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Access to health services in under privileged areas

A case study of Mobile Health Units in Tamil Nadu and Orissa

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GLOSSARY

ANM	Auxiliary Nurse Midwife
CDMO	Chief District Medical Officer
GoTN	Government of Tamil Nadu
GoO	Government of Orissa
MHU	Mobile Health Unit
NGO	Non-Government Organization
PHC	Primary Health Care
SC	Scheduled Caste
ST	Scheduled Tribe
TN	Tamil Nadu

Mobile Health Units (MHU) were introduced as early as 1951 in tribal areas in India, with the purpose of improving access to and utilization of health services for people living in under-served and inaccessible regions. The team members of MHUs vary between states but, in general, they consist of a physician, a pharmacist, an auxiliary nurse midwife (ANM), one or two paramedical staff, and a driver. Administratively, MHUs are associated with Primary Health Centres (PHC) and the medical officer of the PHC is in-charge of the effective functioning of the MHU. Whilst the activities of MHUs are usually planned at PHC level, their impact on health care equity is seldom discussed or taken into consideration during the planning stage.

This report provides an assessment of what gains are achieved through MHUs in relation to access to care in the inaccessible areas of Tamil Nadu (TN) and Orissa. A case study approach has been adopted to access the role of the MHUs and, more specifically, the study attempts to:

- assess the gains presented by MHUs, in terms of access to care;
- identify and analyze factors which hinder or enable the better implementation of MHUs; and,
- propose policies to improve the overall design and implementation of MHUs in the future.

This study is based on: (a) secondary data from available government and other sources; (b) in-depth interviews with key stakeholders; (c) primary survey data from communities that have used MHUs; and, (d) direct observations on the functioning of MHUs in the two sample states, TN and Orissa.

As of 2006, there were 90 MHUs spread over 8 southern (under-developed) districts of Orissa. In TN, there were 62 MHUs functioning under different departments of the state government, of which 42, as we learnt during our initial interactions with the state officials, were dysfunctional. A sample of MHUs in various geographical and socio-economic settings was chosen for this study and, in each state, about 400 users (households) of the MHU were surveyed. The Household Questionnaires collected detailed information on demographic data (gender, age, nationality, education, and place of residence), self-assessment of health status, utilisation of MHUs, and overall satisfaction on health services delivered by MHUs. Satisfaction levels were measured using a five-point scale—1: very satisfied; 2: somewhat satisfied; 3: dissatisfied; 4: very dissatisfied; 5: no comment

Findings from the community surveys show that:

- More than 80% of the served population had used MHUs during the past 3 months in Tamil Nadu and Orissa. 90% of the users travelled less than 1 km to the services of MHUs.
- Whilst nearly 80% of the people were either ‘very satisfied’ or ‘somewhat satisfied’ with the location of MHUs, the level of satisfaction with ‘timing’ is not so high and uniform across states: in Orissa, 34% of the users are ‘dissatisfied’, and 35% are ‘somewhat satisfied’ with the timing of MHUs.
- Overall satisfaction with respect to ‘skill and competence’ of the MHU-team is much higher (75%) in TN than in Orissa (36%). It should be noted, however, that only 24% of the survey population in Orissa expressed dissatisfaction with the ‘skill and competence’ of the MHU team.

Overall, we can say that MHUs do serve the health care needs of the poorer sections of the society and have reduced geographical barriers to access in under-served areas. Whilst these findings do not tell much about the quality of care delivered by MHUs, there are indirect ways in which we can reflect this issue on the basis of facts gathered by this survey, for example, the amount of time spent by MHUs on various sites, their periodicity and the patient load. On average, a MHU covers about 40 to 60 patients per visit over a period of two to three hours and the time spent on care, per patient, amounts to less than 3 minutes. Our survey also

shows that, in several sites, MHUs report only once a fortnight or a month; as a result, officials from both states commented that there is no effective follow up of patients.

The study highlights several factors that have contributed to the poor performance of MHUs which include:

- The slow process of recruitment of health personnel.
- The lack of financial commitment from the government. In Orissa, there is an explicit financial commitment, whereas there has been no such commitment in TN.
- Frequent changes of policy makers at the highest level leading to little attention directed towards MHUs: MHUs require sustained attention, even if sufficient resources are allocated.
- Lack of NGOs' involvement in running MHUs. In Orissa, part of this problem lies in the absence of NGOs in several parts of the state; in TN, on the other hand, the presence of NGOs is not so much a concern as is the absence of a policy initiative to involve them in implementing Mobile health programmes.
- Lack of clear planning and execution of field visits of MHUs.

This study suggests a few policy initiatives and other changes for improving the overall performance of MHUs.

1. The state government should 'earmark' a budget for MHUs and ensure expenditure for this amount. This is extremely crucial as it indicates government's commitment to improve access in under-served and inaccessible regions.

2. Governments should undertake some operational research with a view to improving the performance of MHUs. This can include studies on scheduling of vehicles and visits to various sites that will maximise their coverage.

3. Sustained efforts should be made to improve the planning capacity of district level officials.

4. The government should work-out a definite package of essential services to be delivered through MHUs.

The study emphasizes the importance of creating awareness among community members of the services available through MHUs. This requires concerted efforts to create demand for public health services which, in turn, requires more innovative and vigorous awareness-creation campaigns than those used at present.

1. INTRODUCTION: Mobile Health Units as a strategy to tackle access problems

Mobile Health Units (MHU) were introduced as early as 1951 in tribal areas in India, with the purpose of improving access to and utilization of health services for people living in under-served and inaccessible regions. MHUs are portable and self-contained vehicles managed by teams that provide medical services. Whilst team members vary between states, they generally consist of a physician, a pharmacist, an auxiliary nurse midwife (ANM), one or two paramedical staff, and a driver. MHUs are planned and administered by Primary Health Centres (PHC) and the medical officer of PHC is responsible for ensuring that they function effectively.

Since 1980, MHUs have broadened their services and also deliver national programmes for blindness, malaria and family planning. More recently, many states have introduced MHUs under the *Pradhan Mantri Gramodaya Yojana* (Prime Minister's Rural Development Scheme introduced in 2001-02). MHUs became the most important component of the Long Term Action Plan of Orissa in 1995, providing health care services to its tribal population. Under the Revised Long Term Action Plan, substantial budgetary increases were made for drug, fuel and remuneration to the staff of MHUs. Currently, Orissa has 91 MHUs which are deployed in the eight least developed districts – all in the southern part of the state.

In Tamil Nadu (TN), MHUs were first introduced in 20 PHCs in 1977. This policy was terminated in the mid-1980s as the concept of MHUs was not considered to be a progressive way of improving access to health care and 'static' health centres were considered a more appropriate model for the provision of primary care. Although there has been a substantial increase in the health care infrastructure over the last 15 years, several parts of the state continue to suffer from a lack of primary care and, as a result, the MHU scheme was revived in 2002. 46 MHUs were introduced in the state, along with guidelines for the schedule of visits to inaccessible areas; equipment and drugs to be available; staff patterns; basic diagnostic materials; job responsibilities, etc[1]. In addition to these 46 MHUs, the Department of Social Welfare and Employees State Health Insurance together had 16 MHUs in various parts of the state which have been functioning for over 20 years.

