to other facilities	□ Yes	□ No	□ Not Applicable
	1.5. Follow-up	□ Yes	□ No	□ Not Applicable
2.	What reports are sent to the Government?			
	2.1. Births	□ Yes	□ No	□ Not Applicable
	2.2. Deaths	□ Yes	□ No	□ Not Applicable
	2.3. Communicable diseases	□ Yes	□ No	□ Not Applicable
	2.4 Non-Communicable diseases	□ Yes	□ No	□ Not Applicable
3.	Equipment for data entry available?			
	3.1 Computer	□ Available functional	□ Available not functional	□ Not available
	3.2 Online support	□ Available functional	□ Available not functional	□ Not available
4.	Registers available (list down)			

ANNEXURE-6

Form E: Patient Exit Survey Form

1. Name of the facility: ……..
2. Type of facility: □ Health and Wellness Centre □ Sub Centre
3. Name of the block and village:

   ……
4. Date of assessment:

   ……
5. Name of the investigator:

   ……..
6. ***Instructions to surveyor:*** *Select 5 patients from the facility. If possible, do not repeat a patient with the same diagnosis.*
   Tick the relevant option
   - Patient with general problem (fever, cold/cough, pain, diarrhoea)
   - Patient with diabetes mellitus
   - Patient with hypertension
   - Patient with tuberculosis or communicable disease
   - Patient with chronic pain? Receiving palliative care?
   - Patient with COPD
   - Patient with mental health issues
   - ANC mother
   - PNC mother
   - Others (specify)

     ……

     …

   Instructions to patient*: You just visited this facility for services. We would like to know what you felt of the services you received here so that we can improve these for you*

7. For what health problem did you come to the health facility?

   ……
8. Why did you choose this health facility for this problem?

……

……

……

9. What is the distance from home to this health facility? _____(Kms)
10. Duration of travel by vehicle_____(Hrs)_____(minutes)
11. What do you like most about this health facility?

……

……

……

……

12. What would you like to see improved in this health facility?

……

……

……

……

13. What are the challenges you faced while seeking care in this health facility?

……

……

……

……

Details of patient: This information can be collected directly from the patient/the patient's attendant.

14. Age of the patient: …….. (in completed years)
15. Sex:
    - Male
    - Female
    - Other
16. Occupation:

……
…

17. Highest Education:

……
…

For Adults / Adolescents only						
I will be asking you a few questions. Give your answer in the form of a number ranging from 0-3, where "0" means "Don't know / never"; "1" means "Maybe / not sure"; "2" means "Sometimes"; and "3" means "Always".						
		0	1	2	3
1.	Do you visit this health facility when you have a new health problem?				
2.	Will you come back to this health facility for a follow-up?				
3.	Is it easy for you to access (come) to this health facility?				
4.	Is the normal waiting time less than 30 minutes?				
5.	Is this health facility open on Saturdays and Sundays?				
6.	Is there a phone number that you can call to make appointments?				
7.	Are there adequate medications available?				
8.	Do you see the same health staff every time you visit this health facility?				
9.	Can you call the doctor / nurse if you have any urgent problem?				
10.	Since the health staff started treating you, have you ever been referred to a specialist?				
11.	Since the health staff started treating you, have you ever seen a specialist?				
12.	Does the treating health staff understand your words easily?				
13.	Does the treating health staff explain test results in a way you can understand?				
14.	Does the treating health staff share enough information with you about your health problem?				
15.	Does the treating health staff know your medical history?				
16.	Does the treating health staff get opinions and ideas from you to provide better care?				
17.	Would you recommend this health facility to a friend or relative?				
18.	What all was done at this visit for you?	☐ Physical examination done ☐ BP checked ☐ Blood tests done ☐ Eye examination done ☐ Foot examination done ☐ Cancer screening ☐ Gave prescription ☐ Explained about my condition ☐ Explained about medications ☐ Gave health record ☐ Referred me to a specialist				

		□ Advised admission to health facility	

ANNEXURE-7

Knowledge questionnaire for MLHP – HWC and ANM - Sub Center

Duration: 20 minutes Maximum marks: 50

Place a tick mark in the square against the most appropriate option/s.

