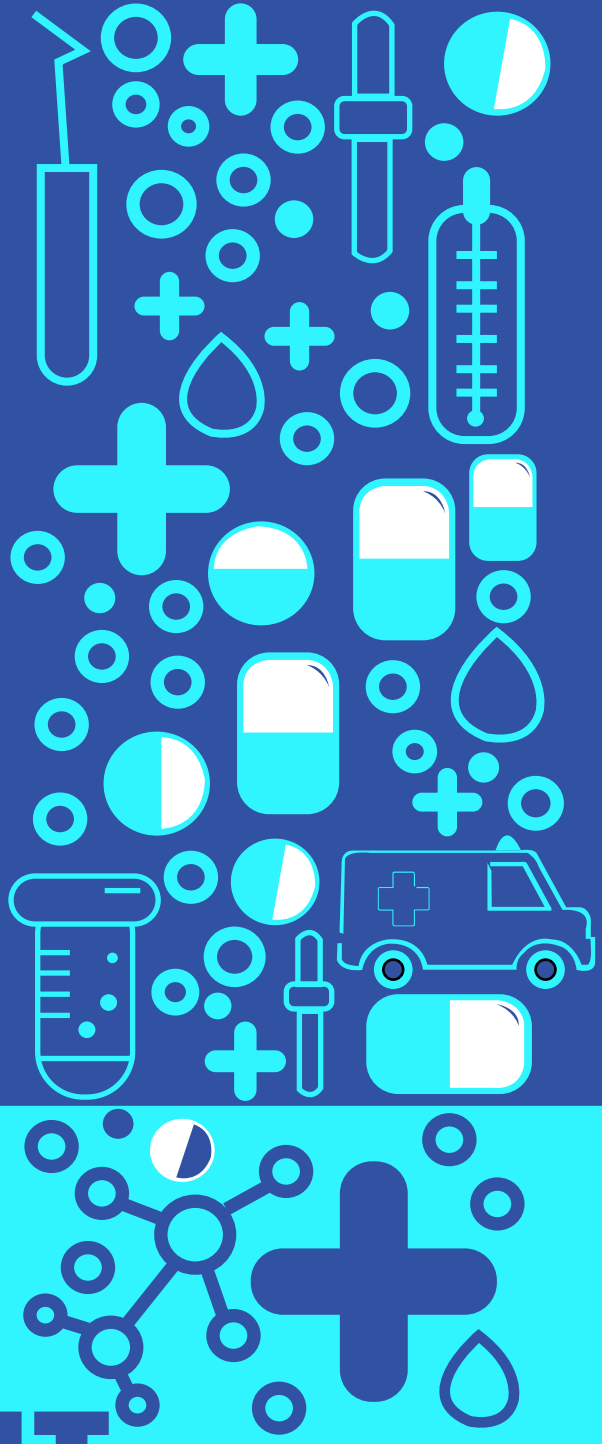
SUN PHARMA



IMPACT ASSESSMENT

SUN PHARMA COMMUNITY HEALTHCARE SOCIETY

Prepared By

BIMTECH
BIRLA INSTITUTE
OF MANAGEMENT TECHNOLOGY

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1 CHAPTER | INTRODUCTION & METHODOLOGY

Sun Pharma operates 12 Mobile Healthcare Units (MHUs) that provide primary healthcare and reproductive child health services to the underprivileged communities around its plant locations. These full-fledged clinics on wheels, with an on-board doctor, provide consultation, medicines, and awareness about preventive healthcare. The project is implemented through Sun Pharma Community Healthcare Society (SPCHS). Sun Pharma wants to conduct impact assessment study of MHUs which have completed more than 5 years of implementation.

A. Objective of the Impact Assessment Study

- To measure, through an independent evaluation, the impact that can be attributed to the program
- To assess sustainability and learning to gather data about the effectiveness and impacts of the program to make sure that the intervention was on track and reached its objectives
- To inform SPCHS on key impact areas and support in understanding improvement needs for future similar programming for further interventions

B. Location for Study

The study included Mobile Healthcare Units (MHU) across ten locations :

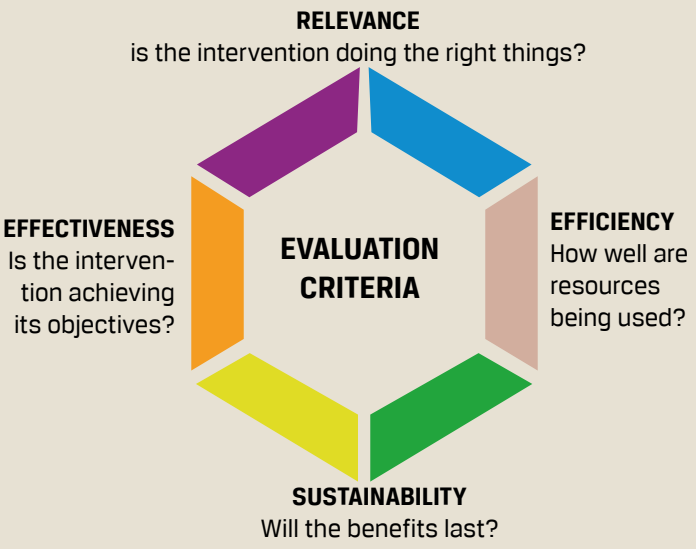
- **Set 1: Locations which have completed 30 years since implementation** namely Mohali, Toansa, Paonta and Dewas
- **Set 2: Locations which have completed 5 years in minimum since implementation** namely Halol, Panoli, Sikkim, Ahmednagar, Madurantakam)

C. Assessment Framework

The widely used Organisation for Economic Cooperation and Development (OECD) criteria for project assessment was adapted for this study. The MHU project was seen through the lens of the following four criteria:

- ***Relevance:*** Does the intervention respond to the felt needs/priorities of the beneficiaries it intends to serve. The relevance is context specific to the geography / culture in which the intervention is being implemented.
- ***Effectiveness :*** The extent to which an intervention is achieving or has achieved its objectives. This includes whether an intervention has attained its planned results, the process by which this was done, which factors were decisive in this process, and whether there were any unintended effects.
- ***Efficiency:*** The assessment focused on procedural, and institutional efficiency, which has helped deliver the program as per its stated objectives.

Fig 1: The Impact Assessment Framework



- ***Sustainability:*** Does the initiative have the financial, economic, social, environmental,and institutional capacities needed for the likelihood of net benefits continuing over the medium and long term.

D. Methodology

The methodology to garner evidence for this study followed a mixed method approach. This approach is a research strategy that combines quantitative and qualitative methods to gain a deeper understanding of a research question. It's a popular method extensively used because it can provide a more comprehensive understanding than using either method alone.

D.1 Literature Review: The purpose was to understand the issues from experience and learnings from various mobile health clinic initiatives and draw parallels (if any) and help corroborate the study findings with the global experience. In addition the literature review also helped to situate the

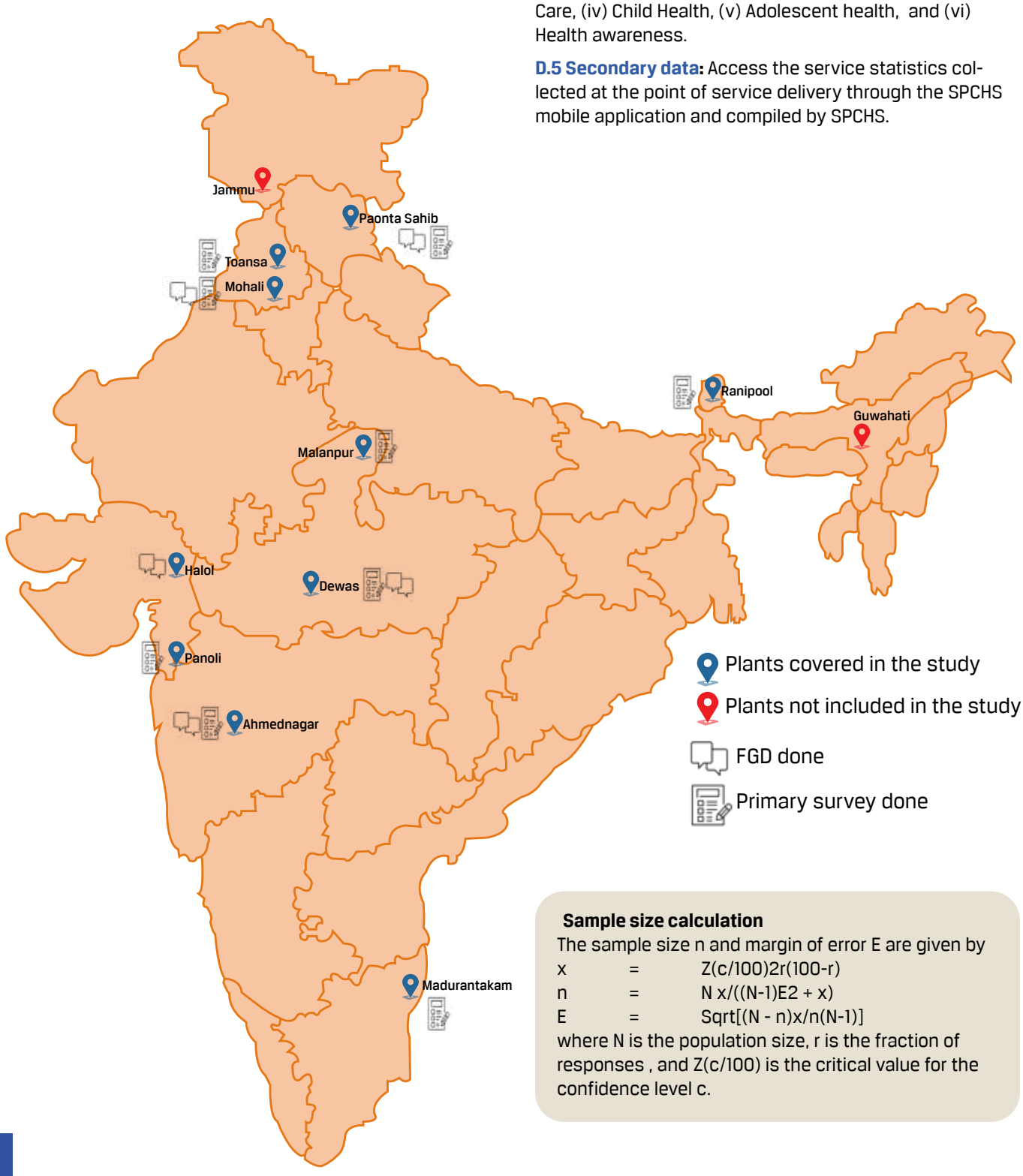
current assessment study within the body of the relevant literature and provide a context to the study. While there is limited literature in academic journals on efficacy of Mobile Health Clinic and that too mostly located in developed world settings,the literature review helped reveal the critical areas which the study should concentrate. The summary of findings from the literature review and the attendant bibliography is given in **Chapter 3 and Annexure 1**

D.2 Primary Survey: An instrument was administered **(Annexure 2)** to the beneficiaries of MHU to guage (i) the economic and social status of the beneficiaries, (ii)how beneficiaries rate the services received from MHU, (iii) out of pocket expenditure in absence of MHU facility, and (iv) the reach of health awareness activities and adoption.

D.3 Focus Group Discussion: Focus group discussion (FGD) is a qualitative data collection method that is used to get more in-depth information about perceptions, attitudes, beliefs, experiences, or insights of beneficiaries which is not possible through structured questionnaires or other similar methodologies. FGD was held with beneficiaries at 5 MHU locations. In addition detailed interview was conducted with the MOs at the said locations. The FGD and interview checklist is included in **Annexure 3**.

D.4 Case Studies : Helped identify what worked well, what didn't, and what could be improved in the future. Case studies help understand causal mechanisms and the conditions needed for successful interventions. At each sample location case studies pertaining to the following was done- (i) Curative, (ii) Maternal Health, (iii) New Born Care, (iv) Child Health, (v) Adolescent health, and (vi) Health awareness.

D.5 Secondary data: Access the service statistics collected at the point of service delivery through the SPCHS mobile application and compiled by SPCHS.



Sample size calculation

The sample size n and margin of error E are given by

x = Z(c/100)2r(100-r)

n = N x/((N-1)E2 + x)

E = Sqrt[(N - n)x/n(N-1)]

where N is the population size, r is the fraction of responses , and Z(c/100) is the critical value for the confidence level c.

E. Sampling

Primary survey was conducted at nine plant locations and FGD ar five locations. The sample size was selected fo 5% margin of error and 95% confidence level.

Tab 1.1 Sample Size- Beneficiary Survey

Plant Location	No of villages	Popn Covered	Estimated Beneficiaries	Beneficiary hhs (#)	Sampled hhs	Sampled villages (Primary Survey)	Village where FGD done
Mohali	12	56497	22599	4520	60	Bakharpur, Balongi, Durali, Kurdi, Madanpur, Mohali, Raipur, Sahauran, Sukhgarh, Swara	Madanpur
Toansa	17	27475	10990	2198	35	Ashron, Jalalpur, Premnagar,Toansa	
Paonta	15	28024	11210	2242	30	Amarkot, Batamandi, Batawali, Bhagwanpur, Bhatawali, Bhuppur, Ganguwala, Kishanpura, Kiyarda, Misarwala, Pataliyon, Misherwala, Pataliyon, Pipliwala,Puruwala	Bhatawali
Dewas	17	42394	17358	3392	50	Anvatpura, Amona, Chhotomalsa, Rajivnagar,Rasulpur, Singawada	Patlawda
MKM	29	26776	10710	2142	30	Melma, Munuthkuppam, Muruganchery, Pillanchi, Valarpurai, Verdavakkam	
Panoli	12	26992	10797	2159	31	Alonj, Bakrol, Bharan, Kathodara	
Ranipool	16	14551	5820	1164	25	Chota Singtam, Chuba, Gairigaon, Lingzey, Middle Syari, Nandok, Ranipool, Rongey, Samdur, Tumlbabong	
Ahmed nagar	13	65453	26181	5236	60	Islak, Karunjey Khare, Manjarsumbha, Navnagapur, Nimblak,Pimpalgaon, Pokhardi, Saroda Kisar, Shendi, Vllad, Wadgaon Gupta	Shendi
Malanpur	20	53500	21400	4280	25	Badawari, Khumanpura, Kakraria, Kuchpura, Malanpur-1, Singhwari, Tilori	
Halol	20	29398	11760	2350		- none-	Intwadi/ Tikampura
Total	178	389124	136665	27333	**346**		
(#) Note: As per MHU service statistics about 40% of the population avail services of MHU through a year							

2 CHAPTER | ABOUT SPCHS

Sun Pharma operates 12 Mobile Healthcare Units[1] (MHUs) that provide primary healthcare and reproductive child health services to the underprivileged communities around its plant locations. The project is implemented through Sun Pharma Community Healthcare Society (SPCHS).

SPCHS functions as an independent body touching the lives of over 5.6 lakh people with a fleet of mobile healthcare vans in the states of Punjab, Himachal Pradesh, Gujarat, Maharashtra, Madhya Pradesh, Tamil Nadu, Assam, Jammu & Kashmir and Sikkim. The main objective of this initiative is to enhance access of basic healthcare to the marginalized communities and vulnerable sections of the society.

These full-fledged clinic-on-wheels with an on-board doctor provide consultation, medicines, and create awareness about preventive healthcare. The project is implemented through Sun Pharma Community Healthcare Society (SPCHS).

Ranbaxy Rural Development Trust (RRDT) was established in 1978 when "Health for All" was adopted as a national objective in India. That year, the first mobile healthcare van was rolled out in the state of Punjab with the objective to deliver primary healthcare to underprivileged sections of society in remote villages. RRDT was rechristened as Ranbaxy Community Healthcare Society (RCHS) in 1994 and renamed as Sun Pharma Community Healthcare Society (SPCHS) in 2016. SPCHS is registered under the Societies Registration Act of 1860.

Mission

To be a leading community-based organization in primary health care to achieve positive health for all in our service areas.

Aim

To deliver primary healthcare services to unserved and underserved rural and urban slums at their doorsteps. Also, achieve Sustainable Development Goals in the medical domain and positive health for all.

Services

A. Curative Health Services: In terms of the number of patients served, curative healthcare remained the flagship service provided by MHU, with more than 1.90 lakh patients provided OPD consultation and medicines as required. The MHU services continued largely uninterrupted at all locations throughout the pandemic. The OPD attendance has increased post lockdown. The curative services provided include:

- *OPD services*: Treatment of minor and chronic ailments like hypertension, diabetes, ARIs, diarrhoea, urinary tract infections, skin infections, (scabies, abscess), acute gastritis, etc. Symptomatic care for arthritis and myalgias.
- *Management of communicable diseases*: Diarrhoea, pneumonia, malaria and tuberculosis and other vector borne disease- treatment initiation/prompt referral and follow up medication compliance.
- *Free Medicines*: Each MHU carries medicines as per the essential medicine recommended by the World Health Organization (WHO). All the medicines are provided free-of-cost to the patients.
- *Point of care diagnostics*: Hb test for adolescent girls , Hb, blood sugar for pregnant mothers and diabetics, BP for patients
- *Geriatric care*: Management of common geriatric ailments, counseling, supportive treatment, and pain management.
- *Referral services*: The referral by the Medical Officer of the MHU is accepted by the secondary/ tertiary public health facility in the area.
- *NCD screening*: Early detection, management and referral of diabetes, hypertension and other
- cardiovascular diseases through simple measures like history taking, measuring blood pressure and measuring weight height and calculating BMI.
- *Management of communicable diseases*: Diarrhoea, pneumonia, malaria and tuberculosis and other vector borne, disease- treatment initiation/prompt referral, and follow up medication compliance

B. **Maternal Health:** The maternal care services are provided through MHU in tandem with the government health services. This is an important input for keeping Maternal Mortality and Neo Natal Mortality low.

- *Early diagnosis of pregnancy*: This ensures early registration for antenatal care or for availing of safe abortion services in time if the pregnancy is unwanted.
- *Early registration:* Mother and Child Health Card: Helps track each child right from conception till

1 Fourteen till March 2024, thirteen till july 2024 and as on date twelve MHUs

three years of age by community health workers. A well-versed healthcare provider (HCP) can deliver the services efficiently to the beneficiaries.

» *Birth planning*: Help mothers and families in remote areas plan for safe and comfortable delivery and care after delivery. This also includes promoting institutional delivery
» *Regular antenatal care:* Involves education on diet, rest, danger signs, screening of diseases putting pregnancy at risk, treatment of minor ailments, and immunization services for pregnant women
» *Screening of pregnancy related problems* like diabetes, eclampsia, twin pregnancy, abnormal lie etc.
» *Identification and referral of high risk pregnancy*: Refer the woman to the nearest facility that is equipped to manage complications in pregnancy.
» *Enabling Take Home Rations (THR)* for pregnant woman through Anganwadi Centre

C. Newborn Care: MHU is mandated to reach out to the new born. This is done through home visits by MHU ANM and the Community Health volunteer (CHV). The MHU follows the protocol laid out under the Home-Based Neonatal Care (HBNC) program of the Government of India.

» *Information and skills* to the mother and family of every newborn to ensure better health outcomes.
» *An examination of every newborn* for prematurity and low birth weight. Extra home visits for pre-term and low birth weight babies, and referral for appropriate care as defined in the protocols.
» *Vaccination:* Ensuring BCG, 1st dose of OPV and DPT vaccination through Government vaccination centers
» *Early identification of illness* in the newborn and provision of appropriate care at home or referral as defined in the protocols.
» F*ollow up for sick newborns* after they are discharged from health facilities.
» *Counseling the mother* on postpartum care, recognition of postpartum complications and enabling referral.
» *Counseling and support for early breastfeeding*.
» *Detection of severe acute under-nutrition*, referral and follow up care.
» *Deworming, immunization, prompt and appropriate treatment* of diarrhoea/acute respiratory infection, and referral where needed.

D. Adolescent Girls' Health: Adolescents are reached mainly through the school and door-to-door visits for out-of-school girls. The newly married women are reached through door-to-door visits by the ANM under the promotive component of the program.

» *Iron supplement* to prevent iron-deficiency anaemia, and improve hemoglobin of adolescent girls. Under the Weekly Iron and Folic Acid Supplementation (WIFS) Programme, it is recommended that teenage girls (10–19 years) be provided a weekly dose of 100 mg of elemental iron and 500 mcg of folic acid.
» *To provide age-appropriate information* about health and nutrition to the adolescents in schools and health check-ups.
» *To inculcate healthy foods* and eating behaviours among adolescents.
» *Prenatal supplementation* with daily iron to newlywed women. This is an effective means to reduce the risk of low birth weight, and to prevent maternal anaemia and iron deficiency in pregnancy. Under National Iron + initiative, weekly supplementation of 100mg elemental iron & 500mcg of folic acid for women in reproductive age is recommended

E. REPRODUCTIVE HEALTH : This program is run in close coordination with the ASHA worker and the PHC. Spacing and limiting methods are provided through the government system. In recent years MHUs have limited their activities and limits itself in providing family planning counselling , provided by MHU ANM during home visits.

» *Identifying eligible couples*, motivating for family planning, delaying first-child, and spacing between two children
» *Access to spacing methods*- OCP, ECP, condoms, IUCD insertion and removal through the available government facilities.

F. HEALTH AWARENESS: Awareness of desirable health behaviour is one of the main pillars of the MHU intervention strategy. The MHU team engages the community through health and awareness camps, school health programs, and door-to-door visits. Behaviour change communication has been found to be a powerful input in reducing the disease burden in the community. The program also engages the community leader to further the message of healthy living.

» *Education to post-natal mothers* on exclusive breastfeeding, child immunization, family planning, spacing methods, weaning, balanced diet to prevent under- nutrition, and essential newborn care.
» *Education on prevention and management* of anaemia, danger signs during pregnancy and childbirth, and motivation for institutional delivery
» *Education to the community* on communicable and non-communicable diseases
» *Gender equality and problems* related to adolescence
» *Provide awareness* on desirable health behaviour to school students.

THE MHU PROCESS

Each MHU caters to around 12-20 villages depending on the location with a catchment of 45,000 to 50,000 population.

The MHU provides curative and health promotive services. Free medicines are provided. Referral to secondary or tertiary care centre if required is made (district hospital or state medical colleges and institutes).

Each MHU has one medical doctor, two ANMs and one driver cum ambulance assistant. In addition, each team is assisted by two community health assistants in each village, drawn from the community.

Collaboration is ensured with the public health system. IEC materials, vaccines, oral pills, condoms, copper- Ts, vitamin A solution, iron-folic acid tablets etc are procured from the government wherever available.

The MHU schedule to visit each village is fixed in consultation with the gram panchayats and the district health authorities. Each van covers two villages in one day, and visits a particular village every fortnight.

A number of awareness campaigns are held including - adolescent health camps, anti diarrhoea campaign, anti malaria/ dengue campaign, breast feeding campaign, school health education program amongst others.

2 CHAPTER | LITERATURE REVIEW

An extensive literature review was done to understand the domestic and global experience with Mobile Health Clinics. This helped to benchmark and draw parallels for the SPCHS MHU performance evaluation.

There is not much literature in academic journals on Mobile Health Clinics. The research work that is available mostly is in developed country setting. However, there are parallels that can be drawn for the developing country context. The summary of findings from literature review is given in this chapter. The detailed bibliography is given in Appendix A. **The findings from the literature review gives a framework to test the SPCHS MHU against global experience with Mobile Health Care Units.**

Current literature supports that MHCs are successful in reaching vulnerable populations, by delivering services directly at the curbside in communities of need and flexibly adapting their services based on the changing needs of the target community. As a link between clinical and community settings, MHCs address both medical and social determinants of health, tackling health issues on a community-wide level. Furthermore, evidence suggest that MHCs produce significant cost savings and represent a cost-effective care delivery model that improves health outcomes in under served groups. In context of United States MHC offer a range of services – 42% of MHCs surveyed offer primary care, 45% offer prevention screenings, and 30% offer dental services. Many clinics also provide specialty care such as mammography, mental health monitoring, and ophthalmology checks.

1. Barriers to Health access

Many studies show that Mobile Health Clinics are effective in facilitating access to health care, particularly for minority groups [6, 10,11,12,13,14,15,16,17]. Compared to the general population, minorities often have poorer health and face a higher number of barriers in accessing health services, indicating a need for healthcare agencies to reach out to these communities. Target populations of MHCs include vulnerable communities such as the homeless, displaced populations, immigrants, migrant workers, the under-insured, and children; historically, these groups are very often disconnected from traditional healthcare settings and require support in accessing healthcare. Even though men have been found to exhibit poorer healthcare seeking behaviors, literature highlights the ability of MHCs to attract male patients, who make up 50% of MHCs' clients [10, 18].

Key Takeaways From Global Experience With Mobile Health Clinics

Reduce healthcare costs

- Prompting earlier patient care
- Improving patients' ability to self-manage their conditions
- Avoiding emergency room visits and hospital admissions
- Reducing emergency department cost and use
- Lowering hospital readmission rates

Improved access to healthcare

- Reduce health disparities
- Help underserved communities access preventive care
- Manage chronic disease
- Pursue healthier living

Improved patient quality of life

- Improve patient quality of life from expanded preventive services
- Lead to more symptom-free days
- Better patient reports of quality of life

2. Strategies of mobile health clinics

Broadly, many mobile clinics incorporate (1) community health workers, (2) patient-centered care focusing on patient education and empowerment, (3) cultural competence training for staff, (4) stability and consistency of service provision within communities, and (5) staff diversity [24]. All of these elements have been shown to overcome barriers resulting from poor patient-provider communication, mistrust, and sense of disempowerment among minority communities [21, 25,26,27,28,29].