Performance of MHUs varies from state to state. The mobile health units in West Bengal (WB) state are considered to have functioned successfully in rural areas. These covered 315 remote villages in the Sundarbans regions and about 3 million patients of the state during 1996-2004. As a result, the percentage of patients using government health facilities increased from 11 per cent to over 21 per cent (PROD 2002). A similar study in 1979 in Tamil Nadu showed that MHUs increased people's access to health care which, in turn, increased utilization of Primary Health Centres (Bhatia et.al 1979). There are also others states where increases in utilization of health care have been attributed to the introduction of MHUs. Morrison's study, for example, argues that immunisation in Uttar Pradesh and Madhya Pradesh increased to 80 per cent coverage during 1992-95 as a result of the implementation of MHUs (Morrison, 1996).

The specific objectives of the project:

In the light of the above observations on the importance of MHUs, the present study attempts to:

- assess the gains presented by MHUs in terms of access to care;
- identify and analyze factors which hinder or enable the better implementation of MHUs; and,
- propose policies to improve the overall design and implementation of MHUs in the future.

The study is limited to the states of Tamil Nadu and Orissa.

[1] At the time of the survey in 2006, none of the 46 MHUs were in operation.

2. METHODOLOGY

This study is based on: (a) secondary data from available government and other sources; (b) in-depth interviews with key stakeholders; (c) primary data from communities that have used MHUs; and, (d) direct observations on the functioning of MHUs. Details of these data are provided later in this section.

2.1. Site selection

TN and Orissa have been specifically selected for the case study. The socio-economic conditions and health status of TN are better than those of Orissa; therefore, this selection can help capture the variations in the performance of MHUs under different conditions and the various factors that have influenced their implementation.

As of 2006, there were 90 MHUs spread over 8 southern (under-developed) districts of Orissa. In TN, there were 62 MHUs functioning under different departments of state government; however, during our initial interaction with the state officials, we learnt that 46 of these MHUs had been dysfunctional and were therefore forced to select our sample from the remaining MHUs.

To study the performance of MHUs in various geographical and socio-economic settings, we chose samples of MHUs from both tribal and non-tribal districts in TN and Orissa. From each district, one relatively well and another not-so-well performing MHU were selected following consultation with officials in each state. Given the lack of objective parameters to assess their performance, we relied on the judgment of officials in selection of MHUs from each district[2]. Some MHUs have gained a good reputation over a period of time and have been more regular than others in delivering services. District officials are certainly aware of these MHUs and we relied on their judgement in selecting our sample of MHUs in both states. (see Tables 1-2 for details of samples from TN and Orissa).

2.2. Data Collection Process

The study progressed in stages, as described below.

Stage 1: Document Review

We first reviewed the various secondary data bases including the policy statements and performance reports of MHUs.[3] Policy statements from both states describe the rationale for the introduction of the MHUs and the manner in which they should be phased in over a period of time, as well as providing information on the overall design of and budgetary allocations for MHUs. Reports of the State Planning Commission were also reviewed to gain further understanding of the medium and long term goals of governments. The document review helped us to understand policy intentions, implementation strategies and other factors influencing the implementation of MHUs.

[2] In TN, for example, fortnightly reports on MHUs were maintained by three departments. Each department had a unique format for monitoring its MHUs. As a result, it was not possible to compare and select them on any common basis. After considerable discussions, we decided to rely on views of officials on where MHUs are working and where they are not.

[3] Performance reports typically show information on the number of days of camp conducted, number of villages visited, number of patients attended and number of patient referred to secondary care, patients treated according to diseases, etc.

Stage 2: Interviews with policymakers and administrators
In-depth interviews were conducted with senior policy-makers and administrators, such as Health Secretaries, Directors, Advisors and District Medical Officers, in both TN and Orissa. These individuals were directly involved in initiating and developing the MHU. The interview schedules consisted of 'open ended' questions to identify officials' views on their roles in the implementation of MHUs and on factors influencing their performance.

During this phase, we decided on the specific districts to be studied.

Stage 3: Case study investigations.

The study team made two to three visits over a period of about three weeks in each state in order to learn about the socio-cultural dimensions and the functioning of the MHUs. These visits primarily involved conducting surveys of community members' opinions on the various aspects of MHUs. Once the districts and MHUs were selected through consultation with officials, we traveled to villages with the MHUs during the survey period and patients who attended mobile clinics were interviewed.

In each state, investigators with undergraduate education were hired to undertake the data collection from households. They were trained by the study team members to ensure a common understanding of the aims of the study, conceptual clarity of data collection tools, and the steps required to ensure good data collection practice.

Specific interview schedules were developed for data collection from households and other stakeholders.[4]

Field investigators were trained to

- identify different geographic areas within each site (villages served by a MHU);
- conduct initial discussions with community leaders/groups from selected geographic areas ; and
- conduct in-depth interviews with medical officers/members of the staff of the MHUs, and community leaders of the selected sites.

Household questionnaires collected detailed information on demographic data (gender, age, nationality, education, and place of residence), self-assessment of health status, utilisation of MHUs and overall satisfaction with the health services delivered by MHUs. Satisfaction levels were measured using a five-point scale—1: very satisfied; 2: fairly satisfied; 3: fairly dissatisfied; 4: very dissatisfied; 5: do not know.

Stage 4: Local and higher level manager interviews
Stage 4 included interviews with medical officers, chief medical officers (alternatively titled "Deputy Director of Health Services in TN). Interview schedules consisted of 'open ended' questions to elicit the respondents' views on their roles in the implementation of MHUs and factors influencing the performance of MHUs.

[4] Details of these schedules are available in the appendix

Tables 1 and 2 show the sample size of the study in Orissa and Tamil Nadu.

Table 1: Sample size of the study: Orissa state

				Sample Selection in Orissa					
State	**District**	**Blocks**	**Number of MHU sites surveyed**	**Number of Individuals (from community)**		**Number of Village Heads**	**Number of Doctors & MHU Staff**	**District Officials (DM, CDMO, BDO)**	**Period of Field Trip**
Orissa	**Rayagada**	*Jemadeipentha*	8	123 persons		2	3	5	16-12-2006 to 4-12-2006
		Kolnara	10	117 persons		2	3		
	Balangir	*Saintala*	9	100 persons		2	3	**5**	25-12-2006 to 03-1-2007
		Agalpur	10	96 persons		2	3		

Table 2: Sample size of the study: Tamil Nadu

State	District	Block	Number of MHU sites surveyed	No of Individuals	No of Village Heads/ Leaders	No of Doctors & MHU Staff	No of District Officials	Period of field survey
Tamil Nadu	Tirunelveli	Ambasamudram	3	87	1	1	1	22-11-2006 to 30-11-2006
		Pettai ESI	1	129	1	1	1	22-1-2007 to 30-1-2007
	Nilgiris	Kotagiri	3	103	1	1	1	
	Coimbatore	Singanallur ESI	1	107	1	1	1	

Rigour and Validity

Interviews were conducted in the language of the respondent's choice (i.e. English/Tamil in TN and Oriya in Orissa). Where possible, they were tape recorded, or notes were taken during the interviews and were transcribed/reviewed shortly after. All interview transcripts/notes were read by team members in order to identify the main themes of experience identified by respondents. The data collected in each of the four stages described above were analysed, and discussions amongst team members based upon the field notes helped in confirming major observations and in suggesting points for further discussions with other stakeholders.