1. Which of these increase the risk of a person for diabetes or hypertension. Tick all that is applicable: 6 marks
   - ☐ Smoking daily
   - ☐ Maintaining a healthy weight
   - ☐ Practicing yoga, meditation, problem solving to manage stress
   - ☐ History of hypertension or diabetes in family
   - ☐ Obesity
   - ☐ Eating balanced diet
   - ☐ Physically inactive
   - ☐ Non-alcoholic
   - ☐ Exercising daily
   - ☐ Having high cholesterol levels
   - ☐ Depression.

2. Which of these would increase a person's risk for cancer? 7 marks
   - ☐ History of smoking or chewing tobacco
   - ☐ Eating chicken or fish daily
   - ☐ Exposure to a lot of pollution both indoors and outdoors
   - ☐ Eating large quantities of red meat (e.g. beef)
   - ☐ Being obese
   - ☐ Eating a diet with lots of vegetables and fruits
   - ☐ Having a weight that is appropriate for height
   - ☐ Lack of exercise
   - ☐ Exposure to radiation
   - ☐ History of STIs like Human papilloma virus
   - ☐ Fasting to reduce caloric intake
   - ☐ Exposure to clean atmosphere

3. Amlodipin is a 5 marks
   - ☐ Anti-diabetic
   - ☐ Antibiotic
   - ☐ Anti- hypertensive
   - ☐ None of the above

4. If a 40 year old male patient comes to the facility with a wound on his leg. He tells you he got pricked with a glass piece lying on the floor and it was not healing.
   a. Which of these diseases is he mostly likely to have? 2 marks
      - ☐ Hypertensive
      - ☐ Diabetes
      - ☐ Cardiac problem
      - ☐ Gastroenteritis
   b. What test would you do first? 2 marks
      - ☐ Check the BP
      - ☐ Do an ECG
      - ☐ Check the blood sugar
      - ☐ None of the above
   c. What would you tell the person to do? *(Tick all that is applicable)* 6 marks
      - ☐ Get a blood test done – fasting and post prandial.
      - ☐ Do exercise daily.
      - ☐ Not to take any medication.
      - ☐ Eat only two meals a day.
      - ☐ Talk about how the diet can be suited to meet his health needs.
      - ☐ Do a dressing.
      - ☐ Teach him how to care for the foot.
      - ☐ Meet a specialist / doctor at PHC.
      - ☐ Go to a counsellor.
      - ☐ Not to worry he will become better.
      - ☐ Prescribe medication (Specify……..)

5. A 55 year old smoker male patient comes to the center with panting, dizziness, palpitations or heart pounding, chest pain. Tick all the steps you will take for this patient.
   - ☐ Get an ECG. 10 marks
   - ☐ Make the patient lie down.
   - ☐ Check respiratory rate, oxygen saturation.
   - ☐ Check heart rate and BP.
   - ☐ Get history from patient or family (symptoms – chest pain – severe / sudden, excessive sweating, difficulty in breathing)
   - ☐ Check if he is conscious.
   - ☐ Rule out any red flags
   - ☐ Refer to the higher center / cardiologist.
   - ☐ Administer medication (specify ……)
   - ☐ Get a teleconsultation with the specialist immediately.
   - ☐ Arrange for transport to a higher center immediately.

6. A 32 year old woman has come for her first ANC on 31st July, 2023. Her LMP was 20th March, 2023. What would you do for her? (*tick all that you will do for her*)
   - ☐ Make her lie down. 5 marks
   - ☐ Do an internal examination.