3. Geographical and logistical convenience

By delivering the necessary services right to clients' doorsteps, often without fees and complex paperwork, many MHCs serve individuals who may not have the time, resources and motivation to travel to traditional clinics. Qualitative studies indicate that clients appreciate the convenient neighborhood locations that only mobile clinics can occupy [4, 35, 36]. MHCs embody a sense of

visibility and accessibility that eliminate many logistical barriers to traditional forms of healthcare, such as transportation issues, difficulties making appointments, long waiting times and complex administrative processes, helping and encouraging vulnerable populations to receive the necessary health services [2, 37,38,39,40,41].

4. Trusting provider-client relationships

Many successful mobile clinics cite their ability to foster trusting relationships [4, 7, 42,43,44]. Oftentimes, individuals become disenfranchised from their healthcare sources due to lack of trust in a system seemingly not designed for the clients' best interest – MHCs, by their patient-centric design, are well positioned to regain the trust of these individuals and reconnect them to regular health providers. Qualitative research has found that patients value MHCs' informal setting, familiar environment, convenient location and staff who "are easy to talk to" [25, 32, 44, 45]. MHCs make the effort to physically drive into communities, community members feel that the clinics are reaching out to care about them, inspiring them to take more charge of their own health [4]. Trusting relationships are further facilitated, as a communications academic argued, by MHCs' unique use of space – these clinics' location in familiar neighborhood areas, such as parks and shopping centers, makes the space aboard the vans an ideal blend of social and health care space, making the intimate van setting more welcoming and less intimidating [42].

5. Emergency coverage

MHCs can be flexibly tailored to meet the needs of target communities, they can be effectively used in emergency situations when care is disrupted. MHUs were a great help in reaching healthcare when the traditional healthcare institutions were disrupted during COVID-19.

6. Improving health outcomes

6.A. Screening: MHCs are shown to be effective in reaching high-risk or stigmatized populations, such as the homeless and individuals with multiple risk factors for diseases, and are able to attract different sectors of society to engage in screenings for various illnesses [16, 53,54,55,56,57]. Because of their ability to connect with vulnerable individuals, MHCs can help identify additional cases of infectious and chronic diseases in a nontraditional setting [11,12,13, 59].

6.B. Initiating preventative care: Mobile clinics can successfully reduce barriers in access to healthcare, MHCs provide more opportunities for underserved populations to screen for various conditions and learn to properly manage their health [6, 53, 58, 60]. Researchers found that among expectant mothers living in a Miami-based minority community, clients of MHCs were significantly more likely to start receiving prenatal care services earlier compared to the other mothers accessing traditional clinics. Moreover, mothers accessing the MHCs reported significantly lower rates of pre-term and low-birth-weight infant births (4.4% vs. 8.8%), signifying the ability of MHCs to provide vital prenatal services to mothers of the minority community [61]. Hence, mobile clinics represent a potential resource to those who would not otherwise approach a health center for the necessary services and check-ups – without these services, diagnoses and treatments would be delayed, and subsequent disease management would be further complicated [43, 62].

6.C. Managing chronic diseases: Various MHCs have demonstrated the strength of the mobile clinic model as an effective setting for chronic disease management. For example, hypertension management is notoriously difficult for patients to adhere to. In a cohort of 5900 patients who visited the Family Van between 2010 and 2012, patients who initially presented with high blood pressure exhibited average reductions of 10.7 mmHg and 6.2 mmHg, in systolic and diastolic blood pressures respectively, during their follow-up visits. These reductions are associated with a 32.2% and a 44.6% lower relative risk of myocardial infarction and stroke respectively [30]. The challenge of chronic disease management is sustaining adherence to the necessary medications and lifestyle changes, and quantitative evidence from multiple MHCs signify that mobile clinics are effective in helping patients address these challenges.

6.D. Enabling self-efficacy: Evidence indicates that MHC patients report an increased sense of self-confidence and ability to manage their chronic conditions and navigate the healthcare system [4, 14, 16, 60]. One MHC in Pittsburg revealed that the trusting relationships clients fostered on the mobile clinic motivated patients to adopt healthier behaviours [11]. Furthermore, the HABITS for Life mobile screening program noted that 78% of its screening participants engaged in healthier behaviour changes as a result of having participated in the screening [64]. By bringing health care to community spaces familiar to patients, MHCs place patients in the center of the healthcare communicative process, enabling them to feel a sense of ownership, involvement and self-efficacy in the management of their conditions [14, 44].

7. Addressing disparities in social determinants of health

MHCs are equipped to assess and respond to unmet healthcare and social needs, connecting clients to wider community resources, and successfully building capacity into healthcare systems. The merging of personal and professional discourses is postulated to help MHC staff better understand the nonmedical factors influencing their clients' wellbeing and devise strategies to combat negative social determinants of health [42]. MHCs' straddle between community-based and clinical settings enabling them to develop the essential networks to address both the social and medical determinants of clients' health [14]. Collaborating with local agencies such as churches, community health centers, and other hospitals and clinics, MHCs and their wide network of resources often connect community members with both medical and social services [4]. Therefore, MHCs have been cited as a viable and valuable model to help improve social determinants of health and hence health outcomes of target populations [68].

8. Community-clinical linkage

Preventative screenings and disease managements by MHCs improve the detection of chronic illness and infectious diseases among communities, especially for

vulnerable populations unable to access care elsewhere. By entering communities to connect individuals to healthcare, MHCs are serving as a stepping-stone between their target community and the larger healthcare system. For example, in a Veterans Affairs-affiliated MHC, 56% of the clinic's clients reported the MHC visit to be their first encounter and connection with the VA healthcare system [5]. Because of MHCs' ability to segue their clients from the community to a reliable source of healthcare, the Massachusetts Partnership for Health Promotion and Chronic Disease Prevention named mobile clinics as a best practice in helping control chronic diseases and connecting community resources to clinical settings [72].

9. Reducing healthcare costs

Mobile health clinics have the potential to offer a number of cost-savings benefits to the healthcare system, by prompting earlier patient care initiation, improving patients' ability to self-manage their conditions, avoiding emergency room visits and hospital admissions, and improving the quality of life of their clients.

9.A. Reduce visits to secondary and tertiary care facilities: Mobile Health Clinics demonstrate cost-savings by reducing unnecessary ED (Emergency Department) visits in Massachusetts as well as nationally [73, 74]. The 2015 Cost Trends Report done by the Massachusetts Health Policy Commission estimated that more than 40% of ED visits between the financial year of (FY) 2010 and FY2014 were either non-emergency or could have been managed in primary care [75]. EDs represent the only source of readily available care for those who face ongoing barriers to primary care services, such as long waiting times, copayments, complexities of navigating the system and feelings of intimidation [25, 32, 33, 76,77,78,79,80]. Avoidable ED visit rates signify the greater health needs of the surrounding communities, and MHCs can help fill those needs by providing tailored and easily-accessible care at costs much lower than ED visits, freeing up ED resources for those who actually require emergency care and reducing total healthcare expenditure.

9.B. Hospitalization and hospital readmission rates: Care provided by MHCs has been shown to be associated with a reduction in their clients' hospitalizations costs, which is brought about by the shorter lengths of hospitalization periods. In a study comparing traditional acute care services to mobile acute care services for the elderly, Farber and colleagues demonstrated that those who utilized traditional services averaged a hospital stay of 7.9 days costing approximately $13,187, while those who utilized mobile services averaged a shorter hospital stay of 5.8 days costing approximately $10,315 [82]. These results imply that mobile clinics are a more cost-effective method than traditional acute care services for elderly healthcare delivery.

9.C. Symptom-free days: Monetary savings of MHCs can also be measured by the cost of symptom-free days (SFD), which incorporates costs associated with both emergency room visits and hospitalizations. Breathmobile calculated an overall increase in symptom-free days among their pediatric asthma patients, from an average of 199 SFDs at baseline to an average of 243 SFDs post-intervention, resulting in cost-savings of $79.43/day for children between 5 and 11 years old [84]. The total amount of medical costs saved outweighed the clinic's operational costs, demonstrating a potential arena in which MHCs can contribute to lowering the nation's overall healthcare expenditure.

9.D. Quality-adjusted life years: Tolley and colleagues estimated that the economic value of a statistical life year, also known as a Quality-Adjusted Life Year (QALY), is $70,000 [85]. Data from the Mobile Health Map approximates that $71,714,286 in QALYs is saved per year through the collective efforts of 16 MHCs included in an analysis [3]. Individual MHCs have also shown their cost-effectiveness based on the Return-On-Investment (ROI) calculator on the Mobile Health Map website. HABITS for Life estimated that $10 million worth of QALYs were saved based on their screening efforts in the 2011 fiscal year, with a ROI of $15 dollars per dollar invested [64]. Likewise, the aforementioned 4 Southern Californian Breathmobiles estimated that $24,381,000 worth of QALYs were saved by their services within a 5-year period, with a ROI of $6.73 per dollar invested [81].

10. Limitations of mobile health clinics

Even though many studies have supported the unique strengths that MHCs embody, MHC workers have also pointed out potential limitations of the mobile clinic model. The limitations of MHCs described in the current literature can be separated into 4 broad categories – risk of increased fragmentation of care, issues with finances, constraints by space and clinic structure, and challenges in logistical planning.

10.A. Fragmentation of care: Continuity of care can be difficult to maintain in MHCs, because many of these clinics are not yet fully incorporated into the healthcare system and require extensive connections with hospitals, specialty clinics, ancillary services, laboratories and pharmacies to ensure that their clients receive the appropriate level of care [2]. Many MHCs have faced problems in tracking successful patient referrals [6, 14, 88], and others have found that a substantial proportion of their patients do not attend referral appointments or cannot be followed up with [11, 53, 55]. Some MHCs have attempted strategies such as routinely calling patients to coordinate follow-up, but increased fragmentation of care remains a problem to be resolved by the MHC model [53].

10.B. Spatial Constraint: Because of the small area in which MHCs operate, spatial and structural constraints have been reported. Confidentiality can be difficult to maintain, since the design of mobile clinics makes it easy for clients to overhear private conversations. Disruptions of privacy are sometimes avoided by designing movable partitions within the vehicle or scheduling patients who speak different languages for the same time slot [7, 42]. Space constraints can also impact service quality – one mobile mammography unit reported that the clinic's size only permitted the use of portable machines, resulting in a lower intrinsic quality of their imaging compared to county hospitals and leading to dissatisfaction among some of their clients [45]. Even though spatial constraints

can post challenges, the tight space within which MHCs operate is also documented to contribute to a positive restructuring of patient-provider relationships [42].

10.C. Mobility: Even though mobility confers unique strengths upon MHCs, it can also bring about a unique set of challenges. MHC are reliant on generators, which, if broken down, can lead to a disruption in services and cause a loss of power and temperature control. Equipment that need consistent power sources, such as refrigerators, can be difficult to support on a mobile van, and some MHCs have reported an inability to store products such as vaccinations or injectable medications due to inadequate refrigerator temperatures. Reliable Internet access, especially important for electronic medical records, can be difficult to maintain due to constant movement of the MHC [53]. These limitations must be addressed in order for MHCs to reach their full potential in serving target populations.

10.D. Logistical challenges: The quality and quantity of services that MHCs offer can also be limited by logistical issues. Surveyors found that 33% of MHCs reported some staffing difficulties, including problems with recruitment and retention of culturally component community health workers who are experienced in collaborative efforts, comfortable with working in small spaces, and willing to accept the risks of going into underserved neighborhoods. Finding a suitable location to safely park a mobile clinic for hours at a time can also be problematic, especially in urban areas. In addition, not all communities welcome safety-net clinics, for fear that it might attract marginalized patient populations, such as the homeless or intravenous drug users, into their neighborhoods [53]. Successful implementation of MHC services depends on full engagement with and buy-in from the community throughout the planning process, and ongoing partnerships must be formed and maintained in order to ensure continued communication and collaboration of MHCs with each neighborhood.

For bibliography and references please see Annexure 1

3 CHAPTER

FINDINGS

EFFECTIVENESS

The extent to which an intervention is achieving or has achieved its objectives. This includes whether an intervention has attained its planned results, the process by which this was done, which factors were decisive in this process, and whether there were any unintended effects.

1. MHU provides primary healthcare access to the socially and economically marginalised

MHUs play a crucial role in improving access to healthcare, especially for socially and economically marginalized populations. Such populations generally experience worse health outcomes and encounter more obstacles when accessing health services, which underscores the MHU's need to engage with these communities. The MHUs overwhelmingly serve such at-risk populations - (i) SC/ST and OBC communities, (ii) Below poverty line households, (iii) rural landless, and (iv) recent migrants. Historically, these groups have been isolated from conventional healthcare facilities and need medical care assistance.

1.A A high percentage of beneficiaries of MHU come from socially marginalised communities: At an aggregate level, 70% of the households accessing MHU services belong to SC, ST, and OBC communities. There is overwhelming evidence[1,2] that such communities face barriers to healthcare, which include poverty, low education levels, and discrimination. Of all the MHUs included in this study, Malanpur and Maduranthakam (MKM) units cater to the highest load of patients from socially backward communities.

1.B An overwhelming number of patients at MHU belong to Below Poverty Line (BPL) households: Poverty significantly contributes to poor health and hinders access to necessary medical care. This connection is primarily financial: those in poverty struggle to afford essentials for maintaining good health, such as nutritious food and healthcare services. Additionally, this relationship encompasses other poverty-related issues, such as inadequate knowledge of effective health-promoting practices and a diminished ability to advocate for social services that could benefit them. At an aggregate level, 74% of the households visiting the MHU are categorized as BPL. It is significant to note that 25% of such households are denoted as destitute and hold Antodaya and PPH ration cards. Antodaya card holders have an annual household income below Rs. 15000. PPH ration card holders meet state-specific criteria identifying extreme social and economic vulnerabilities.

Tab 3.2 Distribution of MHU patients by economic strata

	Above Poverty Line	Below Poverty Line	Total
Ahmednagar	2%	98%	100%
Dewas	2%	98%	100%
Malanpur	20%	80%	100%
MKM	0%	100%	100%
Mohali	26%	74%	100%
Panoli	79%	21%	100%
Paonta	93%	7%	100%
Ranipool	28%	72%	100%
Toansa	26%	74%	100%
Grand Total	**26%**	**74%**	**100%**
Source: Primary survey			

1.C MHU serve some of the most vulnerable of the rural economy namely landless agricultural labour and small /marginal farmers: MHUs draws most of their clientele from rural areas where agriculture is the predominant profession. It is estimated that about 30% of the households accessing MHU services are either landless or are small and marginal farmers. These groups constitute the most neglected class in the Indian rural structure and are the poorest of the poor, who are mainly unskilled and unorganized. Being landless labourers, they work on the farms of others, where the working environment puts an excessive burden on their health. Unsurprisingly, this economic group comes with significant complaints of joint pains followed by injury during work.

1 Ahmed, S., & Mahapatro, S. (2023). Inequality in healthcare access at the intersection of caste and gender. Contemporary Voice of Dalit, 15(1 suppl), S75–S85. https://doi.org/10.1177/2455328x221142692

2 Barik D, Thorat A. Issues of Unequal Access to Public Health in India. Front Public Health. 2015 Oct 27;3:245. doi: 10.3389/fpubh.2015.00245. PMID: 26579507; PMCID: PMC4621381.

Tab 3.3 Distribution of MHU patients by occupation

	Cultivator	Agri Labour	Manf Sector	Service Sector	Govt Service	Self Employed	Pension	Alms	Total
Ahmednagar	23%	23%	8%	0%	2%	43%	0%	0%	100%
Dewas	20%	26%	32%	4%	0%	18%	0%	0%	100%
Malanpur	0%	16%	4%	0%	0%	80%	0%	0%	100%
MKM	10%	10%	10%	0%	0%	67%	0%	3%	100%
Mohali	16%	7%	7%	29%	9%	31%	2%	0%	100%
Panoli	76%	7%	3%	7%	0%	7%	0%	0%	100%
Paonta	0%	0%	30%	0%	7%	63%	0%	0%	100%
RANIPOOL	4%	8%	4%	28%	20%	8%	28%	0%	100%
Toansa	14%	34%	17%	17%	0%	14%	3%	0%	100%
Grand Total	**19%**	**16%**	**13%**	**10%**	**4%**	**35%**	**3%**	**0%**	**100%**

Source: Primary survey

Tab 3.4 Distribution of MHU patients by landholding

	Marginal+Small	Medium	Large	No Land	Total
Ahmednagar	37%	8%	0%	55%	100%
Dewas	27%	14%	0%	59%	100%
Malanpur	20%	4%	0%	76%	100%
MKM	20%	0%	0%	80%	100%
Mohali	12%	19%	4%	65%	100%
Panoli	55%	34%	0%	10%	100%
Paonta	57%	0%	0%	43%	100%
Ranipool	48%	12%	0%	40%	100%
Toansa	6%	9%	3%	83%	100%
Grand Total	29%	12%	1%	58%	100%

Marginal+Small (>1 acre-2acre) | Medium (2 acre-10 acre) | Large (10 acre +)
Source: Primary survey

2. A wide bouquet of primary healthcare services made available to the community through MHU

Primary health care is commonly seen as the most comprehensive, fair, and economical approach to attaining universal health coverage. It is also essential for enhancing the resilience of health systems, enabling them to prepare for, react to, and recover from emergencies and crises. WHO defines primary health care(PHC) as "*PHC is a whole-of-society approach to health that aims at ensuring the highest possible level of health and well-being and their equitable distribution by focusing on people's needs and as early as possible along the continuum from health promotion and disease prevention to treatment, rehabilitation and palliative care, and as close as feasible to people's everyday environment,*" [3] The MHU is structured and equipped to provide entire slew of primary healthcare to the communities it serves.

3 WHO and UNICEF. A vision for primary health care in the 21st century: Towards UHC and the SDGs.

The Most Vulnerable Catered by MHU

Migrant labour households: Given that the MHU catchment areas in almost all locations include slum pockets with significant migrant households working in factories or service sectors. Migrant agricultural workers also form a substantial number at some of the MHU villages, e.g., large migrant labour for sugarcane cultivation in Ahmednagar. Working at brick kilns also attracts a large migrant population to some MHUs. In most cases, such households do not have proof of local address, leading to being cut off from essential entitlements like Anganwadi, health cards, and school admissions. Many such households have issues of alcoholism, which further burdens the economic means and social cohesion. MHU caters to these groups in large numbers.

Vulnerable tribal groups: Some MHUs have significant tribal populations classified as Particularly Vulnerable Tribal Groups (PVTGs). For instance, at Ahmednagar, the MHU catchment has significant numbers of households belonging to the Pardhi and Lamand tribes. Similarly, in MKM, there are a number of Irula tribe households whose traditional work is snake catching. Given their nomadic lifestyle and cultural mores and residences outside the main village settlement, MHU ANM has to make regular outreach to ensure that they seek consultation from MHU.

Elderly with no support systems: A large clientele of the MHUs are the elderly, constituting up to 50%-60% of the total patient load. Within older people is a sub-set who live alone without any support from their children. Either they do not have children, or their children live in a different location, or they face neglect from children. It is this vulnerable group that is in the most need of MHU services since, in most cases, their economic resources and age-related disabilities do not allow them to seek long-term health services.

Impact in Action | Reaching the Bottom of the Pyramid : Serving the poorest

Reena, a 35-year-old woman, lives in Bhatawali (Bengali Colony) Paonta Sahib Himachal Pradesh, with her husband and three children. Life for Reena and her family is far from easy. Her husband works as a rag-picker and earns just enough to keep the family going. He is also diabetic and an alcoholic which has further worsened the family financial and emotional struggles. Reena not only faces poverty and squalid living conditions, but she is also a victim of regular domestic violence.

Reena's eldest daughter, Deepa (18), had to leave school after completing the 8th grade because the family couldn't afford her education. Her son Sandeep (10) left school after the 7th grade to help his father with rag-picking. Their youngest daughter, Noor (3 years), was born blind and has never been able to see. Reena and her family live in extreme poverty and manage their daily needs with great difficulty.

Looking at Reena, one can see the signs of poor health. She appears weak and undernourished, as do her children. Noor and Sandeep, in particular, look very fragile, a clear indication that they do not get the nutrition they need to grow and stay healthy. Proper meals with enough fruits, vegetables, and proteins are a luxury the family cannot afford.

Despite all these challenges, Reena tries her best to care for her family. She frequently visits the Mobile Healthcare Unit (MHU) in her area for free medicines and health check-ups. She gets her husband's diabetes medication and general medicines for herself and her children to treat common illnesses like fever, cough, and colds. MHU is a lifeline for Reena, as private healthcare is far too expensive, and public healthcare is far less responsive.

Tab 3.5 MHU services accessed by beneficiaries

	Curative Care	Maternal / Newborn care	Child Health	Adolescent Health	NCD	Awareness
Ahmednagar	88%	5%	57%	17%	62%	58%
Dewas	78%	22%	42%	30%	76%	86%
Malanpur	80%	68%	68%	32%	60%	76%
MKM	100%	20%	20%	23%	97%	100%
Mohali	98%	7%	5%	22%	83%	90%
Panoli	93%	7%	21%	14%	93%	97%
Paonta	93%	90%	83%	7%	87%	87%
Ranipool	84%	12%	16%	0%	48%	88%
Toansa	100%	20%	37%	49%	82%	93%
Grand Total	91%	23%	38%	22%	76%	85%
Source: Primary survey						

Curative care is the most sought-after MHU service, with 91% of all households visiting MHU to cure an illness or condition. Of the total caseload at the MHU OPD, patients with complaints of BP, diabetes, and joint pain are the highest. Health awareness, whether during opd consultation or through IEC camps, is the second most provided service at the MHU.

3. MHU promotes life cycle approach to health

A "life cycle approach" in healthcare means providing targeted health interventions across all stages of a person's life, from pregnancy and infancy to adolescence, adulthood, and old age, with the understanding that health outcomes at one life stage can significantly impact health later on, emphasizing prevention and early intervention at every phase. The RMNCAH+N approach under the National Health Mission conforms to this approach.

Tab 3.6 Breakup of the MHU catchment population by age cohort

MHU	Infant	Child	Adolescent	Adult	Elderly
Ahmednagar	3%	15%	14%	60%	9%
Dewas	3%	15%	13%	61%	9%
Malanpur	3%	25%	14%	47%	11%
MKM	3%	17%	10%	52%	17%
Mohali	2%	11%	13%	56%	18%
Panoli	1%	10%	12%	62%	16%
Paonta	11%	21%	6%	52%	10%
Ranipool	6%	8%	5%	60%	21%
Toansa	2%	17%	13%	55%	13%
Grand Total	4%	16%	12%	56%	13%
Source: Primary survey					

MHU has also adopted the 'Life Cycle Approach' and addresses specific health needs based on age and life circumstances, considering factors like nutrition, reproductive health, and non-communicable diseases throughout the lifespan. MHU provides services to infants, children, adolescents, adults, and the elderly, encompassing the entire spectrum of human life.

PRIMARY HEALTH CARE SERVICES PROVIDED BY MHU

CURATIVE HEALTH SERVICES

Provide OPD consultation, point of care diagnostics and medicines as required. Screen for non-communicable diseases.

MATERNAL HEALTH SERVICES

Provide antenatal care, motivate for institutional delivery, screening for high risk pregnancy, referral of high-risk cases to secondary & tertiary care hospitals, provide postnatal care through home visits.

IMPROVING CHILD HEALTH

Home based neonatal care, growth monitoring, awareness about prevention of childhood diseases, infant & young child feeding practices, and deworming.

SERVICES TO ADOLESCENT GIRLS

Monitoring of hemoglobin levels for detection of anaemia and providing iron supplements- both prophylactic and for treatment of anaemia.

SCREENING FOR NCDs

Screening of at risk population for cardiovascular diseases , cancer, respiratory diseases, and diabetes

HEALTH AWARENESS

Behaviour change communication through awareness camps, school health programs and door-to-door visits.