3. KEY FINDINGS AND DISCUSSION

The primary objective of this study is to analyse the key factors that have influenced the implementation of MHU and suggest changes that can contribute to better implementation of MHUs in the future. This section is divided into two parts: the first part describes the "policy intentions", as reflected in policy documents and in interviews with key officials; the second part presents an analysis of two key questions which are explored together: 'What happened?' and 'Why could policy intentions not be fully realized?'.

Our observations and analyses are based on: (a) a primary survey of households/individuals from communities served by MHUs; (b)in-depth interviews with key officials and other stakeholders (such as village leaders, MHU team members); and, (c) observations by the research team relating to the functioning of MHUs in various locations within the areas of this study.

3.1. Policy Intentions

Policy intentions and the rationale for MHUs are clear and, in both Orissa and TN, there are explicit policy statements concerning the need for MHUs. In 2002, for example, when the Government of TN introduced several new MHUs in various districts, it stated the policy rationale: "[the purpose of introducing MHUs is] to serve the people living in inaccessible and remote areas and population at risk have to be served through outreach services for ensuring health services at doorstep of community"[5]. Similar reasons and guidelines were used by the Department of Health in Orissa in 2002, when MHUs were introduced in large numbers across the state.[6]

The design of the implementation of MHUs has also been fairly clear; moreover, a reading of the related documents shows that considerable attention has been paid to the design of MHUs and to the details of budgetary allocations in both states. Design elements include, amongst others: (a) composition of the MHU team; (b) job functions; and, (c) budgetary allocations (for drugs, fuel, etc.)

(a) The composition of the MHUs.
Personnel requirements for the effective functioning of MHUs seem to have been well-thought out and clearly stated in the policy documents. In Orissa, the design for MHU's composition includes a medical doctor, a pharmacist, a health worker, a driver and an attendant. In TN the team is supposed to be larger with the inclusion of two additional health workers (one male and the other female), and, as one official in TN stated: "This on paper is wonderful and is sufficient to perform the job".

(b) Job Functions
The job functions of the personnel attached to the MHUs have generally been stated clearly within policy documents. A Medical Officer with MHUs is expected to "plan" conduct of health camps in assigned villages, create awareness of health programmes amongst villagers and control diarrhoeal diseases, as well as monitoring the overall functioning of MHU staff members. The Medical Officer is also responsible for the maintenance of the mobile vehicle and for the report on the progress of work.

(c) Budget allocations
The budgetary requirements of MHUs are particularly clearly defined. According to the policy in TN, a sum of about Rs.220,000 should be allocated for medicine per year per MHU and a sum of Rs.100,000 for petrol and vehicle maintenance per year per MHU. In Orissa, budgetary provisions for MHUs have been even more

5 Government Order (MS) 106/Health and Family Welfare, 7 June 2002 Govt of Tamil Nadu
6 GO 9951/2000, March 2, 2000, Bhubaneswar.

substantial with medicine allocated Rs.288,000 per year per MHU in addition to an equivalent sum for staff. In Orissa, the government encouraged the hiring of vehicles for 51 MHUs to save capital expenditure, and a substantial sum of Rs.140,000 for hiring per vehicle per year was set aside for this purpose. It was hoped that the money saved on capital account would contribute to meeting short-term recurring expenditures on medicine, personnel, etc.

In Orissa, the Revised Long Term Action Plan allocated a sum of Rs.50 million against 90 MHUs in eight districts for the year 2005-06.[7] In the case of TN, there has been no such declaration of overall budgetary allocation for MHUs, although budgetary caps per MHU per year have been clearly indicated. The advantage of declaring an overall budget for MHUs is obvious: it gives a clear signal to the programme implementers of the extent to which they can scale up coverage and, thereby, the size of the population they can cater to. Programme implementers in TN, alternatively, often had to convince the government on a case by case basis of the need to extend the coverage of MHUs and to get additional funds to correspond with this. The implications of these variations in policies are elaborated later in this report.

These examples highlight that in both states, policy statements were clear in relation to the overall design of MHUs, manpower requirement, projected expenditures per MHU, job functions of staff, nature of data to be collected and used for monitoring, etc. Clear principles were also laid down for monitoring the functioning of MHUs and, similarly, the administrative control of MHUs by district health officials was clearly defined. Other operational issues were stated in a similar manner in both states, for example, an MHU was expected to: (a) work from 8:30am to 4:00 pm for six days a week; (b) conduct periodic camps and provide corresponding publicity in local newspapers and through public address system; and (c) collect morbidity and other data in the prescribed formats, and maintain registers.

The distinguishing features of MHU policy in Orissa as compared to TN can be summarised as follows:

a. A clear budgetary allocation is made for the salary of personnel attached to MHUs in Orissa but not in TN, where even the appointment of drivers to MHUs was left undecided. The policy document in TN states that “till such a time as a new driver is sanctioned, they [MHUs] will have to make use of the services of the Primary Health Centre drivers” and the district health officials were “advised to do local arrangements to provide the services of a driver”. Such gaps in policy directions led to, not only a lack of drivers, but even to a lack of vehicles in many places.

b. A clear overall state-level budgetary commitment for MHUs exists in Orissa and this will enable district level officials to implement the policy.

c. The overall planning of MHUs in Orissa is more comprehensive than that in TN, for example, Orissa had proposed to conduct two surveys to assess the impact of MHUs in districts where they were implemented. These intentions demonstrate the overall commitment in the planning and implementation of MHU policy in Orissa.

How well were these intentions translated into action?, How well have MHUs have functioned? What factors have hampered or facilitated implementation of MHUs in these states? We turn to some of these questions in the next section.

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[7] These eight districts (in contiguous geographical regions) are classified as most backward in Orissa. These districts have a high proportion of tribal populations.

3.2. Implementation of MHUs: what happened and why?

Our presentation of 'what happened and why' is based on: (a) interviews with officials, community leaders and others involved in the implementation of MHU programmes; (b) observations by the research teams on the functioning of MHUs in various sites; and, (c) the results of field surveys conducted among community members in the villages covered by MHUs. Wherever possible, we will compare our experience in these two states and try to draw insights into factors that should be addressed for better implementation of MHUs in future.

The results of this study are presented with in relation to: (a) access to MHUs; (b) utilization and quality of care; (c) manpower and logistics; and, (d) overall satisfaction of the community with MHUs.