- ☐ Give her a medication (specify…….)
- ☐ Check her BP □ / temperature □ / pulse □ / fetal heart sound □
- ☐ Get obstetric history – number of previous pregnancies □ / number of live children □ / number of abortions □ / any complications □ / type of deliveries for previous pregnancies □
- ☐ Ask her whether she had a fall or injury.
- ☐ Ask her to do test for HIV □ / RPR or VDRL □ / Hepatitis B □ / Blood group □ / Hemoglobin □ / urine test for sugar and albumin □
- ☐ Give her some water to drink.
- ☐ Refer her to the obstetrician.
- ☐ Ask her to get an abdominal ultrasound scan done.
- ☐ Get a teleconsultation with the specialist immediately.
- ☐ Look for injury marks.
- ☐ Start her on IV.

7. The aim of mission INDRADHANUSH is related to (1 mark)
   - ☐ Covid prevention
   - ☐ Immunization
   - ☐ Mid day meal
   - ☐ Water sanitation

8. Weekly Iron and Folic Acid Supplementation (WIFS) Programme is meant for
   - ☐ Adolescent girls & lactating mothers (1 mark)
   - ☐ Adolescent boys and girls
   - ☐ Pregnant women
   - ☐ Adolescent boys, pregnant mother & lactating

9. Write names of any 5 high risk ANC pregnancy conditions (5 marks)
   - ☐ ……
   - ☐ ……
   - ☐ ……
   - ☐ ……
   - ☐ ……

ANNEXURE-8

OSCE for MLHP in HWC and VHN in SC

Total duration: 30 minutes Total marks: 50

Station 1: Unobserved (5 minutes) 10 marks

Name for what condition the following will be given

1. Tab Atenolol :……..
2. Tab Isosorbide :……..
3. Tab Furosemide :……..
4. Inj. Hydrocortisone :……..
5. Cap Mefenamic acid :……..
6. Tab Albendazole :……..
7. Tab Misoprostol :……..
8. Tab Levonorgestrel :……..
9. Tab Ranitidine :……..
10. Tab Primaquine :……..

Station 2: (Observed) 5 minutes 10 marks

A 20 year old woman comes to your center with a 4- day old baby and says the baby is not feeding well. Counsel and support her for breastfeeding.

Station 3: (Observed) 5 minutes 10 marks

A 65 year old male comes to you with a history of passing watery stools from the previous night. He says he is feeling very weak, has dry and cracked lips, is extremely thirsty. Get the history of illness and check his hydration status.

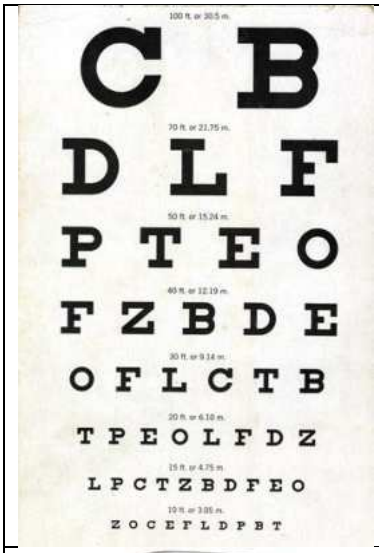
Station 4: (Observed) 5 minutes 10 marks

You have to check the FBS of a 40 year old female with a diagnosis of diabetes. Educate her about need for follow-up.

Station 5 (Unobserved) 10 minutes 10 marks

Instrument /equipment	

	a) Name of the instrument? b) Give one use
 shutterstock.com · 383887093	a) Name of the object b) When is it used?
	What are the wastes which are disposed in the below mentioned coloured bins? a) Black: b) Blue: c) Yellow: d) Red:

	a) Name of the chart? b) Give one use
	a) Write one use of this instrument? b) How is it disinfected?

ANNEXURE-9

In depth interview guide for Anganwadi worker and Anganwadi helper

Date Time	(start) (end)
Name of interviewer	
Name of participant	
Age / Sex	
Education	
Occupation	
Name of the Anganwadi	
Name of block / village	

Instructions for interviewers:

Introduce yourself, briefly talk about the Ayushman Bharat Health and Wellness Centres and explain the reason for the visit. Hand over consent forms and request permission to record the discussion. Get some detailed input about their awareness of public health facilities available in their vicinity. Explain that the recording will only be used by the interviewers to take notes and nothing they say will be attributed specifically to them. Inform that the discussion will take around 30 – 45 minutes.