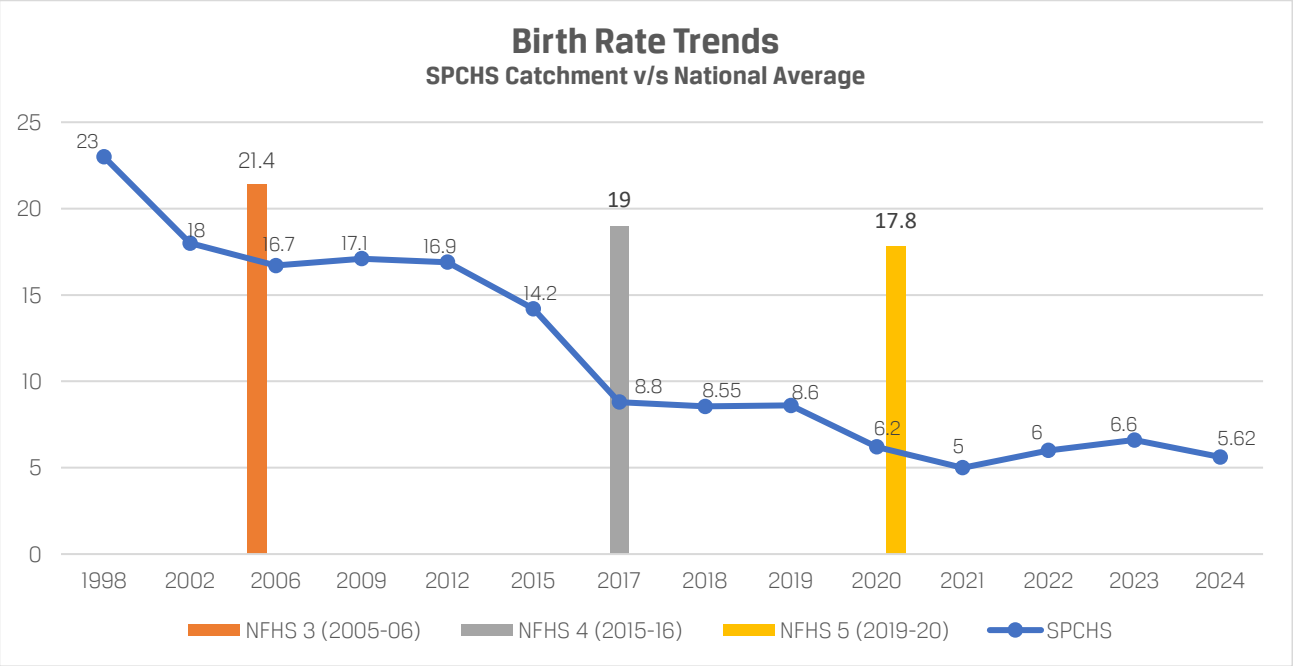
REPRODUCTIVE HEALTH

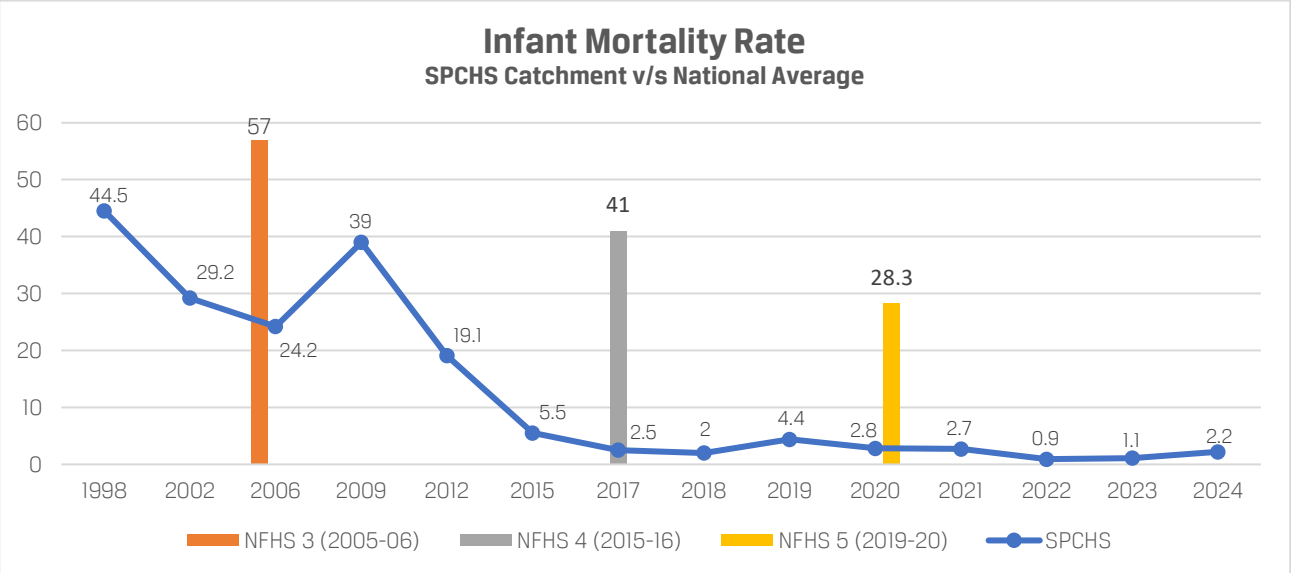
Distribution of oral contraceptive pills and condoms, insertion of Copper-T, motivation / referral for sterilization.

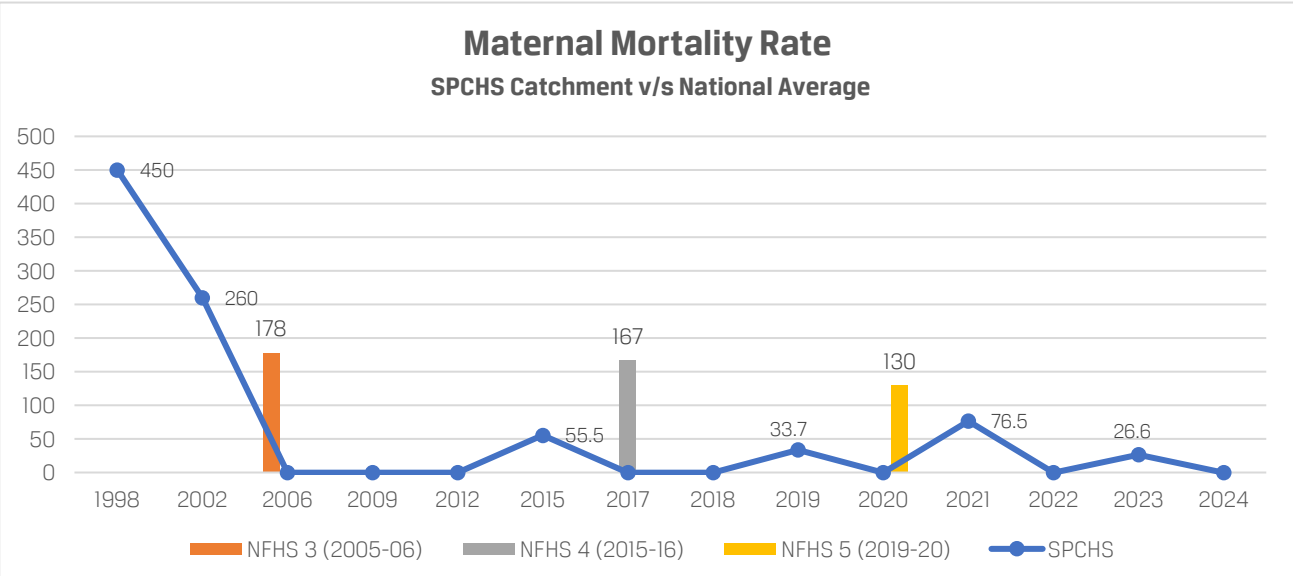
4. Positive impact on vital indicators

The vital indicators, namely - (i) Birth Rate, (ii) Infant Mortality Rate, and (iii) Maternal Mortality Rate, perform much better in the SPCHS catchment as compared to national averages (NFHS data).

i. **Birthrate** at SPCHS catchment (6.62 in 2024) much lower than national average (17.8-NFHS 5)
ii. **Infant Mortality Rate** at SPCHS catchment (2.2 in 2024) much lower than national average (28.3 -NFHS 5)
iii. **Maternal Mortality Rate** at SPCHS catchment (0 in 2024) much lower than national average (130 -NFHS 5)


Birth Rate Trends
SPCHS Catchment v/s National Average
25
20
15
10
5
0
23
18
16.7
17.1
16.9
14.2
8.8
8.55
8.6
6.2
5
6
6.6
5.62
21.4
19
17.8
1998
2002
2006
2009
2012
2015
2017
2018
2019
2020
2021
2022
2023
2024
NFHS 3 (2005-06)
NFHS 4 (2015-16)
NFHS 5 (2019-20)
SPCHS


Infant Mortality Rate
SPCHS Catchment v/s National Average
60
50
40
30
20
10
0
44.5
29.2
24.2
39
19.1
5.5
2.5
2
4.4
2.8
2.7
0.9
1.1
2.2
57
41
28.3
1998
2002
2006
2009
2012
2015
2017
2018
2019
2020
2021
2022
2023
2024
NFHS 3 (2005-06)
NFHS 4 (2015-16)
NFHS 5 (2019-20)
SPCHS


Maternal Mortality Rate
SPCHS Catchment v/s National Average
500
450
400
350
300
250
200
150
100
50
0
450
260
178
55.5
33.7
76.5
26.6
167
130
1998
2002
2006
2009
2012
2015
2017
2018
2019
2020
2021
2022
2023
2024
NFHS 3 (2005-06)
NFHS 4 (2015-16)
NFHS 5 (2019-20)
SPCHS

5. Improvement in Access to Healthcare

All the MOs and the beneficiaries the assessment team spoke with were unanimous that MHU significantly improves access to healthcare. Some of the barriers the MHU helps transcend include the following:

- ***Lack of proper transport facility***: A large majority of the villages reached by MHU do not have access to roads or have poor public transport availability. It puts pregnant woman, children and the elderly at a disadvantage, and they have to depend on a young male member to take them to a health facility.
- ***Patients suffering with disabilities***: Frail patients, or those who suffered a stroke or have acute joint pains or any other form of motor disability, are unable to travel to the health facility easily. This is notably worse in hilly terrains.
- ***Social mores***: In many cases, newlywed women or women from certain communities are restricted from stepping out of their house or village unchaperoned or accessing an unfamiliar health facility or doctor, restricting their options for healthcare.
- ***In some cases quacks are the second best option***: In many locations, qualified medical doctors are unavailable in the public and private sectors. The community is at the mercy of quacks to provide the required primary health care.

MHU transcends these barriers by providing quality village healthcare and hold OPD clinics in familiar settings.

6. Early initiation of care

MHU, within the community's easy reach, aids in starting medical treatment or supportive care much earlier than is achieved through traditional clinics. This tends to optimize outcomes by addressing a health concern early on. Some examples (not exhaustive) of early care initiation fostered by MHU include:

- Early detection of hypertension and diabetes
- Early initiation of ANC
- Pre conception initiation of folic acid in newly weds leads to prevention of neural tube defects
- Early detection of anemia
- Pneumonia and diarohhea prevention- Awareness during neo-natal care has led to no deaths from these diseases in recent year in the project villages

7. MHU is preferred over both private and public primary healthcare

As per the National Family Health Survey-5 (2019-2021), 48.2% of household members use private sector health facilities when sick, whereas 50.1% use public sector health facilities. When MHU beneficiaries were asked during the survey which health provider they would access in the absence of an MHU, 45% reported they would access a government health facility. In comparison, 49% would go to a private practitioner or health facility. It may be mentioned that patients with chronic ailments reported that they would generally prefer to visit a government health facility, given that it provides free medicines. However, a paucity of doctors at most PHCs results in high waiting time and affects history-taking counseling and follow-up. Many respondents remained undecided about whether they would access a private or a government facility. They mentioned that their decision would boil down to the availability of time, the severity of the ailment, resources available, and assistance to take them to a health facility.

Tab 3.7 Alternate health service option that will be availed in absence of MHU services as reported by MHU beneficiaries

	Not seek cure	Govt Facility	Pvt Practi-tioner	Chem-ist	Quack	Trad healer
Ahmed-nagar	0%	72%	60%	2%	0%	0%
Dewas	0%	90%	14%	0%	0%	0%
Malan-pur	0%	56%	52%	0%	16%	
MKM	0%	53%	47%	0%	0%	0%
Mohali	0%	7%	84%	3%	5%	0%
Panoli	3%	7%	62%	0%	24%	0%
Paonta	7%	47%	17%	3%	30%	0%
Ranipool	4%	4%	32%	0%	68%	
Toansa	0%	37%	34%	14%	0%	0%
Total	1%	45%	49%	3%	12%	

Note: Some of the respondents reported preferring two alternate healthcare options, the choice would be case specific depending on medical condition of the patient and availability of resources at that point of time.
Source: Primary survey

The avoidance of government-run or private clinic visits due to the presence of MHU services provided at the curbside has significant advantages (i) reduces the cost of private medical consultation, (ii) transaction costs, including transport cost, loss of wages, cost of medicines and doctor fee (when accessing private sector), reduced waiting time (especially at government health facilities) and regularity and high frequency of medical consultations ensured by MHU easy access, and (iv) avoidance of seeking medical advice from unqualified persons (quacks/ chemist). Respondents at Mohali, Panoli, and Ahmednagar prefer the private sector alternative if MHU services are unavailable. Respondents at Dewas, Malanpur, and MKM MHUs would prefer a government facility. Focus group discussions during the current study revealed that in pluralistic health systems, the quality of care, cost of care, and access to care are the three most important determinants in selecting a health service provider. MHU beneficiaries have all these check boxes ticked, and the alternate preference would require affirming the three aforementioned variables.

8. MHU limits the propensity of patients to seek medical consultation from unqualified entities

The primary survey revealed that about 15% of the households would seek medical consultation from a chemist, quack, or a traditional healer if the MHU option is unavailable. As per the primary survey, there is a high incidence of respondents preferring quacks, chemists, and traditional healers in Ranipool, Malanpur, Panoli, and Paonta in the absence of MHU services. The availability of MHU services limits community members in project locations from accessing questionable and often dangerous treatment meted out by unqualified persons.

Impact in Action | MHU Comes Knocking at the Door : Every fortnight, the Halol MHU ambulance van on its way from Intwadi to Tikampur village makes a whistle stop in front of the house of Rewaben, an 85-year-old lady who cannot walk. Rewaben regularly waits for the MHU van propped against a pillar in front of her home. The MHU personnel get down from the ambulance and check Rewaben's sugar and BP levels, enquire about her well-being, give her the required medicines, crack a joke, share a smile, and wish her well. MHUs provide such personalized service to many individuals in their catchment who are too frail to even walk a few steps to the MHU OPD clinic in their village. Dr. Shivpriya Banerjee, MO, MHU Halol, remarked, *"We make doorstep stops for elderly patients who have compromised mobility and cannot reach us at the OPD clinic. They are the most needy, and we traverse the extra mile to reach them."*

Impact in Action | It Is Us or No One: Radhaba resides with her son in Udgam Faliya, Intwadi. Her son is an alcoholic, leaving his 80-year-old mother to be the breadwinner of the family by working as a domestic help in households in the village. Her son is too intoxicated through the day to take her to a health facility, most of which is located at a distance from the village if she were to get sick. MHU remains the only health service available to Radhaba. We met her when she was visiting MHU OPD with a complaint of an allergy in her right eye. Speaking of Radhaba, ANM Halol MHU remarked, *"The situation of Radhaba is unfortunate, for her health needs it we or no one, and we intend to stand by her to the best of our abilities."*

9. MHU ensures significant savings on direct medical expenses

While those stating a preference for public health care in case of absence of healthcare services from MHU would pay no fee for medical consultation, the median fee by those preferring private primary healthcare consultation would need to be around Rs. 100-200. Thus, MHU brings substantive savings for those whose alternative is private primary healthcare service, which adds up to a substantial sum when multiple clinic visits are required. In addition, medicine costs have to be borne, and they are provided free through MHU.

Tab 3.8 Consultation fee payable for seeking alternative health-care service in lieu of MHU

	Less than Rs. 50	Rs. 50 to Rs. 100	Rs. 100 to Rs. 200	Rs. 200 to Rs. 300	Rs. 300 +	No Response
Ahmednagar	35%	17%	47%	0%	0%	0%
Dewas	85%	0%	0%	2%	14%	9%
Malanpur	60%	16%	8%	12%	4%	0%
MKM	53%	0%	33%	13%	0%	0%
Mohali	14%	57%	29%	0%	0%	0%
Panoli	14%	10%	48%	24%	3%	0%
Paonta	71%	16%	10%	0%	0%	3%
Ranipool	16%	0%	0%	0%	0%	84%
Toansa	63%	20%	9%	3%	6%	0%
Total	47%	17%	25%	4%	3%	7%
Source: Primary survey						

10. MHU helps achieve significant savings in travel costs

Transportation costs can be a barrier to healthcare services, especially for low-income, disabled, elderly, and geographically isolated populations. The majority of the respondents (51%) reported about Rs. 50 as transportation costs to their preferred primary health service provider in case MHU had not been available.

Tab 3.9 Average cost of transport to alternate health service provider

	No cost	Upto Rs. 50	Rs. 50-100	Rs. 100-200	Rs. 200+
Ahmednagar	12%	82%	5%	2%	0%
Dewas	0%	98%	0%	2%	0%
Malanpur	4%	64%	24%	4%	4%
MKM	0%	63%	33%	3%	0%
Mohali	90%	10%	0%	0%	0%
Panoli	10%	24%	45%	21%	0%
Paonta	13%	80%	7%	0%	0%
Ranipool	8%	4%	0%	40%	48%
Toansa	11%	51%	26%	11%	0%
Total	21%	55%	13%	7%	4%
Source: Primary survey					

The average cost of travel is the highest in Ranipool, given the hilly terrain and remoteness of the villages covered by the MHU. The transportation cost burden can become onerous for patients who are required to visit healthcare services regularly owing to medical conditions such as type 2 diabetes.

11. MHU helps save time and drudgery while seeking primary healthcare

Travel time to primary health care can vary depending on the mode of transportation, the distance, and whether the patient lives in a rural or urban area. Long travel times can act as a barrier to access.

Tab 3.9 Time required to reach alternate health facility

	0-15	15-30	30-45	45-60	60+
Ahmednagar	88%	12%	0%	0%	0%
Dewas	0%	82%	6%	10%	2%
Malanpur	4%	44%	8%	36%	8%
MKM	33%	20%	0%	47%	0%
Mohali	98%	2%	0%	0%	0%
Panoli	10%	76%	7%	7%	0%
Paonta	50%	43%	0%	3%	3%
Ranipool	0%	16%	32%	44%	8%
Toansa	17%	80%	3%	0%	0%
Total	43%	39%	4%	12%	2%
Source: Primary survey					

While in most cases (82%) the travel time is estimated to be up to half an hour, at certain MHUs (Ranipool, MKM and Malanpur), a significant number or respondents reported the travel time to alternate primary health service provider to be between 45-60 minutes.

12. MHU help reduce OPD waiting time

Longer wait times at primary care clinics can affect patient care and patient's willingness to seek healthcare services. Not only does this disrupt the continuity of treatment and care, but it also negatively impacts patient outcomes. While there is no benchmark in the Indian context on acceptable waiting time for patients without compromising patient satisfaction, overseas studies show that patients are less likely to be dissatisfied if their waiting time is within 30 minutes[4]. At least 34% of the respondents reported that the waiting time at the alternate primary health care facility could be higher than 30 minutes. In contrast, the waiting time at the MHU OPD at its peak load is a maximum of 10-15 minutes.

Tab 3.10 Waiting time at alternate primary health service provider

	0-15 min	15-30 min	30-45 min	45-60 min	60+ min
Ahmednagar	52%	48%	0%	0%	0%
Dewas	0%	0%	0%	8%	92%
Malanpur	12%	40%	0%	36%	12%
MKM	97%	3%	0%	0%	0%
Mohali	84%	12%	0%	0%	3%
Panoli	10%	17%	38%	21%	14%
Paonta	37%	43%	0%	13%	7%

4 Evidence shows that patients are less likely to be dissatisfied if their waiting time is within 30 minutes. Overseas studies have shown that patients are willing to wait an average of between 30 and 45 minutes to see a doctor.

Impact in Action | Healthcare for the entire household

Gulvinder Kaur lives in Madanpur, a low-income urban settlement adjoining Mohali city. Her family comprises her husband, son (aged 7), and daughter (aged 12). Her husband is an auto driver, and Gulvinder cooks the midday meal at the primary school. The entire family benefits from the MHU services.

About a year ago, Gulvinder felt acute pain in her legs. She consulted the MHU, and a blood test revealed very high sugar levels (200 mg/dL). She was referred to the government hospital for the confirmatory HbA1C test, which confirmed the provisional diagnosis. She was prescribed Metprim 500mg, which in the open market would cost Rs.2 a tablet, and it is available to her free through MHU. Her blood sugar levels are normal. Gulvinder remarked, *"Had MHU not been there, I would have postponed my visit to a doctor given I have a regular job and the government hospital is extremely crowded, leading to long waiting times leading to drudgery and loss of a day's wage. I would have only gone when the pain would have got intense."*

Her daughter Kushpreet has developed white patches on her face. She would also feel irritated and have attention issues. At MHU, she was diagnosed with acute anemia (7g/dL). She was put on iron supplements and a multivitamins regimen and advised to eat a nutritious diet. Gulpreet talked about the struggle in getting Kushpreet to take the recommended diet and stop her from eating junk food. It's been three months since Kushpreet has been undergoing her treatment at MHU, and her Hb count has gone up. There is still some more time before she gets a normal Hb count. The MHU ANM regularly counsels Kulpreet to take a nutritious diet and give up her mobile phone addiction. This is on the mend, and Gulpreet is relieved at the turn of events.

Jaswinder, Gulpreet's husband, is hypertensive and gets his blood pressure checked at the MHU. He also collects the prescribed medicines from the MHU. When he is out for work, Gulvinder collects the BP medicines on behalf of her husband. For Gulvinder, the MHU is a one-stop shop for all her family's primary health needs. Acknowledging her gratefulness towards MHU she said, *"All the services we receive are free, me and my family try to pay back through our blessings and good wishes."*

Ranipool	4%	76%	4%	12%	4%
Toansa	43%	6%	3%	43%	6%
Total	42%	25%	4%	12%	18%
Source: Primary survey					

13. MHU ensures availability of quality medicines

Medicines quality is one big draw for patients to MHU. There was a general consensus that the medicines made available through MHU were more effective and potent than those available from other sources, both in government and private. With spurious and substandard quality drugs being a big menace in rural areas, the availability of quality medicines is a big attraction for patients to MHU. In addition, MHU provides free medicines to the patients, bringing down the out-of-pocket expenditure of the patients, especially for those suffering from chronic conditions. At all the sampled MHUs, there was a high level of satisfaction amongst the beneficiaries regarding the availability of the prescribed medicines at the MHU.

Tab 3.11 Satisfaction amongst sampled beneficiaries regarding availability of medicines at MHU

	Yes	No
Ahmednagar	100%	0%
Dewas	100%	0%
Malanpur	92%	8%
MKM	100%	0%
Mohali	97%	3%
Panoli	97%	3%
Paonta	100%	0%
Ranipool	88%	12%
Toansa	94%	6%
Grand Total	97%	3%
Source: Primary Survey		

14. Steady patient load

MHU has seen a steady patient load, which indicates that it remains popular amongst the communities it serves. The maintenance of a steady footfall indicates that it is fulfilling its objective of readily accessible and affordable primary healthcare.

Tab 3.12 Patient footfall at MHU

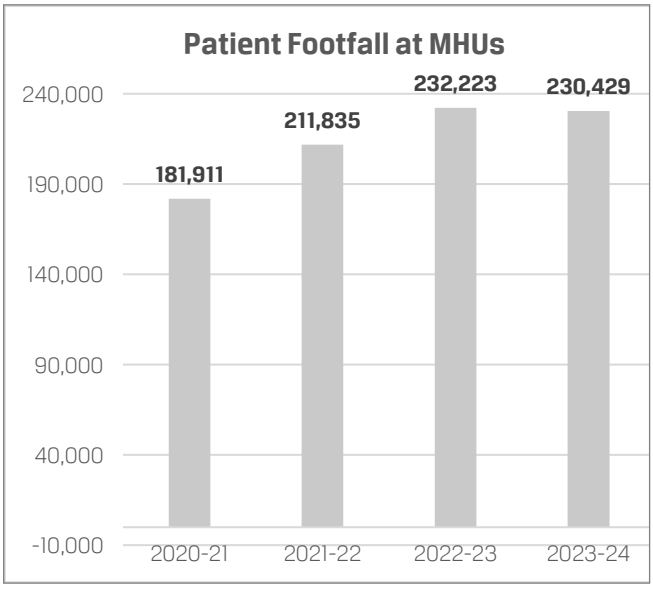
Year	Curative	Promotive (Home Visits + IEC participants)	Total
2020-21	148,919	32,992	181,911
2021-22	183,587	28,248	211,835
2022-23	199,175	34,048	232,223
2023-24 (*)	198,786	31,643	230,429
Source: SPCHS *Karkhadi unit data is of 8 months as Karkhadi plant closed and mobile unit operations stopped on Nov 30, 2023.* *Patient load at all MHUs including the study MHUs*			

15. High population coverage

At an aggregate level, MHUs provide service to about 41% of the total population in the communities they serve. The

Ferimon XT v/s Ferrous Sulphate

Anemia is common in the project area due to limited access to a balanced diet and iron-rich foods as a consequence of food insecurity. SPCHS follows the recommended approach towards combating anemia through screening for anemia, IFA supplementation (prophylactic and for treatment) under direct observation, deworming, and education on iron-rich foods. MHU doctors prescribe Ferimon XT instead of the commonly prescribed Ferrous Sulphate by private practitioners and the government health system. Ferrous XT has Ferrous Ascorbate, which helps in better absorption and helps to quickly control mild, moderate, and severe anemia amongst adolescent girls, newlyweds & antenatal mothers. This is an example of how SPCHS, through better formulation, is able to improve and reach desired health outcomes.



224 villages and urban low-income pockets served by the MHUs constitute a population of 5.62 lakh, of which 2.30 lakh persons are beneficiaries of at least one MHU service. Amongst the individual MHUs, the highest coverage is recorded at Ranipool(80%), followed by Paonta(66%), Panoli (58%), and Toansa(58%).

Tab 3.13 Population coverage by MHU

MHU	Popn	Curative	Promotive	Total	Coverage
A.nagar	65453	21569	1679	23248	36%
Dewas	42394	13954	3933	17887	42%
Malanpur	53500	15600	5690	21290	40%
MKM	26776	13133	1873	15006	56%
Mohali	56497	13453	3347	16800	30%
Panoli	26992	14399	1221	15620	58%
Paonta	28024	15000	3404	18404	66%
Ranipool	14551	11250	443	11693	80%
Toansa	27475	12932	2927	15859	58%
Halol	29398	13478	2399	15877	54%
Other (*)	191132	54018	4737	58755	30%
Total	562192	198786	31653	230439	41%
(*) includes Karkhadi ,Ankleshwar, Jammu and Guwahati *Promotive includes Home visits + IEC participants* *Source: SPCHS 2023-24*					

Impact in Action | Healthcare on the tap

Sonam Parveen, a 20-year-old graduate from Moradabad, began her married life 9–10 months ago in Madanpura, where her husband worked for several years as a daily-wage labourer specializing in POP (Plaster of Paris) work. The couple rents a home for INR 6,000 monthly and struggles to manage household expenses with her husband's irregular earnings.