3.2.1 Access and quality

The community surveys highlight some key features of the functioning of MHUs (see Table 3 for details). These are:

- More than 80% of the served population has used MHUs during the past 3 months in TN and Orissa and 90% of the users had travelled less than 1 km to utilize the services of MHUs.
- Whilst nearly 80% of people were 'satisfied' with the location of MHUs, the level of satisfaction with 'timing' was not so high and uniform across the states. In Orissa, 34% of the users are 'dissatisfied', and 35% are 'somewhat satisfied' with the timing of MHUs. In Tamil Nadu, 8% of users are 'dissatisfied' and 22% are 'somewhat satisfied'.
- In TN, 46% of the population reported that MHUs visit twice a month, compared to 19% in Orissa; however, 81% of the population in Orissa report at least a monthly visit.
- The vast majority of the served population in both the states, 75% on average, reported that MHUs spend about 2 hours per visit.
- For 'availability of doctors' and 'medicines', only a small percentage of the population reported negatively: 85% of the total respondents said that doctors accompany the MHUs while 93% said that medicines were available with the MHUs.
- Overall satisfaction with respect to 'skill and competence' of the MHU-teamis much higher (75%) in TN than in Orissa (36%). It should be noted, however, that only 24% of the survey population in Orissa expressed dissatisfaction with the 'skill and competence' of the MHU team.

Table 3: Summary of the Results of the Community Survey of the MHUs

	Total			**Orissa**			**Tamil Nadu**	
Use of MHU	**Frequency**	**Percentage**		**Frequency**	**Percentage**		**Frequency**	**Percentage**
Yes	713	82.62		305	69.95		408	95%
No	150	17.38		131	30.05		19	45%
Total	863	100		436	100		427	100%
Frequency of visit	**Frequency**	**Percentage**		**Frequency**	**Percentage**		**Frequency**	**Percentage**
Twice a month	109	24%		38	19%		71	46%
Once a month	241	53%		162	81%		79	51%
Once in two months	39	9%		35	18%		4	3%
No fixed schedule	67	15%		65	33%		2	1%
Do they follow the schedule	**Frequency**	**Percentage**		**Frequency**	**Percentage**		**Frequency**	**Percentage**
Yes	516	74%		167	56%		349	88%
No	179	26%		131	44%		48	12%
Intimation of the Schedule	**Frequency**	**Percentage**		**Frequency**	**Percentage**		**Frequency**	**Percentage**
Yes	191	28%		25	8%		166	42%
No	503	72%		272	92%		231	58%
Duration of the MHU's stay	**Frequency**	**Percentage**		**Frequency**	**Percentage**		**Frequency**	**Percentage**
Up to two hours	523	75%		233	78%		290	73%
Two to four hours	80	11%		55	18%		25	6%
More than four hours	8	1%		6	2%		2	1%
Don't know	86	12%		6	2%		80	20%
Doctors accompanying the van	**Frequency**	**Percentage**		**Frequency**	**Percentage**		**Frequency**	**Percentage**
Always	590	85%		261	88%		329	83%
Sometimes	45	7%		4	1%		41	10%
Occasionally	25	4%		21	7%		4	1%
Never	32	5%		9	3%		23	6%
Availability of the medicine	**Frequency**	**Percentage**		**Frequency**	**Percentage**		**Frequency**	**Percentage**
Yes	647	93%		260	88%		387	97%
No	47	7%		37	12%		10	3%
Cured of illness last time	**Frequency**	**Percentage**		**Frequency**	**Percentage**		**Frequency**	**Percentage**
Yes	484	71%		189	66%		295	76%
No	193	29%		99	34%		94	24%

Table 3: continued

Satisfaction about skill and competency	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Very satisfied	407	58%	108	36%	299	75%
Somewhat satisfied	201	29%	112	37%	89	22%
Dissatisfied	84	12%	75	25%	9	2%
No comments	5	1%	5	2%	0	0%
Friendliness and courtesy	**Frequency**	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Very satisfied	477	68%	141	47%	336	85%
Somewhat satisfied	175	25%	117	39%	58	15%
Dissatisfied	39	6%	36	12%	3	1%
No comments	6	1%	6	2%	0	0%
Location	**Frequency**	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Very satisfied	552	79%	241	81%	311	78%
Somewhat satisfied	104	15%	38	13%	66	17%
Dissatisfied	36	5%	16	5%	20	5%
No comments	3	0%	3	1%	0	0%
Timing	**Frequency**	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Very satisfied	368	53%	91	30%	277	70%
Somewhat satisfied	193	28%	105	35%	88	22%
Dissatisfied	132	19%	101	34%	31	8%
No comments	4	1%	3	1%	1	0%
Distance traveled to MHU	**Frequency**	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Less than 1 km	623	90%	288	95%	335	84%
1-2 km	38	5%	8	3%	30	8%
2-3 Km	6	1%	2	1%	6	2%
More than 3 kms	28	4%	4	1%	26	7%

Source: Primary Household Surveys (Orissa and Tamil Nadu)

From Table 3 above, we can note that a large section of the population utilizing the MHUs in both states comes from the villages intended to be covered by them. Given that these villages have a high presence of Scheduled Caste (SC) and Scheduled Tribes (ST)[8] populations, we can say that MHUs are largely serving the interests of the socio-economically weaker sections of the population in under-served areas.

The table also shows that most people who use MHUs travel less than one km to receive services. However, several parts of the hilly terrain and even plain areas suffer from lack of good roads and are inaccessible to MHU. As can be seen in figures 1 and 2, the approach roads in many tribal settlements get cut off during the rainy season. The condition of roads in the tribal regions of Orissa is usually worse. In some regions with hilly

[8] Social Backward Groups. The statutory lists of scheduled castes and scheduled tribes are notified in pursuance of articles 341 and 342 of the Constitution of India.

terrain, members of the MHUs have to walk up to 3 or 4 km to reach the villages and these conditions reduced the frequency of their visits.

Figure 1: The Wooden bridge to Mylarru (Tamil Nadu)

Figure 2: No proper road to the village, Rayagada Dist. (Orissa)

These difficulties do not, however, tell us much about the quality of care delivered by MHUs, but we can reflect upon these issues through inferences based on the facts gathered by this survey, for example, the amount of time spent by MHUs on various sites, their periodicity and the patient load. On average, a MHU covers 40 to 60 patients per two to three hour visit and the time spent per patient amounts to less than 3 minutes. Our survey also shows that, in several sites, MHUs report only once a fortnight or a month. Officials in both TN and Orissa have expressed concerns that, as a result, "there is no effective follow up of patients".

A related aspect of quality of care is the range of services provided by MHUs. Our findings show that the majority of MHUs did not have equipment for urine and blood tests. In many places, the mobile team members travel by local buses which are often heavily crowded as they operate infrequently and in inaccessible regions. As a result, mobile teams do not always carry diagnostic equipment, bringing only the minimum essential drugs and injections.

Despite the limitations noted above, communities' expectations exceed the services which MHU doctors' are able to deliver. For example, in the Coimbatore district of TN, several patients demanded that MHUs should offer services for chronic ailments, such as diabetes, many of them also demanded dental care and some complained seriously that MHUs don't offer "geriatric care [which] is essential as the population ages".