Listen with attention to capture every piece of information from the respondents.

Explore key words, phrases, terms as they appear in the discussion.

Listen to impressions, topics avoided by informant, deliberate distortions, and misconceptions / misunderstandings. Take prompt action to explore each of these. Where appropriate, use probes.

Themes:

1) Awareness
2) Practice
3) Challenges
4) Suggestions

Awareness:

a) Awareness regarding new / upgraded Ayushman Bharat Health and Wellness Centre in their village. How is it different from earlier Sub centres?
b) Services provided in these centres. Explain in detail.
c) Staff and any additional manpower available in these Health and Wellness centres
d) Health-related community outreach activities done by these Health and Wellness Centre staff do. Explain in detail.

Practice:

a) Preference of health facility (public / private) for your health needs. Reasons for the same.
b) Have you ever visited the Ayushman Bharat Health and Wellness Centres for your health needs? Explain about the health condition, the treatment sought and overall experience.
c) Activities performed by Health and Wellness Centres staff in your Anganwadi and the health services the Health and Wellness Centres staff do along with you. Explain in detail.

Challenges:

a) Challenges you face in accessing the Ayushman Bharat Health and Wellness centres? (Probe on time as a challenge, facilities, distance, cost incurred, confidence on health care workers, availability of medicines and investigations etc)
b) Challenges the Health and Wellness Centres staff face in providing their services in your Anganwadi or the community nearby.

Suggestions:

a) Suggestions from your side to improve health care delivery at these Ayushman Bharat Health and Wellness centres?
b) Measures that can be taken to improve utilization of Ayushman Bharat Health and Wellness centres?

Investigators observations

Areas for further improvement

Annexure-10

In depth interview guide for Panchayat member and Self Help Group Member

Date Time	(start) (end)
Name of interviewer	
Name of participant	
Age / Sex	
Education	
Occupation	
Name of Self Help Group / Panchayat	
Name of block / village	

Instructions for interviewers:

Introduce yourself, briefly talk about the Ayushman Bharat Health and Wellness Centres and explain the reason for the visit. Hand over consent forms and request permission to record the discussion. Get some detailed input about their awareness of public health facilities available in their vicinity. Explain that the recording will only be used by the interviewers to take notes and nothing they say will be attributed specifically to them. Inform that the discussion will take around 30 – 45 minutes.

Listen with attention to capture every piece of information from the respondents.

Explore key words, phrases, terms as they appear in the discussion.

Listen to impressions, topics avoided by informant, deliberate distortions, and misconceptions / misunderstandings. Take prompt action to explore each of these. Where appropriate, use probes.

Themes:

1) Awareness
2) Practice

3) Challenges
4) Suggestions

Awareness:

a) Awareness regarding new / upgraded Ayushman Bharat Health and Wellness Centre in their village. How is it different from earlier Sub centres?
b) Services provided in these centres. Explain in detail.
c) Staff and any additional manpower available in these Health and Wellness centres
d) Health-related community outreach activities done by these Health and Wellness Centre staff do. Explain in detail.

Practice:

a) Preference of health facility (public / private) for your health needs. Reasons for the same.
b) Have you ever visited the Ayushman Bharat Health and Wellness Centres for your health needs? Explain about the health condition, the treatment sought and overall experience.
c) Activities performed by Health and Wellness Centres staff in your village and the health services the Health and Wellness Centres staff do along with your SHG. Explain in detail.

Challenges:

a) Challenges you face in accessing the Ayushman Bharat Health and Wellness centres? (Probe on time as a challenge, facilities, distance, cost incurred, confidence on health care workers, availability of medicines and investigations etc)
b) Community level challenges that the Health and Wellness centres staff face in providing the services

Suggestions:

a) Suggestions from your side to improve health care delivery at these Ayushman Bharat Health and Wellness centres.
b) Measures that can be taken to improve utilization of Ayushman Bharat Health and Wellness centres.