Despite her current challenges, Sonam aspires to contribute financially to her family. She is keen on finding a decent job to ease her husband's financial burden, but being pregnant and managing household responsibilities has made job hunting difficult.

During her pregnancy, Sonam turned to the Sun Pharma Community Healthcare Society (SPCHS) Mobile Healthcare Unit (MHU) for routine consultations and basic medicines. She praises the program for its free services and highlights the attentive care provided by the doctors, ANMs, and staff. For common ailments like coughs, fevers, and general health check-ups, the MHU has been a lifesaver.

However, Sonam points out a significant gap in the program offerings, such as diagnostic facilities. For essential tests like ultrasounds and other pregnancy-related diagnostics, she must visit private clinics. The cost for an ultrasound alone ranges from INR 1,000–1,500, with additional expenses for other tests. These costs are overwhelming for a family already struggling to make ends meet.

Sonam explains the impact of these expenses: *"We either have to borrow money from others or cut down on essentials like food. If we could save this money, I could include healthier items in my diet, like fruits, proteins, and calcium, which are crucial during pregnancy."*

Her story underscores the vital role SPCHS plays in providing accessible healthcare to underprivileged families. The free services save money and enable families to redirect their resources toward better nutrition and overall well-being. Sonam believes that expanding SPHS to include diagnostic services would provide immense relief to families like hers, who often face financial constraints.

For Sonam and countless others in her community, SPCHS has been a cornerstone of support. By addressing critical healthcare gaps, the program could further empower individuals to lead healthier lives and improve the quality of life in their community.

Regimen for management of select ailments at MHU

Particulars	Cases
Cases of childhood diseases	
Vaccine preventable diseases (Diphtheria, Pertussis, Tetanus, Polio & Measles)	0
Acute Respiratory Infections	224
Diarrhoea	1581
Tuberculosis	
Suspected cases referred for AFB to microscopy centers	87
Positive put on DOTS	19
Number completed DOTS	12
Malaria	
Cases of fever and chills reported and referred for PBF	532
Positive completed Rx	0
RTI/STI	
No of women received Rx-SCM	1483

- Children with Diarrhoea and ARIs reporting at clinics or detected during home visits are given Rx. Education was given to mothers about S/S for prevention of childhood diseases (vaccine preventable, diarrhoea, pneumonia) & on danger signs for timely intervention.
- Education was given on Communicable diseases like Tuberculosis (for early reporting, prompt diagnosis and Rx) & on Vector borne diseases (preventable by checking mosquito breeding and use of mosquito nets).
- Suspected cases of Tuberculosis referred to microscopy centers at respective locations and positive cases put on DOTS and followed up for compliance of treatment
- Patients of Fever with chills and rigors are referred for PBF, Those found positive for vivax are treated.

16. High satisfaction with curative services

Of the total beneficiaries, 86% access MHU for curative services. The effectiveness of curative service was assessed based on (i) the Regularity of clinics, (ii) OPD footfalls, and (iii) feedback from beneficiaries

16.1 Regularity of OPD clinics: In the year 2023-24, all the MHUs included in the study together missed only 12 clinics of the 2506 that were scheduled.

16.2 High caseload at OPD clinics: The average patient load per MHU OPD clinic is 58 which is higher compared to national average of per doctor OPD case load at PHC which stands at around 32 patients. The highest per clinic patient load is at Ahmednagar (85.3), while the lowest is at Ranipool (47.1). Each MHU is expected to achieve the target of seeing 13200 patients per year, which at an aggregate level has been surpassed. The highest caseload per clinic is at Ahmednagar (85.3), followed by Malanpur (61.7), Paonta (59.8), and Panoli (58.5).

Tab 3.14 Caseload at MHU OPD

MHU (#)	No of clinics held	OPD patients	Per clinic patient	Target reached (*)
Ahmednagar	253	21569	85.3	163%
Dewas	250	13954	55.8	105%
Malanpur	253	15600	61.7	118%
MKM	250	13133	52.5	99.6%
Mohali	250	13453	53.7	102 %
Panoli	246	14399	58.5	109%
Paonta	251	15000	59.8	113%
Ranipool	239	11250	47.1	85%
Toansa	251	12932	51.5	98%
Halol	251	13478	52.7	102%
Grand Total	2494	144768	58	109%

** %age patients given curative care as per target of 13200 in 12 months*
#Karkhadi and Ankleshwar, Jammu and Guwahati MHU beyond the scope of this study
Source: SPCHS 2023-24

16.3 Well functioning referral system: Each MHU makes about 10-15 referrals per month to a secondary/tertiary government hospital on average. Each referral slip details the patient's case history and provisional diagnosis, if any. ANM follows up with each referred patient to ensure they seek the recommended specialist medical consultation. In many cases, the MO briefs the patient's case history to the government hospital specialist doctor. Post-consultation follow-up is also made to ensure that the patient adheres to the recommended treatment by the specialist doctor. The incidence of the patient going for specialist consultation based on the referral varies over MHUs. While Ahmednagar and Dewas report high patient follow-up of referrals, Malanpur and Panoli, report low conformation of the patients to MHU referrals. This rate depends on patient characteristics and awareness, which varies across MHUs.

16.4 Beneficiaries reported high approbation of curative healthcare services: The responses to the primary survey indicate a high satisfaction level with the quality of care provided at the MHU. About 96% of the respondents affirmed that they receive good-quality curative care at the MHU.

Tab 3.15 Satisfaction of MHU beneficiaries with quality of OPD consultation received

	No Response	Slightly Satisfied	Neutral	Very Satisfied	Extremely Satisfied
Ahmednagar	0%	0%	0%	100%	0%
Dewas	0%	0%	0%	36%	64%
Malanpur	0%	0%	0%	100%	0%
MKM	0%	0%	0%	100%	0%
Mohali	0%	0%	2%	98%	0%
Panoli	3%	0%	0%	93%	3%
Paonta	0%	0%	0%	0%	100%
Ranipool	8%	0%	8%	52%	32%
Toansa	0%	0%	17%	71%	11%
Total	1%	0%	3%	75%	22%

Source: Primary Survey

Impact in Action | Nick of Time

Seema Devi is the ASHA worker at Kishanpura village and a Community Health Volunteer with MHU Poanta. Having attended breast self exam (BSE) awareness programs held by MHU, Paonta, Seema would regulary do personal self exam. In 2021 she discovered a small lump and immediately contacted Medical Officer at MHU. She was advised to get a mammography done, which detected first stage breast cancer. Sh got a breast conserving surgery (BCS) done at PGI , Chandigarh, funded through Ayushman Card. Now fully cured, she thanked MHU, Paonta for making her aware of breast self exam which lead to detection of cancer at an early stage.

Impact in Action | Detected By Chance

Maya Verma is a resident of Bhatawali village. Her husband works in the local cotton mill and they originally belong to Benaras. She visited the MHU OPD with complaint of cough and cold. During consultation her BP and blood sugar was checked and both were significantly elevated. She was advised to get confirmatory HbA1C test done which confirmed diabetes. Medicines were prescribed and both sugar and BP are now in control. Manju Devi now visits the OPD regularly to ger her BP and sugar tested and collect medicines. Manju Devi speaking of her ailments said, *"It was unaware that I had such high sugar and BP for I had not felt any discomfort. A visit to the OPD clinic for a routine ailment lead to this discovery. Had the detection not been done, things could have turned for the worse."*

Impact in Action | On Her Own Feet

Milo Devi suddenly found that she could barely walk, and whenever she managed to take a few steps, she would be unstable and unsteady. Hoping her condition would improve on its own if she took adequate rest, she did nothing to be on steady feet. With things not improving, Milo Devi's daughter-in-law brought her to MHU, Paonta, for consultation. A thorough physical exam was done, and her blood sugar was tested, revealing a very high glucose concentration in her blood. Medication was given to bring down the sugar levels, and gradually, Milo Devi's condition improved, and now she is completely fine. Milo Devi is now a regular to the MHU OPD where she gets sugar tested regularly and collects her free medicines. She lost her husband a few years ago, and her sons are daily wage workers. Her daughter-in-law gave birth recently, and the child is in an incubator at a hospital in Dehradun, leading to major financial outflow for the household. She regretted that the family did not have an Ayushman card, which would have covered hospitalization expenses.

During the primary survey, the respondents were further asked whether they were satisfied with the staff's behaviour. About 98% of the respondents confirmed that MHU personnel were responsive and humane in their behaviour.

Tab 3.16 Satisfaction with the behaviour of the MHU staff

	No Response	Not Satisfied	Neutral	Very Satisfied	Extremely Satisfied
Ahmednagar	0%	0%	0%	100%	0%
Dewas	0%	0%	0%	36%	64%
Malanpur	0%	0%	0%	92%	8%
MKM	0%	0%	3%	97%	0%
Mohali	0%	0%	3%	91%	5%
Panoli	3%	0%	0%	93%	3%
Paonta	0%	0%	0%	0%	100%
Ranipool	0%	0%	16%	48%	36%
Toansa	0%	0%	0%	86%	14%
Total	0%	0%	2%	74%	24%

Source: Primary Survey

The beneficiaries reiterated during FGD that health staff exhibit professional behavior marked by courtesy, empathy, active listening, clear communication, respect for patient autonomy, and a focus on preventative care; this includes thoroughly assessing patients' concerns, providing clear explanations of diagnoses and treatment options, and following up on patient care plans while maintaining a positive and supportive attitude towards patients. In many cases, MHU personnel informed that patients not only speak of their ailments but also share issues with their families, and getting a patient hearing at the MHU was therapeutic.

17. Maternal care services supplement the government initiative towards safe motherhood

The maternal care services provided at MHU include antenatal care, motivation for institutional delivery, screening for high-risk pregnancies, referral of high-risk cases, and postnatal care through home visits.

Tab 3.17 Maternal services received through MHU

Maternal Service	%age of women who reported receiving maternal services at MHU
Antenatal Care	100%
Referral	28%
IFA Tablet	97%
Anemia Screening	84%
Counselling	90%

Source: Primary Survey

At most MHUs, ASHA is part of the MHU team as a Community Health Volunteer and helps link the MHU ANM with pregnant women. MHU ANM and ASHA jointly provide maternal care and requisition services for medical officers at MHU when required. This also ensures that the pregnant woman is under regular medical supervision and is monitored for her IFA intake, Hb, BP, and blood sugar at a higher frequency than would have been possible through the government health system. ASHA routinely shares information about pregnant women, making it easy for the MHU to reach its maternal care services. There have been many instances of shortage of IFA and calcium tablets within the government health system, and the same is supplied by MHU, which is adequately stocked with these supplements. The degree of shortages varies across states.

17.1 Very high rates of complete antenatal care achieved:

Complete antenatal care included (i) Basic health assessment: Blood pressure, weight, urine analysis, Prenatal screening tests (minimum 4 visits), Iron and folic acid supplementation, Tetanus toxoid injections, Ultrasound scans to monitor fetal development and Information on pregnancy care, nutrition, and potential complications. In all the MHU catchments, almost 100% of pregnant women receive complete antenatal care, and it far surpasses the state averages. This is indeed a credible achievement and goes a long way in reducing maternal and neonatal mortality rates.

Tab 3.18 Complete antenatal care- MHU catchment v/s State

MHU (district)	MHU Catchment	District Average (NFHS V)	State Average (NFHS V)
Ahmednagar	100%	76.6%	71.4%
Dewas	100%	49.1%	57.5%
Malanpur (Bhind dist)	100%	63.1%	57.5%
MKM (Kanchipuram dist)	100%	76.1%	90%
Mohali (SBS Nagar dist)	100%	60.5%	59.7%
Panoli (Bharuch dist)	100%	65.7%	77.2%
Paonta (Sirmaur dist)	100%	85.2%	70.6%
Ranipool (E. Sikkim dist)	100%	43.8%	58.4 %
Toansa (SBS Nagar)	100%	60.5%	59.7%
Halol	96.50%	88.7%	77.2%

Source: SPCHS 2023-24
NFHS-5 report (chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/ https://dhsprogram.com/pubs/pdf/FR375/FR375.pdf)

While ANC in the first trimester by MHU at most locations is accepted as a valid ANC by the government system, the rest of the three mandatory ANCs are required to be performed at a government health institution and involve HIV test, VDRL, blood grouping, ultrasound, and genetic screening facilities which are not available at MHU. However, MHU plays a big part to ensure that each expectant mother seeks the mandatory four ANCs. She is checked for any complications at the MHU on a regular basis throughout her term. The only exception is MHU Paonta, where all the required antenatal tests (except Ultrasound) are done at the MHU. This includes Hb, sugar, VDRL, HIV, blood grouping, and urine protein levels. MHU Paonta does about 40 ANCs per month. The ANC done at MHU Paonta is accepted by the public health system as a valid ANC for government antenatal monitoring and release of benefits available to expectant mothers under the Janani Suraksha Yojana. **The efficacy of antenatal care provided through MHU was attested by the beneficiaries during FGD and was further reiterated by the Medical Officers. The documented case studies provide validation of the quality of ANC service provided at the various MHUs.**

Impact in Action | Nurturing Life

Jyoti Rani is a resident of Bhatawali village, Paonta. Her son Aviraj is 2.5 years old, and her daughter Sanvi is 2 months old. Her husband works with the local police. During her first pregnancy, she was diagnosed with acute anemia(7 gm/dl) at the MHU OPD and was under the care of MHU through her term. She was prescribed the required medication and advised to improve her diet. She was regularly checked every fifteen days. Her Hb improved, and by the time of her delivery, she had the normal Hb count and delivered a healthy baby. It was the care and support that she received at the MHU that brought her back to the MHU during her second pregnancy. The second pregnancy was uneventful, and she delivered Sanvi, her daughter. Jyoti Rani, referring to the service received from MHU, remarked, *"During my first pregnancy, I was nervous when I was diagnosed with anemia. It was the reassurance from Dr. Nina and ANM and the treatment and support received that helped me deliver my son without any complications. I will always remain grateful."* Both her children received post-natal visits from MHU ANM. Jyoti regularly brings her daughter to the MHU OPD for growth monitoring, and little Sanvi is doing well.

Cases which exemplify the efficacy of ANC services provided at MHU

Case 1: Gravida 2 with history of abortion (MHU Paonta)

Ms Mamta Rani (name changed) aged 24 years was 3 months pregnant when she visited the MHU Paonta Sahib. On her first visit she was found to be severely anemic (Hb 8 gm/dl) and weighed 49 kgs. Severe anemia and low weight were identified as risk factors. The MHU guided her through the mandatory 4 ANCs and provided her regular advise and monitored Hb and weight. The IFA tablets as prescribed were provided and was counseled on how to improve diet. Extract from her medical records kept at the MHU shows steady improvement.

- *November 2022*: Hb-7.7 mg/dl, weight-49.8 kg, BP-114/65 ,Blood Sugar Level- 104 mg/dl, HIV VDRl negative
- *January 2023* : Hb-11.5 mg/dl, weight-53.2 kg, BP-119/66
- *March 2023* : Hb-11.8 mg/dl, weight-55.4 kg, BP-120/80
- *May 2023* : Hb-12.6 mg/dl, weight-57 kg, BP- 110/76

Delivered (NVD) at Community Health facility, Paonta, a healthy male child weighing 2.5 kgs. Postpartum uneventful and mother and child both are healthy. Constant monitoring by MHU ensured that Ms. Mamta had good weight gain and Hb improvement leading to delivery of a normal weight child.

Case 2 : ANC with high BP (MHU Dewas)

Ms Pramila (name changed), 23 years, was found to be hypertensive(140/106) in her last month of pregnancy during routine check-up. Her previous BP readings had been normal. She was counselled and explained the risks of hypertension during pregnancy, counseled on low sodium diet and was referred to District Hospital, Dewas. MHU requested ASHA to accompany Ms, Pramila to the hospital. At the district hospital thorough examination was done by the gynecologist. The doctor admitted Ms Pramila and Lower Section Lower Cesarean Section (LSCS) was performed and she delivered a healthy baby girl (weight 2.6 kg).

Case 3 : Primi diagnosed Pre eclampsia (MHU Paonta)

Mrs Reeta (name changed) , 22 yrs resident of Bhagwanpur village registered with MHU Paonta in her first trimester. In her eighth month of pregnancy she recorded a sudden increase in BP, abrupt weight gain accompanied with pedal edema, and high level of protein in urine (proteinuria), Hb 9.6 g/dl indicated towards Pre-eclampsia. This condition is serious and prompt medical attention is essential to manage the blood pressure, monitor kidney function, and consider the possibility of early delivery to improve maternal and fetal outcomes. Ms. Reeta was referred to Nahan Medical College with referral slip which the patient did not followup. ANM MHU Paonta advised the patient firmly for hospital admission and counselled again about complications of PET and Eclampsia. The patient decided to go to Yamunanagar Civil Hospital and the doctors there admitted her in emergency ward after going through the referral papers prepared by MHU Paonta. Ms. Reeta underwent LSCS and delivered male child weighing 1.8 kg, Mother and baby were kept under observation for a few days before being released. MHU Paonta through quick action prevented a potentially risky which could have led to unfavourable outcome. The family members of Ms. Reeta profusely thanked the MHU team.

Case 4: History of two infant death, monitored to successful pregnancy outcome the third time (MHU Dewas)

Mrs Rekha (name changed) , 35 years, registered with MHU Paonta in her third pregnancy with history of Eclampsia with two infant deaths. She was given IFA supplement and protein rich diet was advised. Regular follow up by MHU ANM was done and ASHA maintained constant touch. She was tested for Hb and BP. Her Hb was 7.6 g/dl and her BP 100/63. She was referred for injectable iron. She was counselled and advised diet and also she was referred for Gynecologist checkup as she was a high risk case with history of Eclampsia and death of two infants: first child male FTND died after four days while she had seizure during labour; second child was female child died after 3 days (however, she had no seizures during second pregnancy); , she gave birth to a healthy male child weighing 2.5kg in District Hospital, Dewas, without any sequelae. She and her whole family were happy and thankful to Sun Pharma.

17.2 Surpassing of targets for combating maternal anemia: Low Hb in pregnant women can have an extremely adverse impact on pregnancy outcomes, including pre-term birth, Low birth weight, small-for-gestational-age (SGA) live birth, Pre-eclampsia, and even maternal death. At MHU, antenatal are routinely treated for Hb and provided with prophylactic iron as per National Health Mission guidelines. At an aggregate level, the incidence of anemia among antenatal was found to be 36%. The figure was found to be highest in Malanpur (75%), followed by Paonta(48%) and Ranipool(43%).

Tab 3.19 Incidence of anemia amongst antenatals

	Antenatal tested for Hb	Found anemic (*)	Incidence of anemia in antenatals
Ahmednagar	88	33	38%
Dewas	60	11	18%
Malanpur	113	85	75%
MKM	481	122	25%
Mohali	269	99	37%
Panoli	145	38	26%
Paonta	505	244	48%
Ranipool	28	12	43%
Toansa	157	49	31%
Halol	498	162	33%
Total	2344	855	36%

* includes mild, moderate and severe anemia. It may be mentioned recently the health authorities in Tamil Nadu have restricted testing of Hb by an external agency

Source: SPCHS 2023-24

Impact in Action | Money Saved is Money Earned

Chabdrabhan Mohan Shinde had his diabetes diagnosed at a private clinic. During Covid-19 when there was no healthcare available in both private and public sector he started frequenting the MHU,Ahmednagar, which was operational. The promot meial advice, regular checkup and good quality and free medicnes and cogenial behaviour of the staff has made him a regular to the MHU. He cacculated that the free diabetes medicine from MHU is saving him around Rs. 900 per month, both in terms of medicne costs and the travel expenses of going to Nagar town 97 kms away) to procure medicines. The regular checkup of glucose levels at the MHU is a welcome bonus. He is a small farmer tilling a two acre piece of land His son is a loading labour in a nearby agriculture market. He reported that he i yet to receive his Ayushman Card, and feels vulberable on how to afford hospitalisation expense if the same is required for any of his family members in future.

Impact in Action | Early Registration of Pregnancy

Renuka was pregnant with her second child but was reluctant to go to the ASHA for a pregnancy test. She came to the MHU OPD (Ahmednagar) with a complaint of cough and cold. During her history taking, it was discovered that last month, she had missed her period. The pregnancy test was done at the MHU, which came back positive. MHU ANM contacted ASHA and registered Renuka. Her first ANC has already been completed at the PHC. Early registration has ensured close monitoring of pregnancy and will facilitate benefits under the Janani Suraksha Yojana and take-home rations for pregnant women from the Anganwadi. Regular home visits of MHU NM and ASHA will also commence. Renuka's first pregnancy was registered in the fifth month of pregnancy due to her informing the ASHA worker late. However, this time, vigilant MHU personnel ensured that pregnancy was detected in time and that the required monitoring had started forthwith.

Renuka's husband is a driver whose income supports the household, which comprises, besides Renuka and her first child, her mother and brother, who is an alcoholic. Recently, during heavy monsoons, her house lost its roof, and a makeshift tarpaulin roof has been managed until the household has enough resources to afford a permanent roof structure.

MHU maternal services puts a particular focus on combating maternal anemia. It has set a minimum target of antenatal to be provided with IFA tablets and monitored its consumption for at least 480 pregnant women per MHU. Antenatal reported at SPCHS clinics were tested for Hb & those found anemic were given IFA as per treatment guidelines by WHO. All those registered were given 100 tabs of prophylactic Iron irrespective of anemia status. In most MHUs, the target is routinely surpassed as the MHUs aim for universal coverage when an effort is made to provide IFA to all pregnant women in the MHU catchment. At the aggregate level, the target of providing IFA to at least 480 antenatal was surpassed. However, Malanpur, Panoli, Ranipool, and Toansa fell short of targets. About 29% of the ANCs who were provided with IFA were given under direct observation.

Tab 3.20 Antenatal mothers provided IFA at MHU

MHU (#)	No. of ANC mothers provided IFA	Target reached (*)	IFA provided under direct observation (#)
Ahmednagar	987	206%	6%
Dewas	828	173%	3%
Malanpur	313	65%	72%
MKM	481	100%	16%
Mohali	548	114%	70%
Panoli	363	76%	12%
Paonta	1060	221%	22%
Ranipool	254	53%	27%
Toansa	414	86%	58%
Halol	665	139%	55%
Total	5913	123%	29%

** 480 ANC mothers to be provided with IFA*
 # The first dose of IFA every week is supervised by ASHA and MHU ANM during home visits and the women are instructed to take the remaining tablets during the week as per the prescription.
Source: SPCHS 2023-24

There has been a significant improvement in the condition amongst antenatals who were found anemic and provided the required IFA dose through MHU. In 2023-24, 46% of the anemic anetnatals detected at MHU (under study) saw an improvement in their condition.

Tab 3.21 Improvement in the the condition of anetenatals detected with anemia at MHU

MHU	Antenatals found anemic	Anemic antenatals improved	% improvement
Ahmednagar	65	47	72%
Dewas	11	9	82%
Malanpur	85	19	22%
MKM	122	60	49%
Mohali	99	60	61%
Panoli	38	20	53%
Paonta	244	88	36%
Ranipool	12	4	33%
Toansa	49	37	76%
Halol	162	62	38%
Total	887	406	46%

Source: SPCHS 2023-24
Improved Anaemic antenatals in March 2024 (newly detected wef April 2023)

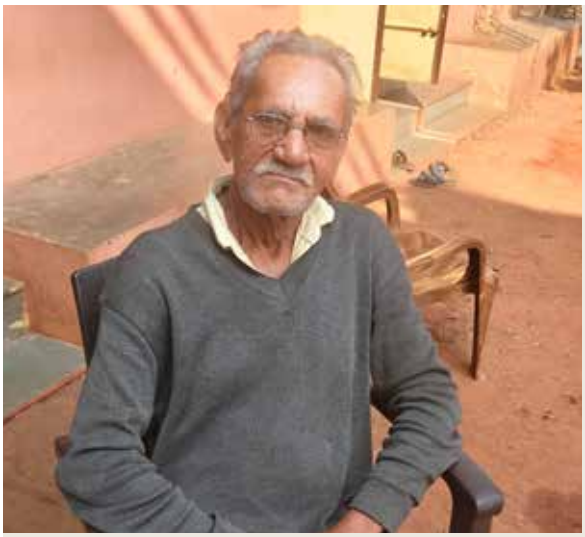
The focus group discussion and documented case studies validate the aforesaid contention

Cases which exemplify the efficacy of controlling antenatal anaemia

Case 1: Turnaround from severe anaemia (MHU Halol)
Ms Mala (name changed), 26 years old, visited MHU in the first trimester of pregnancy. Her Hb was recorded at 7,5 g/dl, indicating severe anemia slotting her under the risky pregnancy category. She was prescribed Feromon XT and MHU ANM and ASHA would visit her regularly to ensure that the prescribed medication was taken under direct supervision. She was advised on all aspects of diet and hygiene as well with special attention to locally available food with high iron content. Her Hb showed significant improvement within one month and rose to 8.6 gm/dl and subsequently to 9.4 gm/dl. Ms Mala delivered a healthy baby weighing 2.6 kgs. Ms Mala expressed her appreciation of the care, effort and timely action provided by the MHU.