Overall, we can say that MHUs do serve the health care needs of the poorer sections of the society and have reduced geographical barriers to access in under-served areas. Although we do not have any estimates regarding out-of-pocket expenditure, we can also deduce that, as a result of increased utilization of MHUs in

these regions, patients who would have otherwise had to travel longer distances to seek care from private or public facilities, have reduced their out-of-pocket expenditures.

3.2.2 Manpower and logistics

Detailed discussions with various district officials and members of the staff associated with MHUs have highlighted a number of other factors that influence the effective functioning of mobile teams. Most often, discussions with stakeholders have emphasized the following issues: (a) inadequacy of manpower; (b) non-functioning mobile vehicles and lack of funds for maintenance; (c) difficulty in covering large number of villages; and, (d) inadequate monitoring and feedback mechanisms in place.

(a) Inadequacy of manpower

Various managers, particularly those in TN, commonly referred to the persistent lack of manpower in deploying MHUs in remote and inaccessible areas. For example, one official from TN observed:

> "The functions of PHCs have become diverse over the years, without concomitant increase in the allocation of (human) resources. This has certainly adversely affected our performance."

Another official, also from TN stated:

> "The MHU, as it is run now, is compounder-driven, or pharmacist-driven. It hardly meets the basic requirements and expectations of people, as it often does not have a medical doctor or sometimes even a staff nurse."

This led to the questions: 'Why does this condition persist?'; 'Is it difficult to recruit professionals?'; and, 'Are there other reasons that could explain this condition?'

Harsh working conditions in most of these places contributed to the situation as it is extremely difficult to attract professionals and para-medicals to implement MHUs. For those team members who do not have a dedicated vehicle in which to travel, the working conditions are much worse. As observed in TN, it is not uncommon for MHU members to travel everyday by bus and, as these buses operate infrequently, team members are forced to restrict their working hours to suit the timing of the buses.

The three things most critical for attracting professionals to serve MHUs in remote areas are: (a) a vehicle in good condition which should have a driver; (b) incentives to overcome poor conditions of roads and the difficult terrain; and (c) a fairly attractive income. As one official in Orissa stated, these three factors together "determine the working conditions of personnel employed by MHUs",

Travel by buses also constrains the quality and quantity of equipment that can be transported and, in most cases, team members tend to manage with only minimal amounts, such as drugs and injections. The presence of a good vehicle with a driver does not, however, ensure its smooth functioning. None of the drivers we met were satisfied with budgetary provisions for petrol and the maintenance of the vehicle. One

driver in TN said, he “had spent more than 5000 rupees from his pocket” during the past two years towards repairs, and higher officials in both TN and Orissa vouched that “this is not uncommon”.

The logistics of conducting mobile camps will continue to pose serious problem. MHUs have to cover vast regions – for example, in Rayagada district, a highly tribal area, 12 MHUs together will have to cover about 2900 habitations. This amounts to more than 250 habitations per MHU; however, it is impossible for any MHU to adequately cover 250 habitations in any month and, therefore, district officials “have no option but to choose each month about 50 habitations only.” As a result of this, “It is very much possible that in the process some villages will get little or no attention for months together”.

During months of monsoon, conditions become even worse. Sparse distribution of habitations and the long distances traversed by MHUs from headquarters (ie. the place of origin for MHUs)[9], result in long journey times, leaving little time for delivering care. The end result of covering such numerous habitations sparsely spread across districts is likely to lead to systematic deprivation of access to even very rudimentary forms of care. Vehicles and MHUs that manage to reach such remote places encounter further logistical hurdles, namely in finding appropriate and convenient locations for conducting camps.

In all the sites visited, MHUs were conducted either in open public spaces, or in the premises of a government office/school or of a local temple/church (see figure 3). Such locations cause two serious problems: water logging and related in-sanitation in such locations are completely ill-suited for medical camps during rainy seasons; and these locations provide little privacy, even to women patients (see figure 4). Young girls and women are the most obvious sections of the population that suffer from such a lack of privacy and in all the sites that we visited, there was a visible and almost complete absence of patients from these sections of the local populations.

Figure 3: MHU Camp being conducted in a public place, Tamil Nadu

Figure 4: No privacy for the women patients, Tamil Nadu

[9] In TN, we came across a MHU, which travels 65 kms everyday (one-way) from the headquarters to reach habitations within its area. The administrative need for attaching MHUs to PHCs for monitoring purpose leads to this situation, but clearly there is a trade-off with time available for service delivery and effectiveness of delivery system.

Efforts to overcome such hurdles are more evident and undertaken in a more concerted manner in Orissa. As pointed out in Section 3.1, the Orissa government had earmarked 50 million rupees during 2005-06 towards MHUs in the eight southern districts, whereas in TN no such amount had been earmarked by the Department of Public Health. The number of MHUs in the 8 districts of Orissa has grown over the years to 90, all of which have one medical doctor, each appointed on ‘contract’. Several of these are trained in Ayurvedic medicine and some others are retired government officials. They are all paid a consolidated amount of Rs.10,000 per month, which, given their background, is “pretty reasonable”, as one official put it.

The overall monitoring of MHUs and feedback mechanisms in relation to their performance is weak, both in Orissa and in TN. This is evident from our direct observations in the field visits, for example, in TN, a district official showed no awareness during our conversation of simple details such as the number of MHUs supposed to be functioning in his district. Similarly, an official we met in TN felt that "no one worried about the reliability of their performance". In some of the sites that we visited in TN, there was no record of the services delivered, of the number of patients who attended the camps, of the nature of ailments attended to, etc. In Orissa, records were maintained but as reported by an MHU official, higher officials "never visited any site during the past year or so".

Overall, we observe that there has been no follow up of MHUs, nor any follow up action based on site visits and reported performance. The monthly reviews meetings held in Orissa are rarely attended by community leaders, such as "sarpanch"[10] and, therefore, their feedback has been rarely obtained. In TN, there has been no schedule of such review meetings indicating that effective monitoring and feedback mechanisms are absent by design.

Despite the issues discussed above, our household survey, paradoxically, shows that a large proportion of community members are “satisfied” with the care/services provided by MHUs (see Table 3). It is rather difficult to explain this result considering the various other factors that we have presented in our analysis; however, it is useful to raise a few questions in relation to this result: does the high level of satisfaction reported by the community genuinely indicate the quality and quantity of services they receive; or, is it a sign of low level of expectation of the community members? Field observations lead us to believe that the latter question should be considered more seriously than the former. As one community leader in a tribal area in TN explains:

> “we are very happy that the doctor and his para-medicals are visiting us once a week or so, though they stay here only for one or two hours, and though the range of services that they provide is not big. We are very simple minded people and our expectations are not high, as do our counter parts in large urban areas. Our needs are simple in nature and are not costly. But we have long way to go in fulfilling even these basic health care needs.”

In the next section, we reflect on the questions:, ‘Why do MHUs continue to function so poorly?’; ‘Are there ways in which the overall performance of MHUs could be improved?’; and offer some policy suggestions to bring about improvements in the design and implementation of MHUs in the future.

[10] Elected Head of the village administration.