Investigators observations

Areas for further improvement

ANNEXURE-11

In depth interview guide for PHC Medical Officer

Date Time	(start) (end)
Name of interviewer	
Name of Medical Officer	
Age / Sex	
Education	
Years of experience as Medical Officer	
Name of the PHC	
Name of block	

Instructions for interviewers:

Introduce yourself, briefly talk about the Ayushman Bharat Health and Wellness Centres and explain the reason for the visit. Hand over consent forms and request permission to record the discussion. Get some detailed input about their awareness of public health facilities available in their vicinity. Explain that the recording will only be used by the interviewers to take notes and nothing they say will be attributed specifically to them. Inform that the discussion will take around 20 – 30 minutes.

Listen with attention to capture every piece of information from the respondents.

Explore key words, phrases, terms as they appear in the discussion.

Listen to impressions, topics avoided by informant, deliberate distortions, and misconceptions / misunderstandings. Take prompt action to explore each of these. Where appropriate, use probes.

Themes:

1) Awareness
2) Practice
3) Challenges
4) Suggestions

Awareness:

a) Details regarding new / upgraded Ayushman Bharat Health and Wellness Centre under their PHC administration – number, average population covered and working status.
b) Services provided in these centres. Explain in detail.
c) Staff and any additional manpower available in these Health and Wellness centres
d) Health-related community outreach activities done by these Health and Wellness Centre staff. Explain in detail.

Practice:

a) Explain about the referral mechanism from Health and Wellness Centre to Primary Health Centre
b) Details of teleconsultation procedure, frequency and illness from Health and Wellness Centre to Primary Health Centre
c) Supervisory visits and review meetings frequency and details

Challenges:

a) Challenges you face in day-to-day functioning of Ayushman Bharat Health and Wellness centres
b) Challenges the Health and Wellness Centres staff face in providing their services in the community nearby.

Suggestions:

a) Suggestions from your side to improve health care delivery at these Ayushman Bharat Health and Wellness centres?
b) Measures that can be taken to improve utilization of Ayushman Bharat Health and Wellness centres by community?

Investigators observations

Areas for further improvement

ANNEXURE-12

Focus Group Discussion Guidelines

Date Time	(start)	(end)
Names of interviewers		
No. of participants	(males)	(females)
Name of block / location		

Instructions for interviewers:

Introduce yourself, briefly talk about the Ayushman Bharat Health and Wellness Centres and explain the reason for the visit. Get some detailed inputs about their awareness of public health facilities available in their vicinity, and their reasons to choose private health facilities over public health facilities. Hand over consent forms and request permission to record the discussion. Explain that the recording will only be used by the interviewers to take notes and nothing they say will be attributed specifically to them. Inform that the discussion will take around 30 – 45 minutes.

Themes:

1) Awareness
2) Practice
3) Challenges
4) Suggestions

Awareness:

a) Are you aware of the new / upgraded Ayushman Bharat Health and Wellness Centre?
b) Are you aware of the services that are upgraded in these centres? If yes, explain in detail.

c) Are you aware of the additional manpower been appointed in these centres? If yes, explain in detail.

Practice:

a) Which health facility (public / private) do you prefer for your health needs?
b) Have you ever visited the Ayushman Bharat Health and Wellness Centres for your health needs? Explain about the health condition and the treatment sought.
c) How was your experience of Ayushman Bharat Health and Wellness Centres?
d) What are the reasons for choosing private health facilities over public?

Challenges:

a) What are some of the challenges you face in accessing the Ayushman Bharat Health and Wellness centres? (Probe on time as a challenge, facilities, distance, cost incurred, confidence on health care workers, availability of medicines and investigations etc)

Suggestions:

a) What are some of the suggestions from your side to improve health care delivery at these Ayushman Bharat Health and Wellness centres?
b) What are the measures that can be taken to improve utilization of Ayushman Bharat Health and Wellness centres?

Investigators observations