Case 2: Timely monitoring brought antenatal anemia in control (MHU Mohali)
Sunita (name changed), 30 yrs, resident of Madanpur village on her third pregnancy, has had two previous live births , and has two living children (Living) registered with MHU Mohali in her first trimester and reported incidence of vomiting, backache & weakness. Routine investigations done including Hb (9.2 g\dl), blood group , BP, weight, per and exam. Two injections of TT, IFA, calcium supplements given, healthy diet advised, danger signs explained, motivated for institutional delivery. Timely home visits made by ANM, followed up till term with regular Hb estimation. Delivered baby boy weighing 3.1 kg at birth. Her HB was 10.9 g/dl at time of delivery. Put on IFA, Calcium. PNC visits given by ANM at home , educated on EBF, Immunization, family planning and diet of mother. Now her Hb is 11.8 g/dl.

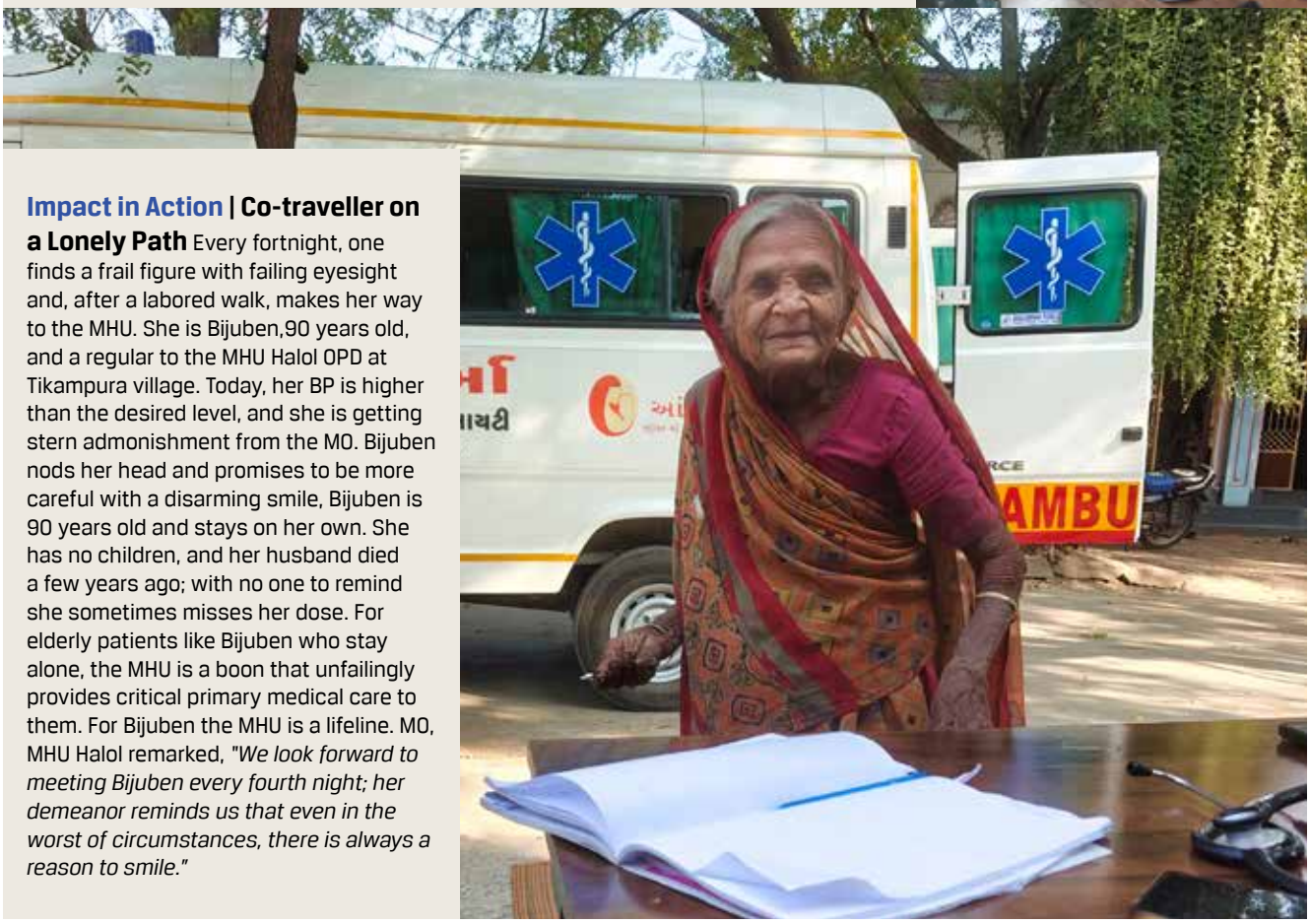
17.3 Significant reduction in low birth weight: Low birth weight (LBW) in India is a serious public health issue. It's defined as a birth weight of less than 2,500 grams (5.5 lbs). Compared to the corresponding state averages, the incidence of low birth weight in MHU catchment neonates is extremely low. This is an outcome of reduction in antenatal anemia and complete antenatal care.



Impact in Action | Conversation with Panchayat Ward Member, Intwadi Jitendra Sinh is a ward member of Intwadi Gram Panchayat, one of Halol MHU's project villages. While praising the work done by MHU, he pointed out the need to expand the diagnostic tests available with MHU. Referring to the mobile health care unit being run by Polycab (a cable manufacturing unit based out of Halol) in Chhabapura, a constituent village of Intwadi Gram Panchayat, Jitendra mentioned that a wide range of pathology tests are provided. A third-party lab collects the sample during OPD and makes results available when the mobile unit visits the village next. He requested that Sun Pharma consider having a similar arrangement. He acknowledged the commitment of Sun Pharma for its long association with Intwadi village and the quality and punctuality of the service.

Impact in Action | Quality of Medicines A Big DIfferentiator

Sardar Sinh Jaswant Sinh Gohil is a resident of Tikampur village. Before the availability of MHU service in his village, Sardar Sinh would procure his medicines for breathlessness from PHC, Arad, about seven kilometers from his village. With MHU starting operations at Tikampur, he shifted to the MHU OPD for medical consultation. Comparing the effectiveness of the medicines from the two sources, Sardar Sinh remarked, *"The BP medicines which are provided at the Sub Pharma ambulance appear to be more effective than the one from PHC."* He further stated that he is saved from making fortnightly visits to the PHC and can get his medicines in the village. Furthermore, there is no medical shop near the village, and trips had to be made to Halol City if medicines were not available at PHC. Now, no such trips are required, saving money and effort.



Impact in Action | Co-traveller on a Lonely Path Every fortnight, one finds a frail figure with failing eyesight and, after a labored walk, makes her way to the MHU. She is Bijuben,90 years old, and a regular to the MHU Halol OPD at Tikampura village. Today, her BP is higher than the desired level, and she is getting stern admonishment from the MO. Bijuben nods her head and promises to be more careful with a disarming smile, Bijuben is 90 years old and stays on her own. She has no children, and her husband died a few years ago; with no one to remind she sometimes misses her dose. For elderly patients like Bijuben who stay alone, the MHU is a boon that unfailingly provides critical primary medical care to them. For Bijuben the MHU is a lifeline. MO, MHU Halol remarked, *"We look forward to meeting Bijuben every fourth night; her demeanor reminds us that even in the worst of circumstances, there is always a reason to smile."*

Tab 3.22 Incidence of LBW- MHU catchment v/s State

MHU	MHU Catchment	District Average (HMIS) *	State Average (HMIS)
Ahmednagar	3.40%	7%	12.1%
Dewas	6.10%	13.8%	15.6%
Malanpur (Bhind dist)	1.40%	15.6%	15.6%
MKM (Kanchipuram dist)	4%	19.6%	12.8%
Mohali (SBS Nagar dist)	4.50%	9.4%	%
Panoli (Bharuch dist)	4.40%	15.4%	12.9%
Paonta (Sirmaur dist)	3.10%	13.1%	13.6%
Ranipool (E. Sikkim dist)	2.60%	10.8%	9.1%
Toansa (SBS Nagar dist)	1.90%	9.4%	7%
Halol (Panchmahal)	8.50%	10.2%	12.9%
SPCHS 2023-24/ Health Management Information System-2019-20, MoHFW (https://hmis.mohfw.gov.in/#!/standardReports)			

17.4 High beneficiary satisfaction with antenatal care at MHU: During primary survey the beneficiaries were asked to rate maternal services at MHU. All the surveyed beneficiaries of antenatal care expressed their appreciation with quality of service received.

Tab 3.23 Satisfaction with quality of maternal health service from MHU

	Very Satisfied	Extremely Satisfied
Ahmednagar	100%	0%
Dewas	18%	82%
Malanpur	94%	6%
MKM	100%	0%
Mohali	100%	0%
Panoli	100%	0%
Paonta	0%	100%
Ranipool	100%	0%
Toansa	63%	38%
Total	53%	47%
Source: Primary Survey		

18. High satisfaction with post natal care service provided by MHU

ANMs provided postnatal mothers with 6 visits within 40 days of delivery during home visits. They were asked about danger signs, educated on diet, rest, exclusive breastfeeding (EBF), Immunization, family planning, and monitored for any potential complications.

18.1 High coverage: At an aggregate level about 84% of all women giving birth in the MHU catchment were provided post natal care.

Tab 3.24 Coverage of postnatal care at MHU

	No. of deliveries	Women provided Post natal care	Coverage
Ahmednagar	194	194	100%
Dewas	414	255	62%
Malanpur	345	345	100%
MKM	100	100	100%
Mohali	220	176	80%
Panoli	206	188	91%
Paonta	463	440	95%
Ranipool	39	14	36%
Toansa	210	167	80%
Halol	199	121	61%
Total	2390	2000	84%
Source: SPCHS 2023-24			

MHU has positive impact on health seeking behaviour of the community

MHU has challenged health-seeking behavior issues at their respective locations. Discussion with MO and focus group discussion with beneficiaries at sampled MHUs revealed the following:

1. ***Reduced delay in seeking medical attention***: MHU helps people get care early by bringing health services to their communities. MHUs can also help people manage their conditions at home and minimize clinic visits.
2. ***Reduces widespread self-medication practice***: MHU ensures that individuals have regular access to quality healthcare, reducing the likelihood of self-medication and reliance on unqualified practitioners for medical advice.
3. ***Reduces number of clinic visits through preventive/ promotive healthcare***: Encouraging healthy behaviors such as handwashing, proper nutrition, oral rehydration solutions (ORS), and substance abuse prevention, along with non-communicable disease (NCD) screening and lifestyle counseling, contributes to increasing an individual's disease-free days
4. ***Improves access to quality healthcare in rural areas***: Communities that have limited access to healthcare services due to factors such as geographical location, poverty, or lack of infrastructure now have a viable option in MHU
5. ***Cultural beliefs, and stigma associated with certain health conditions***: Many cultural practices contradict medical advice. For instance, Postpartum seclusion impacts postnatal care, or giving ghutti (an ayurvedic supplement) to a newborn is contrary to recommended infant feeding practice. MHU doctors and ANM, through constant advice and awareness, have been able to dilute such practices in some of the communities within their ambit.

18.2 Full complement of postnatal care services: MHU provides the entire bouquet of postnatal care services. While over 90% of the beneficiaries reported receiving the almost full complement of postnatal services, only 43% of the respondents reported receiving counseling on kangaroo care, which may require further reinforcement during postnatal home visits by the MHU ANM.

Tab 3.25 Incidence of newborn care service received through MHU

Service	% of respondents reported receiving the service
Post natal home visit	97%
Checkup of new born	90%
Counselling on breast feeding	96%
Counselling on nutrition	91%
Counselling on kangaroo care	43%
Source: Primary Survey	

Impact in Action | A Relationship of Over A Decade

Moti Singh Chavda, a resident of Itwadi village, Panchmahal district, has been availing the services of MHU, Halol, over the last ten years. A medium-level farmer, Moti Singh holds a master's degree from Gujarat University and is thoughtful and articulate. For him and his family, MHU is the first port of call for any ailment/affliction. Referring to his long association with MHU, Halol, Moti Singh remarked, "Medical Officer, MHU acts as a family doctor, and I completely trust the medical opinion and the medicine dispensed. While the doctors do change, the commitment, punctuality, and expertise remain the same.' He suggested that the availability of more tests would be a great help. He was of the opinion that MHU may have a contract with a nearby pathology lab where the MHU doctor can refer the patients. This will help treat a large number of diseases at the MHU level itself, thereby reducing the need for referrals to government hospitals where, many a time, tests are not available, forcing the patients to go to private facilities.

18.3 High beneficiary satisfaction with post natal care at MHU: During the primary survey, the beneficiaries were asked to rate postnatal care services at MHU. All the surveyed beneficiaries expressed their appreciation for the quality of service received.

19. Well structured child growth monitoring service

MHU monitors a child's (0-3 years) weight, height, and temperature. It also provides counseling and advice to parents and caregivers on nutrition and care giving.

19.1 High coverage: SPCHS has set the target of enlisting at least 300 children (0-3 years) per MHU for growth monitoring. At an aggregate level, the target has been surpassed (123%). All the MHUs except Ranipool achieved the target.

Tab 3.26 Children (0-3 year olds) monitored for growth at MHU

MHU	Growth monitoring (0-3 year old) no. of children	Target reached (*)
Ahmednagar	390	130%
Dewas	415	138%
Malanpur	373	124%
MKM	408	136%
Mohali	450	150%
Panoli	278	93%
Paonta	443	148%
RANIPOOL	60	20%
Toansa	376	125%
Halol	402	134%
Total	3595	123%

** 300 nos. of 0-3 year olds to be monitored for growth/ year/MHU*
Source: SPCHS 2023-24

19.2 Successfully combating undernourishment: In the year 2023-24, the MHUs included in the study monitored 3595 children (0-3 yrs olds) and detected 22% of the children to be undernourished. Of the total undernourished children detected, MHUs at an aggregate level could improve the nutritional status of 45% of the children. This was done through educating the mothers on low-cost & homemade nutritional recipes, advocating lowering the consumption of junk foods, promoting recommended infant and child feeding practices, diagnosing any underlying medical condition, constant monitoring, and regularly reinforcing with the caregiver the need for improvement of nutritional status and providing referral for the severely undernourished. MHU maintains each child's growth chart and update it at regular intervals.

Tab 3.27 Status of undernourishment (0-3 year olds) and its amelioration by MHUs

	No. of children monitored	Undernourished children detected	% age undernourished	Improvement in undernourishment status	%age improvement
Ahmednagar	390	56	14%	26	46%
Dewas	415	28	7%	14	50%
Malanpur	373	127	34%	40	31%
MKM	408	110	27%	50	45%
Mohali	450	75	17%	49	65%
Panoli	278	36	13%	14	39%
Paonta	443	89	20%	5	6%
Ranipool	60	0	0%	0	0%
Toansa	376	134	36%	50	37%
Halol	402	146	36%	109	75%
Total	3595	801	22%	357	45%

Source: SPCHS 2023-24

19.3 High coverage of immunization: MHU ANMs, during home visits and consultations at the clinic, advise the mothers/caregivers on the importance of children's immunization. A child in India is considered fully immunized if they receive all the vaccines on the national immunization schedule within their first year. The complete immunization rate of children in MHU catchment is comparable to the corresponding state average. During immunization camps in the project villages, the vaccinated children, in some cases, are referred to MHU to collect paracetamol(oral suspension) against post-vaccination fever.

Tab 3.28 Complete Immunization %

MHU	MHU Catchment	District Average (NFHS V)*	State Average (NFHS V)
Ahmednagar	100%	83.5%	73.5%
Dewas	77%	87.1%	77%
Malanpur (Bhind dist)	100%	70.7%	77%
MKM (Kanchipuram dist)	100%	69.1%	78%
Mohali (SBS Nagar dist)	96%	100%	85%
Panoli (Bharuch dist)	77%	80%	76%
Paonta (Sirmaur dist)	100%	93%	96%
Ranipool (E. Sikkim dist)	79%	NA	80%
Toansa	99%	100%	85%
Halol	85%	95.4%	76%

Source: SPCHS 2023-24/NFHS4
** Children age 12-23 months fully vaccinated based on information from either vaccination card or mother's recall*

19.4 High uptake of childcare services: Nearly all beneficiaries of child care services provided by MHU reported receiving a complete range of services, which include growth monitoring, advice on under-nutrition, vaccination guidance, and referrals as needed.

Tab 3.29 Child care services through MHU (0-3 year olds)

Childcare Service	% of respondents who reported receiving child care services
Growth monitoring	97%
Advice on malnutrition	95%
Advice on vaccination	89%
Referral	20%
Other	1%

Source: Primary Survey

Study on Efficacy of Screen and Treat Approach for Anaemia Control at MHU

Anaemia control has been through prophylaxis with weekly iron-folic acid (IFA) in Indian women of reproductive age (WRA). Recently, a more precise approach has been proposed that uses a 'screen and treat with IFA' approach for anemic WRA, combined with continued prophylactic IFA in non-anemic WRA. Some important questions remain to be addressed. First, the efficacy of this 'screen and treat' regimen has not been evaluated for reducing anemia and iron deficiency (ID) in WRA population groups. Second, it is not known for how long the IFA treatment effect might persist following its cessation.

Sun Pharma approach

Ten years back, in 2010, Sun Pharma started an intervention for the prevention & management of Iron deficiency anaemia in adolescent girls and newlyweds. The components included - Screening for anaemia, IFA supplementation (prophylactic & for treatment) under direct observation, deworming, and education on iron-rich foods. With this intervention, the Iron reserves of girls and newlyweds are built, and any anaemia-induced complication during pregnancy is minimized. Ferimon XT was chosen to be distributed to target groups instead of Ferrous Sulphate, which had Ferrous Ascorbate with better absorption. Ferimon XT quickly controlled mild, moderate & severe anaemia amongst adolescent girls, newlyweds & antenatal mothers.

Objective of the study

We, therefore, conducted this study in adolescents residing in Sun Pharma CSR catchment villages to field test the 'screen and treat' program for iron deficiency anemia reduction through IFA supplementation under a corporate-sponsored CSR program.

Study Methodology

The study assessed the efficacy of screening and treatment methodology in a sample of 800 adolescent girls. 50 girls were chosen from two villages, each from the catchment of eight mobile healthcare units. Girls with similar socioeconomic strata were included in the study to control for dietary intake. A Digital Haemoglobinometer was used to estimate Hb (normal Hb level = 〉12 gm% as per WHO recommendation). The control group was given no Iron, only education on diet, the need for deworming, and IFA intake. The experiment group was given IFA, deworming was done, and they were educated on a diet. The WHO classification grade of anaemia was adopted- Mild (10-11.9 gm%), Moderate(8-9.9 gm%) & Severe (〈 8 gm%).

Results

MHU	Control Group			Experiment Group			Comments
	Total	Baseline	Endline	Total	Baseline	Endline	
Mohali	50	22	22	50	19	8	Controls remained 100% anaemic (22 Vs 22) while in experiment, 11 anaemic improved (8 Vs 19)
Paonta	50	28	22	50	23	11	6 Controls improved (22 Vs 28) while in experiment, 11 anaemic improved, one could not be traced (11 Vs 23)
Toansa	50	28	18	50	26	4	10 Controls improved with Govt Iron (18 vs 28), while in experiment, 22 anaemic improved in (4 Vs 26)
MKM	25	24	24	25	25	14	Controls remained 100% anaemic (24 Vs 24) while 11 cases improved (14 Vs 25).
Dewas	50	40	26	50	32	22	Controls anaemia improved in 14 as they took IFA from Govt. (26 anaemic out of 40) while in experiment 9 anaemic improved, one could not be traced (23 Vs 32).
Ahmednagar	50	2	1	50	5	1	Controls remained 50% anaemic (1 Vs 2) while 4 anaemic improved (1 Vs 5).
Karkhadi	34	28	22	50	37	28	Controls remained anaemic (22 Vs 28) while in cases, 9 anaemic improved (28 Vs 37).
Halol	50	31	18	50	41	21	13 Anaemic in Controls improved with Govt Iron (18 Vs 31), while 20 cases improved (21 Vs 41).
Total	359	203	153	375	208	109	

With oral IFA, mild to moderate Anaemia is treatable. There has been a significant improvement in the degree of Anaemia - improved from moderate to mild and many mild to normal. If IFA is given right from adolescent age to newlyweds to pregnant mothers, it can prevent the problem of low birth weight babies and premature births and hence contribute significantly in reducing IMR and MMR.

19.4 High satisfaction with childcare service provided by MHU : In response to the question asked in the primary survey regarding the satisfaction with the child care services, 57% of the respondents indicated they are satisfied while 41% reported to be extremely satisfied.

Tab 3.30 Satisfaction with quality of child care at MHU

	Neutral	Satisfied	Extremely Satisfied
Ahmednagar	0%	100%	0%
Dewas	0%	29%	71%
Malanpur	0%	100%	0%
MKM	0%	100%	0%
Mohali	0%	100%	0%
Panoli	0%	100%	0%
Paonta	0%	0%	100%
Ranipool	0%	50%	50%
Toansa	21%	57%	21%
Grand Total	3%	57%	41%

Source: Primary Survey

20. MHU service for adolescents has helped combat incidence of adolescent anemia

Low Hb in adolescent girls (ages 10–19 years) carries long-term health and economic consequences. This can include poor school performance, developmental delays, decreased attention and behavioral disturbances, which can affect school performance, fatigue, delayed menarche, increased risk of infection, poor memory retention, limited learning abilities, and increased risk of heart problems. At an aggregate level, the incidence of anemia among adolescent girls was found to be 32%. The figure was found to be highest in Toansa (46%), Halol (43%), Malanpur (38%), and Paonta (38%).

Tab 3.31 Incidence of anemia amongst antenatals at MHU locations

	Adolescent tested for Hb	Found Anemic	Incidence of Anemia
Ahmednagar	558	79	14%
Dewas	133	16	12%
Malanpur	124	47	38%
MKM	467	162	35%
Mohali	258	84	33%
Panoli	132	30	23%
Paonta	636	241	38%
Ranipool	73	16	22%
Toansa	223	103	46%
Halol	582	251	43%
Total	3186	1029	32%

Source: SPCHS 2023-24

The target for testing adolescent girls for Hb is set at 600 adolescent girls/MHU/year. At an aggregate level, this target has been substantially surpassed (128% of the target achieved). Most MHUs have also met their targets except for Panoli and Ranipool, primarily due to a smaller catchment. About 41% of the girls provided IFA was done under Directly Observed Therapy Shortcourse (DOTS). It may be mentioned that the target is not to seek out all adolescent girls for testing for anemia, which was the case in previous years. Now, the girls who approach the MHU OPD are tested for Hb. It was also found that in states where school health programs are robust, the incidence of anemia is low in school-going adolescent girls since every Wednesday, they are given iron tablets in school. However, anemia is high in out-of-school adolescent girls, even in such states.

Tab 3.32 Adolescent girls provided IFA (2023-24)

MHU (#)	No. of girls provided Iron	Target reached (*)	IFA provided under direct observation (#)
Ahmednagar	639	106%	16%
Dewas	1055	176%	3%
Malanpur	1508	251%	66%
MKM	636	106%	16%
Mohali	646	107%	62%
Panoli	308	51%	19%
Paonta	1340	223%	45%
Ranipool	183	31%	47%
Toansa	642	107%	57%
Halol	692	115%	61%
Grand Total	7659	128%	41%

** 600 adolescent girls to be provided IFA/MHU/Year*
#Karkhadi and Ankleshwar not included. Jammu and Guwahati beyond the scope of this study
Source: SPCHS 2023-24

There has been a significant improvement in the condition amongst adolescents found anemic and provided the required IFA dose through MHU. In 2023-24, 48% of the anemic adolescents detected at MHU (under study) saw an improvement in their condition. The highest improvement is seen at Dewas (94%) followed by Mohali (62%) and Toansa (60%).

Tab 3.33 Improvement in the condition of adolescents detected with anemia at MHU

	Adolescents found anemic	Adolescent anemia improved (Nos)	% improvement
Ahmednagar	79	46	58%
Dewas	16	15	94%
Malanpur	47	22	47%
MKM	162	61	38%
Mohali	84	52	62%
Panoli	30	15	50%
Paonta	241	75	31%
Ranipool	16	7	44%
Toansa	103	62	60%
Halol	251	134	53%
Total	1029	489	48%

Source: SPCHS 2023-24

Impact in Action | Anemia Awareness and Hb Testing Program in Schools Appreciated by HM

MHU Paonta has been running a health awareness program in collaboration with three senior secondary schools over the last three years. This involves providing awareness of various relevant health issues, including anemia, malaria, and hygiene and handwashing. Among the multiple activities rolled out is testing adolescent girls for Hb and providing the required regimen of Iron supplements as per protocol. The assessment team spoke to Mr. J. Joshi, HM of Government High School, Behral, whose student strength is 113 studying in classes VI-X. While praising the program, he recalled that when doctors from the Civil Hospital visited the school recently (Nov 2024) to conduct annual health checkups of students, they were pleasantly surprised at not finding a single adolescent girl with anemia in the school. The team congratulated the school and expressed satisfaction with MHU Poanta's effort. In addition, MHU Paonta holds essay, quiz, and slogan competitions regularly at the partner schools.

The focus group discussion and documented case studies validate the aforesaid contention

Case 1: On way to recovery from severe anaemia (MHU Mohali)

Neha, 18 yrs resident of Swara village visited MHU Mohali with complaint of fatigue and tiredness. On general physical examination she was found with swelling on face and feet. Her Hb was 6.4 g/dl (severe anaemia) advised Complete Blood Count and Renal Function Test at the Civil Hospital. Meanwhile IFA twice daily was started along with protein supplements and a single dose of Albendazole for deworming. On the next fortnightly visit of the MHU , Neha informed that due to financial constraints she could not visit the hospital for the recommended tests. Same treatment regimen was continued, and after a month her fatigue issue has significantly subsided and her Hb has risen to 7.7g/dl. At the time of documenting the case, Neha remains under treatment of MHU Mohali.