4. CONCLUSIONS AND SUGGESTIONS FOR POLICY

It is important to go beyond many of the explanations offered above, and understand *why* such conditions continue to persist. Some explanations are discussed below:

- A major reason for the poor performance of MHUs has been the slow process of recruitment of health personnel. In TN, for example, the Health Department has more or less had a moratorium on recruitment since the mid-90s until recently. District officials have no say in this respect, yet they are under pressure to show results and, as a result of this, MHUs have often functioned without a medical doctor. In Orissa, although they tried to resolve the manpower issue by recruiting retired medical doctors or Ayurvedic[11] doctors, these doctors are sometimes asked to treat patients at the PHC/CHC instead of going to the scheduled villages.

- In TN, as already mentioned, from the onset of this programme, the government tried to overcome the shortage of staff by asking medical doctors from PHCs or Taluk[12] hospitals to perform this duty as an additional task. An inevitable consequence of such arrangements, which were common in TN and less so in Orissa, is the poor performance of both MHUs and the PHCs/hospitals to which these doctors may originally have been attached.

- Another policy reason that explains the poor implementation of MHUs is the lack of financial commitment from the government[13]. The explicit financial commitment that we previously noted in Orissa was missing in TN and, as one senior official in TN said: "We cannot deny our lack of commitment in financial terms".

- Frequent changes of policy makers at the highest level is also a reason for the little attention that MHUs have received in the past. MHUs require sustained attention, even if allocated sufficient resources. As one official from TN commented:

  > "How could a department which has witnessed a dozen Secretaries in the past 10 years show effective results? Issues such as MHUs require serious attention. People at the highest level of the decision making body should know the realities at the ground level. MHUs by definition serve the poorest of people in remote and inaccessible places. Very few officials at higher level are aware of the ground realities. It is therefore natural that they [MHUs] have performed so poorly"[14].

- Orissa has used innovative ways to overcome the shortage of manpower, for example, many indigenous medical practitioners were appointed instead of expecting "allopaths", those educated in western medicine, to come forward to run these MHUs. It is interesting to contrast the situation in TN where, although there has been a long practice of having indigenous medical practitioners at public health institutions, namely in PHCs, this practice has not been adopted in running MHUs.

- Lack of NGOs' involvement in running MHUs is another likely cause for its poor implementation. In Orissa, part of this problem lies in the absence of NGOs in several parts of the state whereas in TN, presence of NGOs is not so much of a concern as is the absence of a policy initiative to involve them in

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11 Ayurveda is a system of traditional medicine that is native to India.

12 The Taluk hospitals are below the district and above the PHC level and act as a first referral unit for the population in which they are geographically located. Specialist services are provided through these taluk hospitals and they can also receive cases from neighbouring PHCs and sub centres. There are 154 Taluk hospitals in TN with varying numbers of beds ranging from 6 to over 220 beds.

13 Positive policy changes are beginning to be visible towards making definite financial commitment in TN. As this falls beyond the time-frame of this study, we shall not discuss details of the proposed schemes.

14 This is not a view of a lone official in TN. Several officials from both Orissa and TN have repeatedly voiced this concern.

implementing the Mobile Health Programme. In the Nilgiris district of TN, there was one large NGO with a high reputation which had its own MHU with an effective team; yet, for the government's own reasons, another well-known NGOs in the same district which was willing to participate in implementing MHUs, was not involved in the programme.

- A detailed scheduling of MHUs and a commitment to follow up the schedule is essential in gaining the confidence of the community. A substantial proportion of those surveyed in both Orissa and TN expressed concern about the infrequent visits of MHUs, as evidenced by Table 2. It is possible to overcome a shortage of manpower and other logistic constraints by better planning and adherence to what is planned. For example, in the district of Bolangir in Orissa, the district medical officer adopted an innovative scheduling method to increase the coverage and frequency of visits to villages. In this method, he tried to form "clusters of villages" through careful mapping and worked out a schedule of fortnightly visits covering a large number of hamlets and villages. While there may be scope for improving the clustering methodology, it should be noted that it is indeed a novel method to improve access and here, we are also alluding to our observation that much of the poor performance of MHUs arises from a lack of innovative approaches to overcoming the many hurdles in the implementation of MHUs.

Policy suggestions for better implementation and performance of MHUs flow directly from the observations recorded above. Many of these are also endorsed by various stakeholders, including local leaders and officials. We reiterate some of these here:

a. The state government should 'earmark' a budget for MHUs and ensure expenditures for the same. This is extremely crucial as it indicates government's commitment to improve access in under-served and inaccessible regions.

b. Governments should undertake some operational research with a view to improving the performance of MHUs. This can include studies on 'scheduling of vehicles' and visits to various habitations that will maximise their coverage, etc. Sustained efforts should be made to improve the planning capacity of district level officials.

c. The government should work-out a definite package of essential services to be delivered through MHUs. Increasing expectations of community members and costs considerations should be balanced carefully without compromising the overall quality of care. This, again, requires much deliberation and, possibly, some further studies. Efforts should be made in this regard in the near future.

d. It is hard to overemphasize the importance of creating awareness of the services available through MHUs amongst community members. This requires concerted efforts to create demand for public health services and sustained efforts to meet people's expectations of good quality of health care. In order to achieve this, more innovation and vigorous awareness-creation campaigns than those at present are necessary.

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6. APPENDIX

Access to health services in the under privileged areas: through Mobile Health Units in Tamil Nadu & Orissa India

Informed consent:

Hello. My name is ___________________________________and I work for Indian Institute of Technology Madras Chennai Tamil Nadu. I do not work in the local area.

We are conducting this study to understand how *Mobile Health Units Programme* is being implemented and what sorts of consequences it is having for the community members, health workers and health care provision generally. The study will help the government understand how its policies are working in practice and what needs to be done to improve their implementation in the future.

We will also be interviewing village sarpanch/community leaders/MO in charge/ District administrator/ Directors of Health Department/ Secretaries when the study is finished we will combine together all the information we have obtained, and will then feedback the overall findings to the local and national leaders and health care managers.

If you are willing to be interviewed, I would like to ask you some questions about the policy that will help us understand your views and experience of it and what things you think need to be considered in improving its implementation in the future. The interview will take approximately an hour

However, you do not agree to be interviewed, and if you do not agree it will not affect your normal care and management. If you agree to be interviewed but do not want to answer some questions or want to stop the interview at any time that is also your right and will not affect your normal care and management.

If you agree to be interviewed, I will not record your name and so no one will know what is that you had told me. If you do not want me to take notes of/tape particular parts of the interview please just indicate and will respect your wishes. If you do not want to have any of your words used as anonymous quotations in the finial report from this work please let me know now and I will ensure this request is respected. Once the interview is over, I will finalize the notes/transcribe the tape using only a code rather than your name to identify it. The notes/transcript will later be reviewed by colleagues working with me, who will then use the noted/transcript to prepare an initial report summarizing key findings from across all interviews and other data we are collecting for discussion with the local and national leaders and managers. We will also use the reports to prepare papers for distribution to colleagues internationally.

The study had already been approved by the ethics committee of London School of Hygiene and Tropical Medicine (LSHTM), London and by local/national health managers.

If you want to contact me after the interview my contact details are ________________________. Or you can contact the person in charge of the study, Dr. Umakant Dash, whose contact details are Assistant Professor, IIT Madras. Chennai. Phone 044 22554516/09444915676.

For Investigator to Fill

Sl. No	Particulars	Details
1	Serial Number of the participant	
2	Date	
3	Time of visit	
4	Name of the Village	
5	Name of the Block	
6	Name of the District	
7	Name of the Investigator	

Users/ Non – users of Mobile Health Units
(Demographic Characteristics)

The first section of the questionnaire contains a series of questions about your demographic characteristics such as age and income. We are asking these questions in order to determine if various groups have different opinions and attitudes about care provided by mobile health units (MHUs).

Section A

Name:	Age:
Sex: M/F	Name of the Village/Hamlet : No. of years lived in the same village/hamlet:
Religion: Caste: SC/ST/others	Marital Status: Unmarried/Married/widow

A1. Number of Members in the family

no.	Name	Age	Sex (M/F)
1.	(respondent)		
2.			
3.			
4.			
5.			

A2. Educational status ____________________
A3. What is your primary occupation? __________________
A4. What is your spouse's primary occupation? _____________________________

A5. Does your village have any of the following?

a. Government facilities
b. Private doctor
c. Pharmacy Shop
d. Faith healers
e. Ayurvedic doctor
f. None of these

A6. How far is Sub Center/PHC/dispensary or clinic from your home?
Sub center--------------- PHC--------------------- Dispensary/clinic_______________

A7. Whom did you consult when you/any of your family members fell sick last time?

a. Government facility
b. Private Doctor
c. Mobile health unit
d. Pharmacy Shop
e. Self medication
f. Others, Specify __________________
g.

A8. What is your total household income (from all sources) for a year approximately?

a. Less than Rs. 10,000
b. Rs. 10,000 – Rs. 15,000
c. Rs. 15,000 – Rs. 25,000
d. More than Rs. 25,000

A9. Do you make use of the health services offered through MHU?

a. Yes

b. No (If no please go to section C)

A10. When did you use MHU last?

a. This month (Dec)
b. Previous month (Nov)
c. During last six months
d. Not used since last six months (If the answer is d please go to section C)

A11. Did any one of the family members other than you utilize MHU service for last illness they had?

a. yes
b. no

If yes who utilized the service? _______________

A12. Is everyone in the village allowed to utilize MHU?

a. Yes
b. No

If Yes, Why are they not allowed to utilize the MHU? _______________

Section B for those who utilize MHU

B1. For what purpose did you use MHU last?

B2. How do you come to know the time and date of visit of MHU in your village?

a. Through ANM's
b. Through sarpanch
c. Through neighbors
d. From MHUs staff in their previous visit
e. Others (specify)

B3. How much distance did you traveled to reach the MHU?

a. Less than I km
b. 1KM-2KM
c. 2KM-3KM
d. More than 3 KM

B4. How much time does it take to reach the MHU from home? __________

B5. How frequently does the Van come to your locality?

a. Twice a month
b. Once a month
c. Once in two months
d. No fixed schedule

B6. Do MHUs follow the schedule?

a. Yes

b. No

B7. Do they intimate you if they are not able to follow the schedule?

a. Yes
b. No

B8. How long does the van stay in your locality?

a. Up to two hours
b. Two to four hours
c. More than four hours
d. Don' t know

B9. Does the Doctor accompany the Van?

a. Always
b. Some times
c. Occasionally
d. Never

B10. Who were available when you visited last?

	Personnel	Available		
		Yes	No	Don't know
1	Doctor			
2	Nurse			
3	Pharmacist			
4	ANM/MPW			

B11. Do you get all medicines/tablets from pharmacists in MHU?

a. Yes
b. No

B12. Have you been asked to do some tests? (diagnostic services in MHU)

a. Yes
b. No
c. If yes, what was the test done? _______________

B13. Did you get the report on the same day?

a. Yes
b. No .If no when did you get the report? _______________________
c. From where did you get the report? _______________________

B14. Did you have to spend any money doing the test? If so how much did you spend? __________

B15. Did you get cured for the illness that you attended last time?

a. Yes
b. No
c. Was referred, if so did you go? __________ Where? __________ how did you go there? _______________How much did you spend for the last trip? _______________

B16. How satisfied are you with the skill and competency of the staff of the MHU?

a. Very Satisfied
b. Somewhat satisfied
c. Dissatisfied
d. No Comments

B17. Friendliness and courtesy of the staff

a. Very Satisfied
b. Somewhat satisfied
c. Dissatisfied
d. No Comments

B18. Are you satisfied with the Location of the MHU

a. Very Satisfied
b. Somewhat satisfied
c. Dissatisfied
d. No Comments

B19. Are you satisfied with the timing of the MHU's visit

a. Very Satisfied
b. Somewhat satisfied
c. Dissatisfied
d. No Comments

B20. When making health care decisions for your family, who is the primary decision maker?

a. Male (or Husband)
b. Female (or Wife)
c. Jointly (both husband & wife)
d. Elders of the family
e. Head of the family

B21. Would you like to visit MHU again in the next visit?

a. Yes
b. No
c. Not sure

B22. Will you recommend other members of your village utilize MHU services?

a. Yes
b. No
c. Not sure

B23. To whom you complain about the absence of MHUs visit in your village? ___

B24. What needs to be done to improve utilization of MHU service?

(Three most important aspects)

1.
2.
3.

B25. Where do you go when MHUs are not visiting?

a. Government facility
b. Private doctor
c. Self medication
d. Pharmacist
e. Others, Specify ________________

B26. How much expenditure do you incur per visit? _______________

B27. How do you go to these places?
a. By walk/bullock cart
b. By public transportation
c. Auto/taxi/own vehicle
d. Others, specify _____________________

B28. Any other additional comments about MHU?
____

SECTION C

(To know the constraints in the MHU programme and the amount of out-of –pocket expenditure incurred for consulting other than MHU)

C1. Why are you not using the MHU?

a. I don't know about them
b. The timing of their visit doesn't suit me
c. Location of their camp doesn't suit me
d. Service is not satisfactory
e. Others ,please specify ________________________

C2. Do other members of your family use MHU?

a. Yes
b. No
c. If no why they are not using? _____________________

C3. Where did you go when you/ any one of your family members fell sick last time?

a. Government facility
b. Private doctors
c. Self medication
d. Pharmacist
e. Others, Specify _____________

C4. How far is the provider from your residence?

a. Less than 1 km
b. 1-3 kms
c. 3-5 kms
d. more than 5 kms

C5. What was the nature of the ailment that was treated during this visit? ________

C6. How much do you pay/spend in total for every visit? _________________

C7. How do you go to the health care facilities?

a. By walk/bullock cart
b. By public transportation
c. Auto/taxi/own vehicle
d. Others specify _____________________

C8. Would you like to give suggestions for improving MHU?

C9. Any other additional comments?