Case 2 : Getting anaemia under control (MHU Halol)

Ms. Hetal kumari, 12 years, resident of Bakrol village ,visited MHU Halol with complaints of headache, dizziness and incidence of fainting in school. She looked pale and Hb testing was done which showed 8.6 g/dL. She was started with Tab. Ferrimon XT. Regular follow up was done and after 2.5 months her Hb increased to 9.8 gm/dL. At first she was not taking medicine timely. Hence the MHU started counselling and regular follow ups which helped in making her regular with medicines. Her mother has been advised to make certain dietary changes for better health.

21. High incidence of NCD screening

Screening for NCD is done at MHU for (i) Blood Pressure, (ii) Diabetes, and (iii) Breast Cancer. This is done as part of routine medical consultations at OPD or NCD camps organized by MHU.

21.1 Screening during routine OPD: The primary survey asked respondents whether any person in their household had ever received screening for any of the three ailments at the MHU. BP measurement was the most common, with 93% responding in the affirmative, followed by screening for blood sugar, with 78% affirmations. Screening for breast cancer was reported from two MHUs, MKM and Paonta. Visual acuity using a Snellen chart is done at MHU Halol.

Tab 3.34 %age of beneficiary households who reported at least one member receiving health screening at the MHU

	Screening for blood Pressure	Screening for blood sugar	Screening for breast cancer
Ahmednagar	95%	90%	2%
Dewas	90%	90%	0%
Malanpur	80%	80%	0%
MKM	97%	0%	30%
Mohali	98%	88%	0%
Panoli	96%	93%	0%
Paonta	94%	77%	40%
Ranipool	72%	64%	0%
Toansa	97%	91%	3%
Total	93%	78%	6%
Source: Primary Survey			

21.2 Screening at NCD camps: NCD camps are screening events for non-communicable diseases (NCDs) organized at MHU. These camps aim to prevent and control NCDs through health education and screening. Screening for common NCDs like diabetes, hypertension, and breast cancer. Any NCD related condition is managed through OPD consultation at MHU OPD or referral to appropriate healthcare facilities for treatment and management. In addition, health promotion and awareness generation on NCD is provided at the camps. Each MHU has a target of screening 300 persons per year for NCD. At the aggregate level, this target has been over-achieved (112%), with almost all the MHUs meeting their targets. NCD was detected in 22% of the total persons screened.

Tab 3.35 NCD screening at NCD camps organised by MHUs

	No. of patients screened for NCD	% achieved (*)	NCD detected	%age detected
Ahmednagar	337	112%	13	4%
Dewas	298	99%	24	8%
Malanpur	367	122%	0	0%
MKM	286	95%	101	35%
Mohali	448	149%	119	27%
Panoli	252	84%	7	3%
Paonta	365	122%	153	42%
Ranipool	417	139%	103	25%
Toansa	271	90%	89	33%
Halol	328	109%	141	43%
Total	3369	112%	750	22%
** 300 NCD screening / year/MHU*				

22. Health awareness message reach is high and effective

Health information is essential for maintaining good health, preventing diseases, and making sound health decisions. Health awareness can help people improve their health and well-being in many ways, including Disease prevention, Early detection, informed decision-making, and making required behavioral changes toward a better quality of life. Health awareness is done through (i) advising on recommended health practices during OPD consultation and (ii) special IEC camps.

22.1 High variety and reach of health messages: MHU provides health messages across various healthcare domains that are critical to educating people about healthcare and access to healthcare services. The most dispensed health messages by MHU are (i) Handwashing (65%), (ii) ORS (61%), BP awareness (60%), and Diabetes awareness (53%).

Impact in Action | Expert Medical Advice At The Doorstep

Vijay Singh, a skilled lathe machine worker and fitter, spent his entire life working and supervising assembly lines at Kirloskar pumps. In 2012, he retired and moved back to his village to start farming. Over time, the physical stress from farming began to affect his bones and joints. He underwent a knee operation in 2020. In recent times, he has started to grow a gap in the knee joint. This condition develops due to misalignment between the knee bones and can occur for several reasons, including injuries, arthritis, or aging. He consulted the MHU at Dewas for his joint pains and brought the issue of knee joint gap to the notice of the MO, MHU Dewas. Preliminary investigation revealed no pain; he was advised that currently, no medication was needed. He has been advised to have a checkup with an orthopedic. Vijay Singh noted that they were lucky to have access to expert medical advice in the village itself, and it was a boon for older people like him, especially those who had mobility issues.

Tab 3.36 %age of households who reported that atleast one family member got health awareness message through MHU

Awareness (n=342)	%age of households
Handwashing	65%
ORS Demo	61%
BP Awareness	60%
Diabetes Awareness	53%
Camp on NCD	34%
Oral Hygiene Camp	34%
Adolescent Health	23%
Women & Child Health	23%
Breast Cancer Awareness	18%
Dengue/Malaria Awareness	16%
Adarsh Mata Contest	15%
Healthy Baby Show	14%
TB Awareness	14%
Nutrition Week	14%
Tobacco Awareness	9%
School Health Awareness	4%
Iodine Deficiency	1%
Source: Primary Survey	

The MOs reported that the awareness program has been most effective in manifesting the following:

- ***Early registration of ANC***: Registration for ANC by a pregnant woman in the first three months of pregnancy has significantly improved. This can be attributed to the extensive awareness and constant reinforcement provided by MHU during home visits, at OPD clinics, and through ASHA. In some MHUs, the early registration of pregnancy has gone up to around 75%.
- ***Adherence to hypertension medication***: There has been a marked improvement in the regularity of medicine intake for HT, which in some MHUs is around 60-70%. Awareness of the risk associated with HT and regular repetition of the message at MHU OPD are having the desired result.
- ***Adoption of ORS use and handwashing:*** The knowledge of ORS and handwashing was found to be high amongst FGD participants as well. The high offtake of ORS packets is an indicator adoption.
- ***Adolescent anemia***: Mothers of adolescent girls visit MHU OPD in increasing numbers requesting iron supplements for their daughters.
- ***Knowledge of distancing and mask use:*** During COVID-19, the repeated advocacy on keeping distance and mask use resulted in most patients respecting the personal space of the personnel and also using masks when they have a cough or cold.

***22.2 Large number of IEC camps*:** In 2023-24, 785 IEC camps were held, with an average attendance of 22 persons. Highest reach was recorded at MHU Paonta.

Tab 3.37 IEC camps organised by MHUs

MHU	Number of IEC camps	Persons Attended	Attendance/ camp
Ahmednagar	33	1046	32
Dewas	131	3181	24
Malanpur	208	1745	8
MKM	27	653	24
Mohali	107	1566	15
Panoli	11	325	30
Paonta	97	4955	51
Ranipool	10	227	23
Toansa	96	2243	23
Halol	65	1292	20
Total	785	17233	22
Source: SPCHS 2023-24			

22.3 High recollection and adoption rates of health messages amongst beneficiaries: The efficacy of communication targeted to change health behaviour depends on factors like target audience, message tailoring, communication channels, and sustained engagement. MHU has a continuous engagement with the community and is positioned well to ensure high message retention and adoption, which include:

- ***Audience understanding:*** Given its long-term association with the community, MHU has a deep understanding of the target audience's needs, motivations, and barriers to behaviour change.
- ***Credibility of sources***: Medical Officer and ANMs accompanying each MHU act as credible messengers and sources of information which significantly influence message acceptance.
- ***Sustainability:*** Long-term behavioural change requires sustained communication efforts and reinforcement mechanisms, which MHU can ensure through its regular contact with the community.
- ***Referent authority:*** MHU Medical officer is looked up to in the community they serve and have a substantial influence on the community. This translates to their advice being taken seriously in the community.
- ***Moral Suasion:*** MHU personnel have developed long-term relationships with community members, many of whom are regular visitors to the MHU (persons with chronic diseases). Such a relationship enables the MHU staff to make rhetorical appeals and use persuasion to facilitate recommended health behaviours.

In the primary survey, the MHU beneficiaries were asked to recollect the health advice learned through MHU IEC messages/OPD advice and indicate which health messages they have incorporated into their daily life. About 83% of the respondents remembered at least one piece of health-related advice received from the MHU, and 64% of the respondents reported having adopted at least one piece of advice received from the MHU. The most frequently cited health behaviour messages adopted include using ORS, a low-salt diet, and the importance of nutrition and hand-washing.

Tab 3.38 Recollection and adoption of health messages received at MHU

	Remembered	Adopted
Yes	83%	64%
No	17%	36%
Source: Primary Survey		

23. Family Planning Counseling

Under the National Health Mission, the ASHA is expected to provide counseling on family planning to eligible couples per a laid-out protocol. The MHU ANM supplements the effort of the ASHA by providing family planning counseling during home visits as per the following protocol:

- ***Newly married couples*** - Identify newly married couples in the community and counsel them on contraceptive methods and the concept of birth spacing.
- ***Married couples with more than three children*** - after the birth of a couple's third child, speak with them about the possibility of sterilisation or use of contraception to prevent further pregnancies.
- ***Couples who refuse to use contraception*** - Couples identified as non-users of contraception are repeatedly counseled to make them understand the importance of contraceptive use.

The households are identified according to the requirements and demographics of each family available with the MHU and ASHA worker. All the MHUs, except Mohali and Halol, have a Couple Protection Rate better than the state average.

Tab 3.38 Couple Protection Rate- MHU v/s NFHS 5

MHU	MHU catchment	District Average (NFHS V)	State Average (NFHS V)
Ahmednagar	66.2%	69.5%	67.1%
Dewas	65.8%	63.6%	72%
Malanpur (Bhind dist)	60%	58.7%	72%
MKM (Kanchipuram dist)	68.6%	69.3%	68.6%
Mohali (SBS Nagar dist)	69.3%	66.1%	66.6%
Panoli (Bharuch dist)	51.1%	36.2%	65.3%
Paonta (Sirmaur dist)	66.8%	86.9%	74.2%
Ranipool (E. Sikkim dist)	69.1%	54.3%	69.1%
Toansa (SBS Nagar dist)	61%	66.1%	66.6%
Halol (Panchmahal)	78.2%	71.4%	65.3%
Source: SPCHS 2023-24. NFHS V			

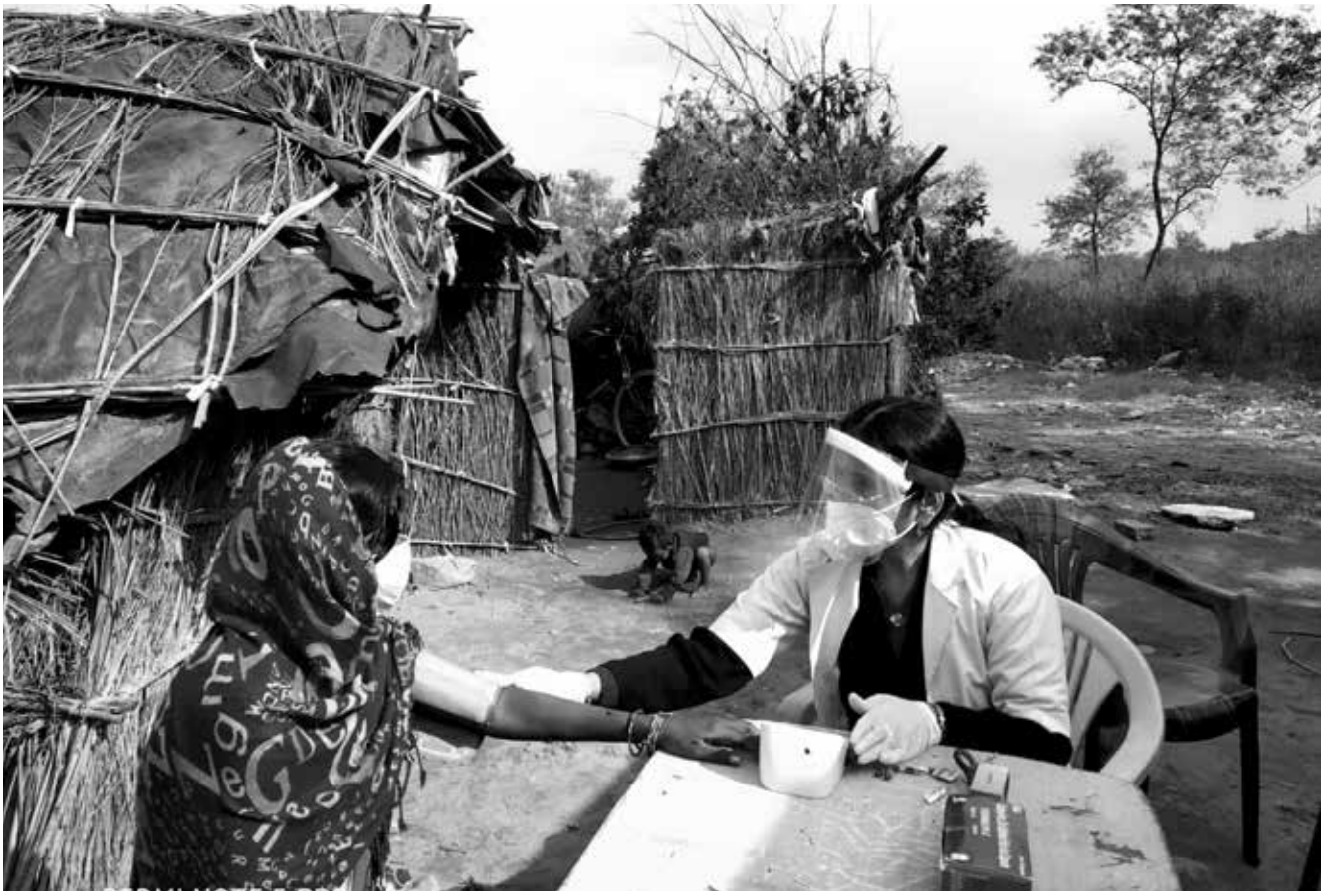
24. Keeping the Medical Healthcare Units operational during COVID-19

During the COVID-19 pandemic, MHU remained operational and provided healthcare services and COVID management awareness to the host communities at a time when the entire healthcare system was under severe strain. The public health system was closed to routine primary health care service, and so was the private health sector. Availability of doctors and medicines was at a premium. Given this circumstance, it was imperative that the MHUs operate. The following actions were taken to keep the MHUs operational:

- **Constant motivation of the field teams:** Given the rapid spread of the pandemic and general environment of despondency, the CMO regularly called all MHU teams to keep them motivated. She also inquired about their well-being and any assistance that they may need. This has been a major factor in keeping the MHU teams upbeat and putting their best foot forward during this national emergency.
- **Keeping track of government guidelines**: Given the fast changing situation and regular updates on advisories from the government, the Covid-19 guidelines were studied on a daily basis and shared with medical officers on the ground via email and WhatsApp. Clinic activities were rescheduled accordingly.
- **Appropriate kits provided:** PPEs, pulse oximeters & N95 masks provided to all mobile healthcare teams.
- **COVID management**: MHU distributed masks to community. Also provision for extra paracetamol was made for prescription to community and also channelized through the government system.
- **Increased frequency of review meetings:** Monthly tele-conference/ video-conference held with all MOs by leadership team at SPCHS and Sun Pharma throughout the Covid phase.
- **Swift response to government request**
  - » Van from MHU, Mohali provided to community medicine department of Govt medical college and hospital, Chandigarh for screening of Covid-19 patients time to time
  - » SMO, Balachaur requested for special camps by MHU Toansa unit for thermal screening and treatment of minor ailments. Such camps were organized at grain market and for police personnel.
  - » Malanpur team participated with government by putting up screening camp at PHC
  - » MKM Unit provided IEC Material to PHC Gnana Giresswaran Pettai.

25. MHU acts as a brand ambassador for Sun Pharma

MHU has regular contact with the community and become the face of the Sun Pharma plant. This generates goodwill within the host community by demonstrating the company's commitment to positive social impact, which builds trust and positive perception among local residents, ultimately leading to a better reputation for the business within that area. There have been instances where the Medical Officer of MHU has represented the company in various public hearings. The MO is a familiar figure, and many of the attendees at the public hearing are her patients.



Some cases which highlight quality of curative care provided by MHUs

Retrieving from wrong treatment provided by a quack (MHU Madurantakam)

Mr. Selvam (name changed) , 60 years visited MHU Madurantakam, with complaints of severe pain and swelling resulting from wrong treatment of dislocated shoulder by a quack. On examination the movement of affected left shoulder joint was found to be painful and restricted . He was prescribed medicine for relief of pain, inflammation, and swelling and referred to Chengalpattu medical college and hospital for further evaluation (X-rays) and management. Regular followup made by the MHU OPD. Mr Selvam has recovered completely.

Able to stand and walk independently (MHU Malanpur)

Master Akash , 1 year, from Gadia Lohar village weighed 6 kgs and had grade 2 under nutrition (weight 6 kgs) when he was brought by his parents to MHU Malanpur for medical advise. The child suffered from repeated Diarrhoea and could stand only with support. Advised use of ORS, hygiene, protein rich diet like rice with Dal, curd, fruits like Banana, apple, green leafy veges & soups. Treated with anti Diarrhoeals, The MHU ANM and ASHA made regular visits. On the next OPD visit after a month, the child weighed 10 kgs and was able to stand and walk independently. The child is brought regularly to the OPD clinic for followup and general checkup.

Fighting fungal disease leading to hair loss (MHU Halol)

Master Jignesh, 4 years resident of Vintoj village was brought to MHU OPD with complaint of boggy scalp swelling with lymphadenopathy at occipital region for a month with mild itching, and easily pluckable hair. Provisional diagnosis: Taenia (Kerion). Kerion is a severe, inflammatory form of tinea capitis (scalp ringworm), characterized by raised, boggy, pustular lesions with associated hair loss and potential scarring. It's essentially a severe reaction of the body's immune system to a fungal infection of the hair follicles on the scalp. Treated with Treated with gresiofulvin 250 half BD for 15 days, and antihistaminic and ointment miconazole and itraconazole shampoo. Recovered after 4 weeks, family is extremely thankful to MHU team.

Making curative care affordable (MHU Mohali)

Ms. Guddi, 50 years, resident of Madanpur village comes from an extremely poor family. Her husband is a daily wage labour and the only earning member in the family of five persons. She visited MHU Mohali with complaint of small light coloured (hypopigmented) patch of skin on chest, back, shoulders and arms along with mild itching. Before coming to the MHU she had tried many home remedies and even sought treatment from a quack but the symptoms worsened. She was diagnosed with Taenia versicolor, and treated with anti fungals. Advised to reduce exposure to sun, to wear cotton clothes and about personal hygiene. Significantly improved within one month of treatment. The family would not have been able afford the prescribed medicines if free medicines were not available at MHU.

Managing secondary infections due to diabetes (MHU Paonta)

Ms Shenaz resident of Kiyarda village is diabetic and visited MHU Paonta for pain, redness and swelling of ear. Case diagnosed as Pinna Perichondritis a condition of infection of ear cartilage causing swelling and pain can cause serious infection and necrosis of cartilage as well. Was prescribed required medication including Tab Cefixime, Tab Metrogyl , Tab Fenak and Omepraxole for 7 days .Her condition improved. Causative organism for Pinna Perichondritis is psuedomona aeruginosa .Follow up- Strict control of Diabetes was counseled that Diabetes can increase the risk of secondary infections. These infections can be more severe and harder to treat in individuals with diabetes.

Detection of chronic ailments timely done (MHU Ranipool)

Sharda Subba, (name changed) 46 yrs from, Nandok Village, came to MHU with complaint of headache, dizziness, and tiredness. No history of chronic illness. She was diagnosed with BP (184/98) and started on required medication. She was advised low salt diet,no fried foods, exercise and walk. Ms Sharda reported that MHU helped in early initiation of care, had it not been there she would have procrastinated going to a health facility given the distance and cost that had to be expended.

4 CHAPTER

FINDINGS
EFFICIENCY

The assessment focused on procedural, and institutional efficiency, which has helped deliver the program as per its stated objectives.

1. Regularity of visits

The hallmark of MHCs is the regularity of visits per a scheduled timetable. This translates to patients being assured of medical consultation and medicines, especially those with chronic conditions. In 2023-24, all the MHUs included in the study missed only 12 clinics. All the respondents in the primary survey reported that the MHU was regular and adhered to a set timetable. They pointed out that their trust in the MHU service is greatly enhanced due to the regularity and punctuality of the MHU van's visits to their hamlets.

Tab4.1 Status of OPD clinics conducted by MHU in year 2023-24

	Missed Clinics	Clinics held
Ahmednagar	0	253
Dewas	0	250
Malanpur	0	253
MKM	0	250
Mohali	1	250
Panoli	5	246
Paonta	0	251
Ranipool	6	239
Toansa	0	251
Halol	0	251
Grand Total	12	2494.
Source: SPCHS		

While the MHU generally reaches each village once every fortnight, there are some instances where the visit to select villages is weekly (for example, in Panoli and Ahmednagar).

Tab 4.2 Frequency of MHU visits

	Beneficiary feedback	Villages Sampled	% of villages	
			Fortnightly visits	Weekly visits
Ahmednagar	Regular	12	50%	50%
Dewas	Regular	16	100%	0%
Malanpur	Regular	8	100%	0%
MKM	Regular	6	100%	0%
Mohali	Regular	11	100%	0%
Panoli	Regular	4	0%	100%
Paonta	Regular	14	100%	0%
Ranipool	Regular	10	100%	0%
Toansa	Regular	4	100%	0%
Grand Total		85	88%	12%
Source: Primary survey				

2. MHU largely coforms to government guidelines on Mobile Medical Units

Ministry of Health and Family Welfare, Government of India has issued Operational Guidelines for Mobile Medical units[1]. These guidelines are intended to provide a framework to improve use of MMUs. The MHUs run by SPCHS conform to the government standards under most norms and in many instances surpass the recommended standards.

Tab 4.3 Comparision of SPCHS MHU with Government Standards

S.No.	Standards as per Government of India guidelines	SPCHS MHU status
A. Norms for Deployment of MMUs		
A. 1	District with population 10 lakhs- 1 MMU	37000 population/MHU
B. Type of Service Provided		
B.1	**Primary care services for common diseases** including communicable and non-communicable diseases	Complied
B.2	**Maternal Health** : Early diagnosis of pregnancy, Early registration, MCH Cards, Birth planning (and preparing mothers and families in remote areas to shift to a facility at least one week before the due date, or to a maternity hut), Regular Ante-natal check-ups; includes Screening for Hypertension, Diabetes, Anemia, TT Immunization for mother, Iron-folic Acid & Calcium Supplementation, Identification and referral of High Risk Pregnancy, Post Natal Cases, Counselling, support and motivation for institutional delivery, Nutrition, Enabling Take Home Rations (THR) for pregnant woman through Anganwadi Worker,	Complied

1 chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://nhm.gov.in/images/pdf/programmes/mmu/Mobile Medical Units.pdf

Impact in Action | A Long Association

Lata Dashrath Yadav has been a regular to the MHU OPD (Ahmednagar) for over last six years, making her one of the MHU's longstanding patients. She had consulted the MHU on a range of health issues ranging from cough and cold to joint pains. On being asked where would she have accessed health care had MHU services been not available, she indicated would have gone to the local chemist shop for medication given her issues with joint pains which restrict her mobility significantly.

Impact in Action | Stop Gap Solution Doesnot Work

Suman Asharam Bhagath has been battling arthritis for the last two years. She and her family live in the fields some distance from the village center. With joint pains and difficulty walking, she could not walk to the village center where the MHU van is usually parked and the clinic held. She has been taking medicine from the chemist for two years, which her son would bring for her. The medication did not have any benefit. After long last, when the pain had become almost unbearable, Suman decided to come to MHUOPD. She now comes on a bike with help from her nephew. The medicines prescribed have brought her joint pains down, and she has resumed most of the household chores, which her arthritis pain had prevented her from doing.

Impact in Action | The Dangers of Quackery

Ashrabi Nawab Sheikh lives in Shendi village with her two sons, who are masons, and their families. She has been suffering joint pains for the last three years. Ashrabi initially consulted a quack who had prescribed her steroids. The long-term use of steroids is not efficacious for arthritis and has side effects. When the medication effectiveness began to slacken, Ashrabi visited MHU OPD (Ahmednagar). The steroids were immediately stopped, and new medication was prescribed for pain management. Not only is Ashrabi getting prescribed palliative care, but she is also saving a significant amount of money on consultations and medicines.

B.3	**Neonatal and Infant Health (0 to 1 year old)** : Examination of low birth weight/preterm newborn/other high risk newborns and management or referral as required), Counselling and support for early Breast Feeding, improved weaning Practices, Identification of congenital anomalies, other disabilities and appropriate referral, Family/community education of Prevention of infections, Complete Immunization, Vitamin A Supplementation, Care of Common illnesses of new born, AGE with mild dehydration, pneumonia case management	Complied (Immunization not done directly by MHU but support provided to ASHA worker in the project villages)
B.4	**Child and , Adolescent health** : Growth Monitoring, Prevention through IYCF counselling, access to food supplementation- convergence with ICDS, Deworming, Immunization- , prompt and appropriate treatment of diarrhoea/ARI, referral where needed, detection of Severe Acute malnutrition (SAM), referral and follow up care for SAM, Prevention of anaemia, use of iodised salt; Prevention of diarrhoea, Pre-school and School Child: Biannual Screening, School Health Records, Eye care, De-worming; Early detection of growth abnormalities, delays in development and disability, Adolescent Health services: personal hygiene, Detection & Treatment of Anaemia and other deficiencies in children and adolescents	Complied (Except for Pre-school and School Biannual Screening, Eye care, De-worming; Early detection of growth abnormalities, delays in development and disability c**amps held at select locations, however not a regular activity**)
B.5	**Reproductive health and Contraceptive Services**: Identifying eligible couples, and motivate for Family Planning- delaying first child, spacing between two children, Access to spacing methods- OCP, ECP, condoms, IUCD insertion and removal, RTI treatment- Syndromic management/partner treatment, First aid for GBV- link to referral centre and legal support centre	**Complied** (except link to legal support centre for Gender based violence victims)
B.6	**Management of chronic Communicable Diseases:** Tuberculosis; HIV, leprosy, Malaria, Kala-Azar, Filariasis, Other vector borne disease- identification, use of RDT/prompt treatment initiation, vector control measures, Sputum collection for TB, RDK + Lab testing and treatment for all vector borne disease examination, follow up medication compliance, Prevention – mass drug administration in filarias, immunization for JE	**Partial compliance** (confined to provisional diagnosis and referral to government health institution)
B.7	**Management of Common Communicable Diseases & Basic OPD care-** (acute simple illness)	**Complied**
B.8	**Management of Common Non- Communicable Diseases**: Undertake screening for over 35 age group , at MMU on an annual basis or Opportunistic Screening for diabetes and hypertension, Hypertension / Diabetes mellitus –Medication, follow up diagnostics, refer for specialist consultation and early referral for complications, Silicosis, Fluorosis – follow up care, Diagnosis of common respiratory morbidities (COPD and bronchial asthma) and treatment in all "chest symptomatic", Epilepsy- early case identification, enable specialist consultation through referral.	**Complied**
B.9	**Management of Mental Illness:** Community education and preventive measures against Tobacco use and Substance Abuse, Identification of people for De-Addiction Centres, Referral of cases with mental illness, follow up medication, counselling/support.	**Complied**
B.10	**Dental Care**: Education on Oral Hygiene & Substance Abuse, in community and schools- recognition of dental fluorosis- Referral for gingivitis, dental caries, oral cancers, Treatment for glossitis, candidiasis, fever blisters, aphthous ulcers	**Complied**
B.11	**Eye Care/ENT care**: School : Screening for blindness and refractive errors, Community screening for congenital disorders and referral, Counselling and support for care seeking for blindness, other eye disorders-first aid for nosebleeds, recognizing congenital deafness, other common ENT conditions and referral, Eye care in newborn, Screening for visual acuity, cataract and for Refractive Errors, Identification & Treatment of common eye problems- conjunctivitis; spring catarrh, xerophthalmia, first aid for injuries, referral, Management of common colds, Acute Suppurative Otitis media, (ASOM), injuries, pharyngitis, laryngitis, rhinitis, URI, sinusitis	**Partial compliance** (screening for refractive errors and cataract started on a pilot basis)
B.12	**Geriatric Care:** Management of common geriatric ailments; counselling, supportive treatment, and Pain Management	**Complied**
B.13	**Emergency Medicine**: Snake bites, scorpion stings, insect bites, dog bites, Stabilization care in poisoning and referral first aid, trauma of any cause, Minor injury, abscess management	**Partial compliance** (first aid for minor injury provided)
C. Point of care diagnostics		
C.1	**Provide point of care diagnostics:** Blood glucose, pregnancy testing, urine microscopy, albumin and sugar, Hb, Height/Weight, vision testing, RDT, collect sputum samples,	**Partial Compliance** (urine microscopy and albumin not done. Vision testing started on pilot basis. Sputum sample collection facilitated through ASHA)
D. NCD Screening		
D.1	**NCD screening**: Screen populations over 35 for Hypertension, Diabetes and Cancers annually and undertake follow-up checks during the monthly visit, including providing patients requiring drugs with a monthly supply (Hypertension, Diabetes, Epilepsy)	**Complied** (awareness on breast self exam for cancer)
E. IEC		
E.1	**Undertake IEC sessions on a range of health topics** - improved preventive and promotive behaviours for maternal and child health, communicable diseases, including vector borne diseases, educate the community on lifestyle changes, the need for screening for NCDs, and early recognition and appropriate referral.	**Complied**

3. A streamlined medicine indenting system

The beneficiaries cited ready availability, high quality, and free medicines as a strong attribute of MHUs. Each MHU must carry an inventory of at least one month's requirement. Essential medicines based on the WHO recommended list of primary care medicines are available at MHU. Each MHU makes quarterly indents for medicine procurement, as per the following arrangement:

i. ***Medicines manufactured by Sun Pharma***: Each MHU makes an indent, and on approval of the CMO, SPCHS, medicines are procured through Sun Pharma C&F agents located closest to each MHU.

Impact in Action | Not Getting Access To Government Entitlements Limits Efficacy of MHU

Zaibunissa has migrated with her husband and children from Gonda, Uttar Pradesh, to Shendi village for work. Her husband makes POP ceilings. Her two children, Asma and Mohammad, were born in Gonda, where they received access to Anganwadi—her youngest daughter was born in Shendi. Zaibunissa does not get access to take-home ration for pregnant and lactating mothers; her elder children do not get access to Anganwadi services. Her family does not have an Ayushamn card, which would have guaranteed cashless hospitalization. Zaibunissa depends on MHU for health services for her children. It was observed in all the MHUs that migrant families remain bereft of government nutrition and health schemes because of the lack of requisite documents required to avail of the benefits. Most of the women and child healthcare activities of MHU are intrinsically linked to government systems, and failure to avail the same lessens the overall impact of MHU in promoting healthcare for women and children in its area of operation.

ii. ***Medicines manufactured by other Pharma companies***: Each MHU has an approved local medicine stockist through whom the medicines are purchased.

iii. ***Special medicines***: There are instances when a patient is prescribed a medicine that does not feature in the list of essential medicines of MHU, for example, medicine for epilepsy, thyroid, eclampsia, etc. Special permission is obtained, and the said medicine is provided to the patient(s). Also, certain MHUs might have a high incidence of certain ailments. For instance, hilly locations have a high disease burden of bronchitis, and the requisite medicines are purchased locally.

4. Staffing of MHU respects local culture and mores

Medical officers(MO) who lead the MHUs are required to know the local language. They are also advised to be sensitive to local customs and are encouraged to have a working knowledge of regional dialects and phrases. The para-med staff is recruited locally.

5.. Adequate consultation time given

Despite the high footfall at MHU OPD, the MO ensures that each patient gets at least 5-6 minutes of consultation time. While routine chronic patients require less time with the doctor, new patients are given sufficient time for a thorough discussion of their concerns, medical history, and necessary examinations while still maintaining a manageable schedule for the MHU.

6. Manage privacy concerns

While doctors at MHU generally sit in an open hall, consultations are on a one-to-one basis, and waiting patients are requested not to crowd around and keep a distance. In case a physical examination is required, the same is done in the ambulance. Also, if a patient wishes to share something in confidence with the doctor, they meet the doctor in private after the OPD finishes.

7. New regimens for health screening proposed to be introduced at MHU

- **Breast Self Examination (BSE)**: While MHUs at Paonta and MKM have introduced breast self-exams, it is proposed that the same be extended to other MHUs. This is also in sync with the National Health Mission's mandate to promote awareness and education on performing BSE as part of routine health checks. It is also proposed to reimburse the cost of mammography (to MHU-referred women) at a government health facility and the attendant transport costs to access the facility.
- **AI based Diabetic Retinopathy Scan**: MHUs are proposed to be equipped with Artificial intelligence (AI) systems that use digital fundus photography instruments to screen for diabetic retinopathy (DR) to address the increased demand related to a burgeoning diabetes population.

8. Concious effort to work closely with the government health system and village leadership

MHU works in close coordination with the public health system. This helps bring in synergy and avoid duplication of effort and share resources where possible.

- ***ASHA workers assist the MHUs as Community Health Volunteers***: At almost all MHUs, ASHA has been coopted as part of the MHU team and works in close coordination with MHU in the target villages. MHU ANM makes joint home visits for post-natal care with ASHA; ASHA shares her health records with the MHU team and tracks referral patients. ASHAs at several MHUs reported that they are not provided the full complement of equipment and supplies from the government. For instance, at one of the MHUs, 22 ASHAs have to share one glucose meter. There are also instances of ASHAs not having weighing scales, thermometers, etc, impacting their efficacy in promoting mother and child health in the communities served, including the SPCHS project villages.
- ***Regular meetings with government officials and community leaders:*** Each MHU is expected to meet government officials and community leaders on a regular basis. This helps inform the government and community leadership of the MHU's activity and build synergies. For instance, the MHU requests the village sanitation committee to clean pockets that are causing unhygienic conditions. A similar request for vector control spray is made to the panchayat.

Tab 4.4 Meeting with community members and government officials

	Meeting with govt officials	Meeting with CSH
Ahmednagar	4	4
Dewas	4	4
Malanpur	4	4
MKM	4	4
Mohali	4	7
Panoli	1	4
Poanta	4	4
Ranipool	2	2
Toansa	5	5
Halol	4	4
Grand total	36	42

Source: SPCHS 2023-24

- ***Quarterly report to CMO***: Each MHU sends a quarterly activity report to the district's Chief Medical Officer where it is operational.
- ***Contact specialists in government hospitals:*** MOs regularly contact specialists at government hospitals when they refer a patient and provide detailed case history to the specialist doctor, which helps improve treatment outcomes.
- ***IEC during national health days in collaboration with government health system***: MHU collaborates in various locations with the PHC/sub-center to organize IEC activities during national health days. Also, during various IEC activities like the baby show or the Adarsh Mata contest, PHC MO or specialists from government hospitals are invited.

9. Keeping a larger audience informed about MHU activity

Each MHU is expected to engage with the local media in dissemination of information regarding MHU activities. This helps provide increased visibility and reach, build credibility and brand awareness, influences public opinion, and creates a support base in the society at large. Bulk of the media engagement is through print media followed by electronic media. The MHUs maintain connect with local journalists and share any notable event. In the year 2023-24, 65 media articles/stories got published.

Tab 4.5 Newspaper/ print/social media coverage

	No. of items
Ahmednagar	0
Dewas	4
Malanpur	11
MKM	5
Mohali	10
Panoli	0
Paonta	13
Ranipool	0
Toansa	10
Halol	12
Grand total	65

Target of 12 Newspaper/ print/social media items to be published per year per MHU
Source: SPCHS 2023-24

10. SPCHS has put in place a robust monitoring system

Key Performance Indicators and the concomitant targets are set up at the outset, and the achievement is closely monitored. A tablet-based MIS system has been set up, with MOs and ANM keying in service statistics at the point of service delivery. The monitoring structure includes

Monthly Review Meetings Of Medical Officers With CMO

- Self-monitoring is done by all MOs in quantitative terms the work and services being provided to the beneficiaries, IEC activities held and referrals made.
- All units send monthly reports to CMO. Health indicators are evaluated and compared amongst various units. Feedback is given to all units for further strategic planning.

Quarterly Review Meeting

- Meetings of MOs with CMO are held to review the targets achieved and problems faced.
- Recommendations are implemented for improving the programme to benefit the community.

Half yearly Review Meeting

- Half yearly meetings of MOs, CMO with CEO are held. Performance review of activities and achievements of all the units is undertaken.
- GC Meeting is held half yearly to review the activities and achievements under the programme.

Annual Review Meeting

- Annual GC meeting is held for review of activities and budget approval for next year. Impact of services/achievements and success stories are shared.
- Improvements on various health indicators in comparison to baseline & district level are assessed for various locations

11. Expanding services through collaborations

SPCHS, in collaboration with Dr. B.R. Ambedkar State Institute of Medical Sciences (AIMS Mohali), has started a school intervention program on substance abuse in Mohali. The students are taught personal and social skills for resisting social influence and engaging in substance use. The intervention was conducted by trained doctors, social workers (AIMS, Mohali), and health workers under the supervision of the Department of Community Medicine, Psychiatry faculty members (AIMS Mohali), and Sun Pharma Community Health Care Society (SPCHS).

12. Use of technology

SPCHS has introduced IT to manage the OPD consultation (e-prescription), dispensing medicines, tracking outreach, and monitoring health outcomes. MOs and ANMs have been provided with tabs loaded with custom software, which helps automate the MHU processes.

5 CHAPTER

FINDINGS

SUSTAINABILITY

Does the initiative have the financial, economic, social, environmental,and institutional capacities needed for the likelihood of net benefits continuing over the medium and long term.

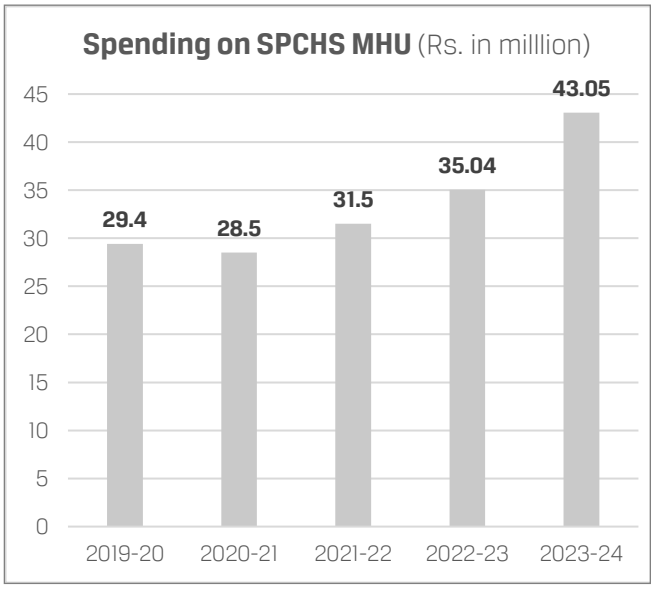
1. Continued commitment of Sun Pharma

Sun Pharna CSR's financial commitment through SPCHS towards MHU has steadily increased. The average year-on-year increase has been around 10%.

Tab 5.1 Spending on SPCHS MHU Program (in Rs. million)

	2019-20	2020-21	2021-22	2022-23	2023-24
Spending	29.4	28.5	31.5	35.04	43.05
% increase		-3%	11%	10%	23%

Note: Spending for all MHUs (including the study MHUs)
Source: SPCHS



2. Sub Center Level Arogya Mandirs will not make MHU irrelevant

Under the Ayushman Bharat scheme, the existing Health sub-centers are being upgraded to Ayushman Arogya Mandir in an attempt to deliver a comprehensive range of services spanning preventive, promotive, curative, rehabilitative, and palliative care, including free essential drugs and diagnostic services closer to the target population. The question is, with comprehensive healthcare reaching in close proximity to the community through Arogya Mandirs, will MHU lose its relevance? It is felt that MHU, with its unique competence and resources, will remain topical in the communities it serves. The reasons for this contention include the following:

- ***Non availability of MBBS doctors***: Arogya Mandirs at the sub-center level are manned by Community Health Officers who have a BAMS or BSc. Nursing degree with a six-month certificate course in community health. They are not authorized to prescribe the entire array of allopathic medicines common in primary care.
- ***Shortage of medicines***: In rural areas, a sub-center converted into an Arogya Mandir is supposed to keep 105 essential drugs and offer 14 diagnostic facilities. A primary health center turned into an Arogya Mandir is required to stock 171 drugs and offer 63 tests respectively. At the sub-center level of Arogya Mandirs, the availability of medicines and diagnostic tests remains scarce.
- ***Staffing shortage***: The Arogya Mandirs face systemic challenges regarding the availability of trained staff and equipment to deliver the envisaged services.

Discussion during field visits with MHU patients revealed that Arogya Mandirs at sub centre level are yet to be viable alternative primary healthcare option. The Arogya Mandir at PHC level were reported to be relatively better.

3. High Calibre leadership

The SPCHS Governing Council includes eminent public health experts and senior management from Sun Pharma. The leadership has the means and resources to track shifting paradigms in public health and accordingly dovetail SPCHS program content and strategy. The proposed introduction of AI based Diabetic Retinopathy Scan is a case in point.

6 CHAPTER | SUGGESTIONS

1. Equipping the ASHA

At nearly all MHUs, ASHA workers have been integrated into the MHU teams and collaborate closely with them in the targeted villages. The ANM from the MHU conducts joint home visits for postnatal care alongside ASHA workers. ASHA also shares health records with the MHU team and monitors referred patients. Several ASHAs working at various MHU locations indicated they do not receive the full range of supplies and equipment from the government, thereby limiting their efficacy; for example, at one of the MHU locations, it was reported that 22 ASHAs are required to share a single glucometer. There are also reports of ANMs lacking weighing scales, thermometers, and other essential tools. ANM's(MHU) role is expected to diversify with the introduction of Diabetic Retinopathy Scans coupled with increasing OPD caseload; the MHU will have to increasingly rely on the support of ASHA for health care extension and follow-up. It is felt that providing the ASHA with the required equipment and training will go a long way in making the MHU mandate towards pregnant women, lactating mothers, children, and adolescents more effective and reduce the load on MHU ANM.

Equipping ASHA

Recognizing the non-availability of required equipment with ASHA, a project on strengthening rural primary healthcare implemented by a reputed NGO and funded by a large corporate CSR provided ASHAs across five blocks with an equipment kit that included

- BP Machine (Digital)
- Needle cutter
- Stethoscope
- Infrared Thermometer
- Glucometer
- Pulse Oximeter
- Weighing Scale
- Hb meter

In addition, supportive supervision was provided to make the ASHAs familiar with the proper use of the equipment provided

2. Addressing the issue of access to government entitlements for nutrition and health services

Discussion during FGD, interaction with ASHA and MHU personnel, and interviews with beneficiaries revealed poor penetration of Ayushman cards., an essential document to access cashless hospitalization. It is estimated that only 40% of households have access to Ayushman cards in the MHU catchment. Also, it was found that many households, especially migrants and those belonging to Particularly Vulnerable Tribal Groups (PVTGs), do not have proper documentation, leading to limited access to Anganwadi services and health scheme benefits (e.g., JSY). Such populations constitute up to 10-15% of the total in some MHUs. Given that primary health care is a part of the continuum towards comprehensive healthcare, SPCHS or Sun Pharma CSR may consider launching a standalone programme for facilitating every household in the SPCHS catchment to have documents to enable access to government health and nutrition schemes (Ayushman card, Aadhar card, Shram card, Atal Bima Yojana, etc.).

Ensuring Entitlements

A CSR program is implementing an initiative to ensure that every household in its CSR catchment (comprising over 30 villages) has an Ayushman card. This is being done throug:

Bottlenecks faced and mitigation measures taken

Bottleneck	Mitigation measures taken under Swasthya Setu
Aadhar not updated mostly incase of children and migrants	Help in Adhaar updation
Those having APL ration card, need to submit income certificate	Help in submission of documents at talati office for issuance of income certificate
In ST communites who are seasonal migrants, there is a signifciant backlog	Persistant door to door followup

The implementation mechanism is as follows:

- Facilitators/Motivators (project staff) on the ground identify and mobilize households without Ayushman Cards. This is done in collaboration with ASHA, who receives an incentive of Rs. 5 per card.
- Beneficiaries are registered by the operator, who is proficient in using Ayushman APP, including taking biometrics and entering the beneficiaries' details. The operator is a government-authorized third-party entity and gets Rs. 20 per card, along with a travel allowance.
- Facilitators/motivators manage logistics, including the location of the Ayushman card camps, electricity, card printing, and liaison with village authorities and health department functionaries.

The project has been able to facilitate the issuance of 35219 cards (at the time of reporting), which helped accrue to the community cashless hospitalization services for 2113 individuals, amounting to an estimated Rs. 33 crores.

3. Using mobile alerts to inform of health related actions due

Mobile phone text message reminders (MPTMRs) have been implemented globally to promote vaccination uptake and recall rates. The evidence supports MPTMRs for improving vaccination uptake compared to usual care. Intervention characteristics, country setting, country economic status, and vaccination type had no bearing on the effectiveness of the intervention[1,2] . Similar nudges can be used for antenatal, prenatal care, hygiene practices, or to alert the community about potential outbreaks. Given that SPCHS has introduced IT in managing the OPD consultation (e-prescription), dispensing medicines, tracking field visits, and monitoring health outcomes, an MPTMR system would be a logical extension.

4. Universal coverage of adolescent anemia

SPCHS has reported excellent performance in the detection and amelioration of adolescent anemia. Of the total anemic girls identified across all MHUs (1029 nos.) in the year 2023-24, 48% (489 nos.) showed an improvement in their condition. Each MHU has a target of providing IFA to 600 adolescent girls. SPCHS may consider universal coverage, i.e., reaching out to every adolescent girl in its project villages with Hb testing and IFA supplementation (including that provided by ASHA and supplemented by SPCHS). A cost-benefit analysis of adolescent anemia control indicates that interventions like iron supplementation and dietary education can be highly cost-effective, with significant benefits including improved cognitive function, increased productivity, and reduced healthcare costs associated with anemia-related complications, outweighing the initial costs of implementing such programs, especially when considering the long-term impacts on adolescent health and development; however, the specific cost-benefit ratio will vary depending on the intervention strategy, local prevalence of anemia, and cost of implementation[3].

5. Substance abuse is turning into a major public health issue at certain MHU locations

MHU locations at Toansa, Paonta, Mohali, and Ranipool have high rates of drug usage, especially amongst the youth. MHU has started a program to raise awareness of substance abuse among Mohali schoolchildren in collaboration with BR Ambedkar Institute of Medical Sciences, Mohali. Extension of such a program to other MHUs may be considered. The suggestion from the field included making available the services of a counselor to provide professional counseling services to addicts and vulnerable youth.

6. Demand for extended diagnostic services

One persistent demand from the beneficiaries was the need for diagnostic services. Currently, only a limited number of point-of-care tests (Hb and glucose) are available. It was suggested that the MHU tie up with a local accredited lab that would collect samples at the MHU OPD clinic and send reports via mobile or physical copy on the next MHU visit. However, while helpful, this facility will require significant budgetary allocation and logistical planning.

7. Scholarship for girls for medical profession

The lady MOs at the MHUs often receive queries from young girls on how to enter the medical profession. The lady MOs act as role models. While many girls are interested, but most cannot pursue due to a lack of financial resources and patriarchal mores. SPCHS may consider a few scholarships for gifted girl students from the MHU catchment to pursue courses such as ANM, GNM, or allied professions. Precedence exists in other CSR programs where such scholarships have been instituted.

1 Louw, G. E., Hohlfeld, A. S., Kalan, R., & Engel, M. E. (2024). Mobile Phone text message Reminders to Improve Vaccination Uptake: A Systematic Review and Meta-Analysis. Vaccines, 12(10), 1151. https://doi.org/10.3390/vaccines12101151

2 https://www.hopkinsmedicine.org/news/newsroom/news-releases/2018/03/research-in-india-finds-mobile-phone-alerts-plus-free-minutes-improve-childhood-immunization-rates

3 Aguayo, V. M., Paintal, K., & Singh, G. (2013, September). The adolescent girls' anaemia control programme: A decade of programming experience to break the inter-generational cycle of malnutrition in India. Public health nutrition.