Appendix C

Interview Schedule for
Medical Officer I/C-MHUs

Name:
Age:
Sex:
Address:

Area Covered:

a. Tribal
b. Non-tribal

Years of experience:
(As in charge of MHU)
Contract:

a. Yes
b. NO
2. If yes for how many years?
Ans: _______
3. Mode of renewal?
Ans: _________

1. What are the policy goals of MHUs – formal and informal?
2. How the resources (manpower and drugs) are allocated from the PHCs to MHUs**?**
3. What are the operational guidelines for functioning?
4. Are there any monitoring mechanisms?
   a. Yes
   b. No
      1. If yes what are they?

      2. If No why aren't there any?

5. What is the adequate number of the following? Are they sufficient? If not what is the sufficient amount?

Slno.	Particulars	Adequate	If not, how much more needed
1	Manpower		
2	Drugs		
3	Fuel		
4	Basic diagnostic instruments		
5	Any others a. b.		

6. How many villages do you visit in a month?
7. How frequently you visit a (particular) village in a month?
   (Please give the reasons for the same)

8. Did you ever fail to visit a (particular) village in last three months?
   (Please give the reasons)

9. What do you do when you are unable to go for visiting a village (is it to know if there is any alternate arrangement)?

10. At what time do you visit a village usually?
11. For how long you will be in a particular village (number of hours)?
12. Are you consulted while framing the schedule?
13. How do you communicate about your visit to village?
14. How many patients did you see in your last visit (in a village)?
15. Which are the villages (number or name) in your block have poor and good attendance?
    (Please specify the reasons for both)

16. What are the diseases/illness that people report commonly to you in the block?
17. According to you which age group/sex on an average you see?
18. Which community of people you see on an average?
19. What are the services you provide?
20. Do you provide National Health Programmes services like (NMCP, EPI, and RCH)
21. What are the diagnostics tests done by MHU staff on site?
22. How many cases you refer, do you maintain a patient register?
23. What are the services that people demand from you?
24. Why do you think people (patient) use MHUs?
25. Are the staff members overburdened?
26. What incentives do you get being as MHU I/C?
27. What are the main problems you face in providing care?
    (Other than structural/staff)
28. To whom do you report the problems encountered by you? And Do you get response from them?
29. Who is your immediate supervisor? How frequently you are supposed to meet/report to him?
30. Do you see an improvement in the health of the people after MHUs operation in the block?
31. How many meetings you attend in a month and who are the participants?
32. What are the achievements and problems experienced in implementing the specified policy?
33. Do you think MHUs will be effective in providing health care to the people?
34. How do you judge the successes and problems?
35. What other factors do you see as influencing success in MHU implementation? (Pressures – from above and from below)
36. Which group of people are influencing how the MHU is being implemented in practice?
37. How do they /influence things? What are the key influences over their actions and behaviours?

Appendix D

Interview Schedule for

Community Leaders (Village Heads, Sarpanchs)

Name:
Age:
Sex:
Village/Block:
Number of years lived in the village:
Religion:
Years as a sarpanch:
Number of times elected as sarpanch:

1. What is the population of your village?
2. What are the common ailments suffered in your community?
3. Where do people go commonly to get treated for the same?
4. How far is a clinic of registered medical practitioner?
5. How far is the health centre from your village?
6. How many times does ANM visit your block village? in a month?
7. How many times MHUs come to your village in a month?
8. Are you consulted while preparing the schedule of MHUs?
9. For how long MHU stays in your village (number of hours)?
10. What is your impression about the quality of services provided by MHU?
11. Has the health condition of the people improved after MHUs operation?
12. What additional services people demand from you through MHUs?
13. What constraints are encountered in getting the MHUs to your village? Have attempts been made to overcome them?
14. What factors do you see as influencing the performance / utilization of MHU services? (Frequency of visit, duration of stay)
15. What monitoring procedures are adopted to ensure proper functioning of the MHUs? Are they exercised frequently?
16. Factors influencing the decision relating to Policy making process? (Pressures – from above and from below)

Appendix E

Interview Schedule for

District Magistrate,

Chief District Medical Officer

Block Development Officers

a. Name: b. Age: c. Sex: d. Designation: e. Number of years in position: f. Previous position held:

1. What are the goals of MHUs?
2. How are areas/blocks demarcated for MHUs?
3. Do you design the scheduling of MHUs?
4. Whom do you consult while designing the schedule?
5. May I know the gold standard of MHU design? (like composition, services, drugs to be carried, diagnostics tests)
6. Is there any timings drawn for MHU visit and stay in a particular village?
7. What constraints are encountered in the management/maintenance of MHUs? Who has the power to overcome these constraints? Have attempts been made to overcome them?
8. How does resources flow to MHUs in your Block?
9. How do MHUs interact with PHC/CHC?
10. Who address the problems of the doctor I/C of MHU?
11. Is the pay enough for doctor I/C or do these doctors get incentives?
    a. Yes
    b. No
        1. If yes how much they are given?
           Ans: ____
        2. For what purpose these incentives are given?
           Ans: ________
        3. on what basis these incentives are decided?
           Ans: ________

12. Are the doctors serving as doctors I/C of MHU on contract?
    a. yes
    b. no
        1. If yes what percentage of them are on contract?
           Ans:
        2. What are the problems encountered in getting doctors on contract?
           Ans:
13. What kind of monitoring procedures are adopted to ensure proper functioning of the MHUs?
14. What are the responsibilities of personnel involved in implementation? What are your views on how implementation is progressing?
15. Factors influencing the decision making process? (Pressures – from above and from below)
16. What are the reasons for disruption of services? How frequently is the occurrence?

17. In your opinion has the health status of your blocks/villages improved with MHUs operation?
18. Will MHUs sustain in the current scenario?
19. What factors do you see as influencing success/failures in MHU performance?
20. How would you redesign MHU for improving the performance?

Appendix H

Interview Schedule for

Health Secretary/Director of Health Services/Director NRHM

Name:
Age:
Sex:
Designation:
Number of years in position:
Previous position held:

1. What are the policy goals – formal and informal?
2. How was the policy on having MHUs for improving access was initiated, formulated?
3. Who were the people involved in developing the MHU policy in your state?
4. What are the basis of resource allocation and the flow of resources to MHUs?
5. What is your view on implementation and on how it was done?
6. Which group of people are influencing how the policy is being implemented in practice? How do they influence things? What are the key influences over their actions and behaviours?
7. What are the achievements and problems experienced in implementing the specified policy?
8. What are the mechanisms by which the functioning of MHUs is usually monitored?
9. What are the mechanisms by which evaluation of MHUs is usually done?
10. What are your future plans, if any, for MHU

Appendix I

Consent form for interview

Strengthening the implementation of policy change that seeks to promote health and health system equity; A study of Mobile Health Units (MHUs) in Tamil Nadu/ Orissa

Researcher name and contact details:____

I have read the information sheet concerning this study [or have understood the verbal explanation] and I understand what will be required of me and what will happen to me if I take part in it.

My questions concerning this study have been answered by_________________

I understand that at any time I may withdraw from this study without given a reason and without affecting my normal care and management.

I agree to take part in the study.

Participant signature:________________________ Date:_______________________

Researcher signature:________________________ Date:_______________________