ANNEXURE 1
BIBLIOGRAPHY

Bibliography

1. U.S. Department of Health and Human Services. Disparities. In: Health People 2020. U.S. Department of Health and Human Services. 2014. https://www.healthypeople.gov/2020/about/foundation-health-measures/ Disparities.
2. Campos M, Olmstead-Rose L. Mobile Health Clinics: Increasing Access to Care in Central and Eastern Contra Costa County. Final report from La Piana Consulting: In; 2012. http://www.johnmuirhealth.com/content/dam/jmh/Documents/Community/Mobile Health Clinics-Increasing Access to Care.pdf.
3. Clinic database. Mobile Health Map, Boston MA. 2016. http://www.mobilehealthmap.org/index.php.
4. Aung K, Hill C, Bennet J, Song Z, Oriol N. The Emerging Business Models and Value Proposition of Mobile Health Clinics. AJMC.com. 2015; http://www.ajmc.com/journals/ajac/2015/2015-vol3-n4/the-emerging-business-models-andvalue-proposition-of-mobile-health-clinics.
5. Rodriguez KL, Appelt CJ, Young AJ, Fox AR. African American veterans' experiences with mobile geriatric care. J Health Care Poor Underserved.2007;18(1):44–53.
6. Edgerley LP, El-Sayed YY, Druzin ML, Kiernan M, Daniels KI. Use of a community mobile health van to increase early access to prenatal care. Matern Child Health J. 2007;11(3):235–9.
7. Guruge S, Hunter J, Barker K, McNally MJ, Magalh es L. Immigrant women's experiences of receiving care in a mobile health clinic. J Adv Nurs. 2010;66(2):350–9.
8. Iredale R, Hilgart J, Hayward J. Patient perceptions of a mobile cancer support unit in South Wales. Eur J Cancer Care (Engl). 2011;20(4):555–60.
9. Kisilevzky N, Elkis H. Provision of a mobile uterine artery embolization service to medically underserved areas in Brazil. J Vasc Interv Radiol. 2011;22(4):490–6.
10. *Hill CF, *Powers BW, Jain SH, Bennet J, Vavasis A, Oriol NE [*joint first authors]. Mobile health clinics in the era of reform. Am J Manag Care 2014;20(3):261–264.
11. Alvi RA, Justason L, Liotta C, Martinez-Helfman S, Dennis K, Croker SP, Leiby BE, Levin AV. The Eagles Eye Mobile: assessing its ability to deliver eye care in a high-risk community. J Pediatr Ophthalmol Strabismus. 2015;52(2):98–105.
12. Morano JP, Zelenev A, Walton MR, Bruce D, Altice FL. Latent tuberculosis infection screening in foreign-born populations: A successful mobile clinic outreach model. Am J Public Health. 2014;104(8):1508–15.
13. Morano JP, Zelenev A, Lombard A, Marcus R, Gibson Bam Altice FL. Strategies for Hepatitis C Testing and Linkage to Care for Vulnerable Populations: Point-of-Care and Standard HCV Testing in a Mobile Medical Clinic. J Community Health. 2014;39(5):922–34.
14. Hill C, Zurakowski D, Bennet J, Walker-White R, Osman JL, Quarles A. Oriol. N. Knowledgeable Neighbors: a mobile clinic model for disease prevention and screening in underserved communities. Am J Public Health. 2012;102(3):406–10.
15. Mayernik D, Resick LK, Skomo ML, Mandock K. Parish nurse-initiated interdisciplinary mobile health care delivery project. J Obstet Gynecol Neonatal Nurs. 2010;39:227–34.
16. Diaz-Perez Mde J, Farley T, Cabanis CM. A program to improve access to health care among Mexican immigrants in rural Colorado. J Rural Health. 2004;20(3):258–64.
17. Nuttbrock L, McQuistion H, Rosenblum A, Magura S. Broadening perspectives on mobile medical outreach to homeless people. J Health Care Poor Underserved. 2003;14(1):5–16.
18. Viera AJ, Thorpe JM, Garrett JM. Effects of sex, age, and visits on receipt of preventive healthcare services: a secondary analysis of national data. BMC Health Serv Res. 2006;6:15.
19. Mandal A. Disparities in Access to Health Care. In: News Medical: Health News and Information. News-Medical.Net. 2014. http://www.news-medical.net/health/Disparities-in-Access-to-Health-Care.aspx.
20. Bouchelle Z, Rawlins Y, Hill C, Bennet J, Perez L, Oriol N. Respect, Relationship-Building, and Preventative Health: Service Delivery on a Mobile Health Clinic. [Unpublished manuscript]. 2015.
21. Kullgren JT, McLaughlin CG, Mitra N, Armstrong K. Nonfinancial barriers and access to care for U.S. adults. Health Serv Res. 2012;47(1 pt 2):462–85.
22. Agency for Healthcare Research and Quality. National healthcare disparities report. U.S. Department of Health and Human Services. 2010. https://archive.ahrq.gov/research/findings/nhqrdr/nhqrdr10/qrdr10.html.
23. Jupka KA, Weaver NL, Sanders-Thompson VL, Caito NM, Kreuter MW. African American adults' experiences with the health care system: in their own words. J Health Dispar Res Pract. 2008;2(3):17–32.
24. Smedley BD, Stith AY, Nelson AR. Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care. Washington, DC: National Academics Press; 2003.
25. Clark CR, Soukup J, Govindarajulu U, Riden HE, Tovar DA, Johnson PA. Lack of access due to costs remains a problem for some in Massachusetts despite the state's health reforms. Health Aff (Millwood). 2011;30(2):247–55.
26. Viswanathan M, Kraschnewski JL, Nishikawa B, Morgan LC, Honeycutt AA, Thieda P, Lohr KN, Jonas DE. Outcomes and costs of community health worker interventions: a systematic review. Med Care. 2010;48(9):792–808.
27. Scisney-Matlock M, Bosworth HB, Giger JN, Strickland OL, Harrison RV, Coverson D, Shah NR, Dennison CR, Dunbar-Jacob JM, Jones L, Ogedegbe G, Batts-Turner ML, Jamerson KA. Strategies for implementing and sustaining therapeutic lifestyle changes as part of hypertension management in African Americans. Postgrad Med. 2009;121(3):147–59.
28. Bloch MJ, Betancourt J, Green A. Overcoming racial and ethnic disparities in blood pressure control: a patient-centered approach to cross-cultural communication. J Clin Hypertens (Greenwich). 2008;10(8):589–91.
29. Anderson LM, Scrimshaw SC, Fullilove MT, Fielding JE, Normand J. Culturally competent healthcare systems: a systematic review. Am J Prev Med. 2003; 24(3 suppl):68–79.
30. Song Z, Hill C, Bennet J, Vavasis A, Oriol NE. Mobile Clinic In Massachusetts Associated With Cost Savings From Lowering Blood Pressure And Emergency Department Use. Health Aff (Millwood). 2013;32(1):36–44.
31. Fayanju OM, Kraenzle S, Drake BF, Oka M, Goodman MS. Perceived barriers to mammography among underserved women in a Breast Health Center Outreach Program. Am J Surg. 2014;208(3):425–34.
32. Maxwell J, Cortes DE, Schneider KL, Graves A, Rosman B. Massachusetts' health care reform increased access to care for Hispanics, but disparities remain. Health Aff (Millwood). 2011;30(8):1451–60.
33. Long SK, Masi PB. Access and affordability: an update on health reform in Massachusetts, fall 2008. Health Aff (Millwood). 2009;28(4):w578–87.
34. Devoe JE, Baez A, Angier H, Krois L, Edlund C, Carney PA. Insurance + access not equal to health care: typology of barriers to health care access for lowincome families. Ann Fam Med. 2007;5(6):511–8.
35. Callahan TL, Caughey AB. Why a Van?: Identification of critical factors determining the necessity of a mobile unit in the success of The Family Van Program. Policy Analysis Exercise submitted in partial fulfillment of the requirements for the Masters in Public Policy from the Harvard Kennedy School of Government. 1995;
36. Hamilton EL, Wallis MG, Barlow J, Cullen L, Wright C. Women's views of a breast screening service. Health Care Women Int. 2003;24(1):40–8.
37. Diao W, Patel J, Snitzer M, Pond M, Rabinowitz MP, Ceron G, Bagley K, Dennis K, Weiner R, Martinez-Helfman S, Maria KS, Burke B, Aultman WB, Levin AV. The Effectiveness of a Mobile Clinic in Improving Follow-up Eye Care for At-Risk Children. J Pediatr Ophthalmol Strabismus. 2016;53(6):344–8.
38. Evans K, Lerch S, Boyce TW, Myers OB, Kocher E, Cook LS, Sood A. An Innovative Approach to Enhancing Access to Medical Screening for Miners using a Mobile Clinic with Telemedicine Capability. J Health Care Poor Underserved. 2016;27(4A):62–72.
39. Dasgupta S, Kramer MR, Rosenberg ES, Sanchez TH, Reed L, Sullivan PS. The Effect of Commuting Patterns on HIV Care Attendance Among Men Who Have Sex With Men (MSM) in Atlanta. Georgia JMIR Public Health Surveill. 2015;1(2):e10.
40. Kennedy S, Grewal M, Roberts EM, Steinauer J, Dehlendorf C. A qualitative study of pregnancy intention and the use of contraception among homeless women with children. J Health Care Poor Underserved. 2014;25(2):757–70.
41. Harris DE, Hamel L, Aboueissa AM, Johnson D. A cardiovascular disease risk factor screening program designed to reach rural residents of Maine. USA Rural Remote Health. 2011;11(3):1–15.
42. Carmack HJ. "What happens on the van, stays on the van": the (re) structuring of privacy and disclosure scripts on an Appalachian mobile health clinic. Qual Health Res. 2010;20(10):1393–405.
43. Kahn RH, Moseley KE, Thilges JN, Johnson G, Farley TA. Community-based screening and treatment for STDs: results from a mobile clinic initiative. Sex Transm Dis. 2003;30(8):654–8.
44. Carmack HJ, Bouchelle Z, Rawlins Y, Bennet J, Hill C, Oriol NE. Mobilizing a narrative of generosity: patient experiences on an urban mobile health clinic. Commun Q. 2017; https://doi.org/10.1080/01463373.2017.1279677.
45. Chen YR, Chang-Halpenny C, Kumarasamy NA, Venegas A, Braddock CH. Perspectives of mobile versus fixed mammography in Santa Clara County California: A focus-group study. Cureus. 2016;8(2):e494.
46. Keller A. United Way estimates cost of helping children $100M. WNEM News (Meredith Corporation). 2016. http://www.wnem.com/story/30995770/ united-way-estimates-cost-of-helping-children-100m. Accessed 26 Mar 2017.

47. Hanna-Attisha M, LaChance J, Sadler RC, Schnepp AC. Elevated Blood Lead Levels in Children Associated With the Flint Drinking Water Crisis: A Spatial Analysis of Risk and Public Health Response. Am J Public Health. 2016; 106(2):283–90.
48. Johnson J. Medical mobile unit will help aid Flint children exposed to lead in water. MLive Media Group. 2016; http://www.mlive.com/news/flint/index.ssf/2016/02/medical mobile unit will help.html. Accessed 26 Mar 2017
49. Allen R. Mobile doctor's office arrives in Flint from NYC. Detroit Free Press. 2016; http://www.freep.com/story/news/local/michigan/flint-watercrisis/2016/02/12/mobile-doctors-office-arrives-flint-nyc/80302086/.
50. Prevention N. Health Promotion, and Public Health Council. Department of Health and Human Resources: National Prevention Strategy. U.S; 2011.https://www.surgeongeneral.gov/priorities/prevention/strategy/report.pdf.
51. U.S. Department of Health and Human Services. HHS Action Plan to Reduce Racial and Ethnic Health Disparities. U.S. Department of Health and Human Services. 2011. http://minorityhealth.hhs.gov/npa/files/plans/hhs/hhs plan complete.pdf. Accessed 26 Mar 2017.
52. Health Disparities Council. A Framework for Eliminating Health Disparities in the Commonwealth of Massachusetts. U.S. Department of Health and Human Services. 2011. http://www.mass.gov/hdc/docs/health-disparitiesframework.pdf.
53. Post PA. Mobile Health Care for Homeless People: Using vehicles to extend care. National Health Care for the Homeless Council. 2007; https://www.nhchc.org/wp-content/uploads/2012/02/mobilehealth.pdf. Accessed 26 Mar 2017
54. Liebman J, Pat LM, Altice F. Effectiveness of a mobile medical van in providing screening services for STDs and HIV. Public Health Nurs. 2002;19(5):345–53.
55. Robinowitz N, Smith ME, Serio-Chapman C, Chaulk P, Johnson KE. Wounds on Wheels: Implementing a Specialized Wound Clinic within an Established Syringe Exchange Program in Baltimore. Maryland Am J Public Health. 2014;104(11):2057–9.
56. Drake BF, Abadin SS, Lyons S, Chang SH, Steward LT, Kraenzle S, Goodman MS. Mammograms on-the-go—predictors of repeat visits to mobile mammography vans in St Louis, Missouri, USA: a case–control study. BMJ Open. 2015;5(3):e006960.
57. Atkins E, Madhavan S, LeMasters T, Vyas A, Gainor SJ, Remick S. Are obese women more likely to participate in a mobile mammography program? J Community Health. 2013;38(2):338–48.
58. Ellen JM, Bonu S, Arruda JS, Ward MA, Vogel R. Comparison of clients of a mobile health van and a traditional STD clinic. J Acquir Immune Defic Syndr. 2003;32(4):388–93.
59. Garbers S, Friedman A, Martinez O, Scheinmann R, Bermudez D, Silva M, Silverman J, Chiasson MA. Adapting the Get Yourself Tested Campaign to Reach Black and Latino Sexual-Minority Youth. Health Promot Pract. 2016;17(5):739–50.
60. Jani JS, Tice C, Wiseman R. Assessing an Interdisciplinary Health Care Model: The Governor's Wellmobile Program. Soc Work Health Care. 2012;51(5):441–56.
61. O'Connell E, Zhang G, Leguen F, Prince J. Impact of a mobile van on prenatal care utilization and birth outcomes in Miami-Dade County. Matern Child Health J. 2010;14(4):528–34.
62. Tso LS, Best J, Beanland R, Doherty M, Lackey M, Ma Q, Hall BJ, Yang B, Tucker JD. Facilitators and barriers in HIV linkage to care interventions: a qualitative evidence review. AIDS. 2016;30(10):1639–53.
63. Division for Heart Disease and Stroke Prevention. High Blood Pressure and Cholesterol Out of Control. In: CDC Vital Signs. National Center for Chronic Disease Prevention and Health Promotion, CDC. 2011. http://www.cdc.gov/VitalSigns/pdf/2011-02-vitalsigns.pdf.
64. Connolly NEB, Concha JB, English J. Mobile Health Is Worth It! Economic Benefit and Impact on Health of a Population-Based Mobile Screening Program in New Mexico. Telemed J E Health. 2014;20(1):18–23.
65. LTP Medical Mobile Inc., The Health Hut. [Unpublished data]. 2015.
66. Centers for Disease Control and Prevention. CDC Health Disparities and Inequalities Report. In: Morbidity and Mortality Weekly Report. U.S.Department of Health and Human Services. 2013. https://www.cdc.gov/mmwr/pdf/other/su6203.pdf.
67. Irwin A, Scali E. Actions on the social determinants of health: Learning from previous experiences. Discussion Paper Series on Social Determinants of Health. Commission on Social Determinants of Health, World Health Organization: In; 2010. http://www.who.int/social determinants/corner/SDHDP1.pdf?ua=1.
68. Taylor LA, Coyle CE, Ndumele C, Rogan E, Canavan M, Curry L, Bradley EH. Leveraging the social determinants of health: What works? Blue Cross Blue Shield of Massachusetts Foundation. 2015. https://static1.squarespace.com/static/509ab226e4b058edb8efe5a9/t/563ce654e4b03aa5133d029b/ 1446831700837/Social Equity Report Final.pdf.
69. Boston University School of Medicine Outreach Van Project: Project History.http://blogs.bu.edu/outreach/history/(2016).
70. Barr P. Hospitals rev up use of mobile care. Hosp Health Netw. 2014;88(5):20.
71. Auerbach J. The 3 Buckets of Prevention. J Public Health Manag Pract. 2016; 22(3):215–8.
72. Ojamaa LS, Calista J. Achieving Health Equity through Community-Clinical Linkages. In: January 2014 Summit, Massachusetts Partnership for Health Promotion and Chronic Disease Prevention, U.S. Department of Health and Human Services. 2014. http://www.mass.gov/eohhs/docs/dph/com-health/chronic-disease/140116-ojamaa-and-calista-presentation.pdf.
73. Niska R, Bhuiya F, Xu J. National Hospital Ambulatory Medical Care Survey:2007 emergency department summary. Natl Health Stat Report. 2010;26:1–31.
74. Division of Health Care Finance and Policy, Commonwealth of Massachusetts. Massachusetts Health Care Cost Trends: Efficiency of Emergency Department Utilization in Massachusetts. Division of Health Care

ANNEXURE 2
PRIMARY SURVEY TOOL

MHU Beneficiary Perception Questionnaire

A. Demographics

Name of the respondent: _____

Village/Town : _____

MHU location: _____

Caste of HH *(please tick)*

___ General
___ OBC
___ SC
___ ST

Ration card *(please tick)*

___ APL
___ BPL
___ Antodaya

Occupation of Head of HH (*pls tick)*

_____Cultivator (tills own land)
_____Agricultural Labour
_____Work in manufacturing sector
_____Employed in service sector
_____Government job
_____Self employed (mason/carpenter/painter / plumber etc)
_____Pension
_____Remmitance/Alms

Agri landholding (*pls tick)*

_____Marginal: 1 acre or less
_____Small: 1 to 2 acre
_____Semi-medium: 2 to 4 acre
_____Medium: 4 to 10 acre
_____Large: more than 10 acres
_____No Land

Services availed from MHU *pls tick, can be multiple)*

_____Curative care *(fill section C)*
_____Maternal health *(fill section D)*
_____New born health *(fill section E)*
_____Child health *(fill section F)*
_____Adolescent health *(fill section G)*
_____Health screening *(fill section H)*
_____Health awareness *(fill section I)*

Household composition			
	M	**F**	**Total**
Infant (0-1 yr)			
Child (1-10 yr)			
Adoscelent (10-19 yr)			
Adult (19-59 yrs)			
Elderly (60+)			

B. Frequency of MHU visits

What is the frequency of MHU van to your village/ community? *(please tick)*

___Visit more than once a week
___Visit once a week
___Visit once In a month
___Visit twice In a month
___Donot know

In last three months can you recollect if the MHU skipped its scheduled visit. *(please tick)*

___Yes
___No

C. Curative Care (if MHU service availed)

C.1 Where would you have consulted doctor had MHU not been there *(please tick- can be multiple ticks)*

___Not sought treatment

___Ayushman Bharat Health & Welness Centre

___PHC

___Pvt Practioner

___Chemist

___Quack

___Traditional Healer

___Other (specify)

C.2 How much would the alternate medical consultation (if MHU was not available) cost *(please mention)*

i. Consultation fee : Rs. _____

ii. Transport cost : Rs. _____

iii. Travel time: _____ mins

iv. Waiting time for availing consultation _____ mins

C.3 Were the prescribed medicines available with the MHU? *(please tick)*

_____Yes

_____No

C.4 Are you satisfied with quality of consultation received? *(please tick)*

_____Not at all satisfied

_____Slightly Satisfied

_____Neutral

_____Very Satisfied

_____Extremely Satisfied

C.5 Are you satisfied with the behaviour of the MHU staff?*(please tick)*

_____Not at all satisfied

_____Slightly Satisfied

_____Neutral

_____Very Satisfied

_____Extremely Satisfied

Suggestions:

D. Maternal Health (if MHU service availed)

D.1 What maternal service was received from MHU by any family member in last one year *(please tick- can be multiple ticks)*

___Antenatal care

___Referral for high risk pregnancy

___IFA tablets

___Anemia screening

___Counselling

___Other (specify)

D.2 Are you satisfied with quality of maternal health service received? *(pls tick)*

_____Not at all satisfied

_____Slightly Satisfied

_____Neutral

_____Very Satisfied

_____Extremely Satisfied

Suggestions:

E. New born Care (if MHU service availed)

E.1 What new born service received from MHU by any a new born in the family in last one year *(please tick- can be multiple ticks)*

___Post natal care home visit

___Checkup of new born

___Counselling on breast feeding/Infant feeding practices)

___Counseling on nutrition

___Counselling on kangaroo care

___Others (specify)

E.2 Are you satisfied with quality of newborn care service received?*(pls tick)*

_____Not at all satisfied

_____Slightly Satisfied

_____Neutral

_____Very Satisfied

_____Extremely Satisfied

Suggestions:

F. Child Health (if MHU service availed)

F.1 You or any in your household avail MHU child health service (in last one year)*(pls tick, can be multiple)*

___Growth Monitoring

___Advice on malnutrition

___Advice on vaccination

___Referral

___Other (specify)

F.2 Are you satisfied with quality of MHU child health service received? *(pls tick)*

_____Not at all satisfied

_____Slightly Satisfied

_____Neutral

_____Very Satisfied

_____Extremely Satisfied

Suggestions:

G. Adolescent Health (if MHU service availed)

G.1 Any adolescent girl in the household get Hb tested by MHU in last one year *(pls tick)*

_____Yes

_____No

G.2 Was Hb normal? *(pls tick)*

_____Yes

_____No

G.3 If anemic did she recieve IFA from MHU? *(pls tick)*

_____Yes

_____No

Suggestions:

H. Health Screening (if MHU service availed)

H.1 You or any one in your household availed MHU NCD screening services (in last one year) *(pls tick, can be multiple)*

___BP Sreening

___Blood sugar screening

___Malaria screening

___Cancer screening

___Other (specify)

H.2 Are you satisfied with quality of MHU NCD screening services? *(pls tick)*

_____Not at all satisfied

_____Slightly Satisfied

_____Neutral

_____Very Satisfied

_____Extremely Satisfied

Suggestions:

I. Health Awareness (if MHU service availed)		
I.1 You or any in your household attend an health awareness session organised by MHU in last one year *(pls tick, can be multiple)* _____Adolescent Health _____Women child health awarness camp _____Healthy baby show _____Adarsh mata contest _____Camp on NCD _____Awarness on Dengue/Malaria prevention _____Tuberculosis awareness _____ORS demonostration _____Handwashing _____Oral hygiene camp _____Diabetes awareness _____Hypertension awareness _____Tobacco cessation awareness _____Breast cancer awareness _____Nutrition week _____School health awareness _____Iodine deficiency awareness	**I.2 Do you remember the topic(s) of the awareness session***(pls tick)* _____Yes _____No ***if Yes, please state the topics you remember*** _____ _____	**I.3 Did you adopt in personal or houshold level any of the health advice given at the awareness session** *(pls tick)* _____Yes _____No ***if Yes, please state the advise from awareness sessions adopted at personal or household level*** _____ _____ _____

ANNEXURE 3
FGD & INTERVIEW TOOL

III. Focus Group Discussion and Indepth Interview- MHU MO/CMO/Community Leaders/ Government

1. What are the barriers to Health access which MHU has helped bridge and how

- What are the main bottlenecks to healthcare in the community and what gap the MHU is bridging.
- Is it true that the vulnerable and the socially and economically marginalised are the main beneficiaries of MHU. If so can you please list those groups.
- Had MHU not been there, what health service provider the current beneficiaries of MHU would have used

2. How does MHU overcome barriers resulting from poor patient-provider communication, mistrust, and sense of disempowerment among marginal communities. Are these following strategies used and how?

- Community health workers,
- Patient-centered care focusing on patient education and empowerment,
- Cultural competence training for staff,
- Stability and consistency of service provision within communities, and
- Staff diversity

3. Geographical and logistical convenience

- Can you please estimate the out of pocket expenses saved in transportation, lost wages , medical fees and expenses in medicine , waiting time, that is saved by beneficiaries of MHU
- Is it true that logistical challenges delay seeking healthcare and that MHU has bridged this gap. Please give examples.

4. Trusting provider-client relationships

Do you think MHU fosters trusting relationships with their clients

- MHCs' informal setting,
- Familiar environment (these clinics' location in familiar neighborhood areas, such as parks and shopping centers, makes the space aboard the vans an ideal blend of social and health care space, making the intimate van setting more welcoming and less intimidating)
- Convenient location and
- Staff who "are easy to talk to"
- Because MHCs make the effort to physically drive into communities, community members feel that the clinics are reaching out to care about them, inspiring them to take more charge of their own health
- MHUs help patients reconnect with the regular health providers (referral system)

5. Emergency coverage

During the emergency situation of COVID-19 how MHUs were a great help in reaching healthcare when the traditional healthcare institutions were disrupted

6. Improving health outcomes

A. Screening

A.1 Because mobile clinics can successfully reduce barriers in access to healthcare, MHCs provide more opportunities for underserved populations to screen for various conditions and learn to properly manage their health

- NCD screening
- Communicable diseases
- Pregnant and lactating mothers with complications
- Anemia patients
- Malnourished children

B. Initiating preventative care

B.1 Is it true that clients of MHCs were significantly more likely to start receiving healthcare earlier compared to those accessing traditional clinics. Eg clients of MHCs were significantly more likely to start receiving prenatal care services earlier compared to the other mothers accessing traditional clinics.

B.2 Does mobile clinics represent a potential resource to those who would not otherwise approach a health centre for the necessary services and check-ups – without these services, diagnoses and treatments would be delayed, and subsequent disease management would be further complicated.

7. Social Determinant of Health

- Extent to which social determinants of health impact the efficiency of MHU to bring desired health outcomes. *Social determinants include income and social status, social support networks, education, employment and working conditions, physical and social environments, biology and genetic endowment, personal health practices and coping skills, healthy child development, and health services.*

- Does MHU take into account the nonmedical factors influencing their clients' wellbeing and devise strategies to combat negative social determinants of health

8. Managing chronic diseases

- How is MHC an effective model for chronic disease management- Hypertension, diabetes, anemia
- How does the MHC meet the challenge of chronic disease management is sustaining adherence to the necessary medications and lifestyle changes,

9. Enabling self-efficacy

- Has MHU been able to bring about behvariourial change towards desired health habits amongst patients
- Do MHC patients report an increased sense of self-confidence and ability to manage their chronic conditions and navigate the healthcare system for vulnerable populations unable to access care elsewhere.

10. Referral System

- How well does the referral sytem work in conjunction with the government health system
- How does MHCs serve as a stepping-stone between their target community and the larger healthcare system. especially for vulnerable populations unable to access care elsewhere.

11. Reducing healthcare costs

How does MHU provide health saving benefits to the healthcare system by

- Prompting earlier patient care initiation,
- Improving patients' ability to self-manage their conditions,
- Avoiding hospital visits and hospital admissions/readmissions, and
- Improving the quality of life of the beneficiaries
- Increasing the number of symptom free days- which incorporates costs associated with both emergency room visits and hospitalizations.

12. How is fragmentation of care avoided

MHU require extensive connections with hospitals, specialty clinics, ancillary services, laboratories and pharmacies to ensure that the clients receive the appropriate level of care .

- How do we track and follow up patient referrals.
- How do we ensure patients attend referral appointments

13. Confidientiality: Confidentiality can be difficult to maintain, since the design of mobile clinics makes it easy for clients to overhear private conversations. How is it managed.

14. Community buyin

Successful implementation of MHC services depends on full engagement with and buy-in from the community throughout the planning process, and ongoing partnerships must be formed and maintained in order to ensure continued communication and collaboration of MHCs with each neighborhood.

15. Staffing / logistics challenges

- Finding and retaining MHU personnel
- Finding a suitable location to safely park a mobile clinic for hours at a time can also be problematic, especially in urban areas.
- Availability of medicine
- Point of care diagnostics

16. Ensuring ennfectiveness of health promotion activities- How does MHU manage health oromotion activities to ensure quality and effectiveness.

- Reach: How do we select beneficiaires to attend awareness programs.
- Effectiveness: Is there evidence that awareness programs have influenced behaviour
- Implementation : How is quality and consistency of delivery managed for awareness programs

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