Part - I

Involvement of Sub-Centres in the Delivery of Multi-Drug Therapy Services under the Revised Operational Strategy (NLEP) in Orissa

An Evaluation

2000-2001

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Executive Summary

In September 1999, the Government of Orissa (GOO) issued an order for the implementation of a revised operational strategy in which selected functions of the National Leprosy Elimination Programme (NLEP) were entrusted to primary health centres (PHCs) and, more specifically, to sub-centres (SC). Sub-centres are now expected to suspect cases of leprosy (confirmation is done by the leprosy staff or the medical officer), deliver drugs to patients and follow-up on their treatment, maintain records and registers, and submit monthly progress reports. This study seeks to evaluate the extent of the involvement of SCs in the provision of multi-drug therapy (MDT) services one year after the issue of the government order.

Six districts were selected for the study using stratified random sampling (two each from the plains, coastal and remote hilly areas). One block/ PHC from each district was randomly selected, and ten sub-centres from each block were then selected systematically and visited. Interviews were conducted with 59 female health workers (FHWs), 26 male health workers (MHWs) and 18 paramedical workers (PMWs) attached to these SCs as well as 94 leprosy patients served by them.

Three-fifths (36) of the 60 sub-centres visited had MDT drugs, and 16 had the requisite amounts prescribed in the government instructions. Fifteen of the 24 sub-centres with no drugs had no patients. The condition of the available blister calendar packs (BCPs) was good.

Sub-centres in all six blocks had treatment registers, while suspect registers and stock ledgers were available in five out of six blocks and monthly reporting formats in two blocks. Health workers in 15 sub-centres were using the suspect register to record the cases suspected by them. The number recorded thus ranged between 1-13 cases, which was

Blister packs with MDT drugs. Green is for adult PB, pink for adult MB and orange for child MB treatment.

very low in a span of nearly 10 months. Treatment registers and stock ledgers were properly maintained. The records showed that 90% of the patients were receiving their drugs regularly and on time. Only nine sub-centres in two blocks were generating monthly progress reports.

The knowledge of health workers (HWs) regarding the signs and symptoms of leprosy, types of leprosy, duration of treatment and how to deal with cases of reaction was satisfactory in all but one block. Knowledge on how to suspect a case of reaction was poor among all HWs.

While only about 30% of the patients said that they were suffering from leprosy, nearly 90% knew that their disease was curable and about three-fourths knew the duration of treatment.

It was encouraging to know that over 90% of the sub-centre health workers said that they had no problems with carrying out leprosy work. However, four of the 18 leprosy PMWs expressed concern about their job security and the possibility of irregular treatment of patients and

increased default after integration of the leprosy elimination programme into the general health services.

The study showed that the involvement of sub-centres in MDT services had started well and was accepted by most health providers and patients. It required some time and support to become fully functional. The following recommendations are made to support this process, based on the findings of the study.

1. Health workers should be given field training on suspecting leprosy cases and recognizing reactions. They should also be trained in patient counselling and encouraged to develop their own checklist for standard information to be provided to each patient.
2. The PMW should ensure that all sub-centres have the prescribed quantity of drugs as per the guideline. He/she should check the quality of drugs and the expiry date of blister calendar packs (BCPs) on a regular basis while replenishing the stocks.
3. District programme officers should ensure that all sub-centres have the required registers and reporting formats.
4. Sector medical officers, assisted by health supervisors, should monitor record-keeping and reporting by health workers, especially the maintenance of the suspect register. PMWs should continue to assist HWs in this task.
5. The future status of PMWs should be clarified by the government in view of integration, and should be communicated to PMWs.
6. Leprosy elimination activities should be strengthened in Padia block through training of health workers and provision of drugs, records and registers.

1. Introduction

Background

The global strategy for the elimination of leprosy is targeted towards identifying all cases of leprosy and curing them by using the multi-drug therapy (MDT). MDT has proved to be a major technological breakthrough in the field of leprosy control. After the introduction of MDT there has been a remarkable fall in the leprosy prevalence rate (PR) in Orissa (from 121 per 10,000 population in 1983 to 8 in November 2000), but the new case-detection rate continues to remain high, i.e. above 10/10,000. The multibacillary (MB) rate still ranges between 20%-30% and the deformity rate is around 2%.

It was observed that the NLEP services were not uniformly available in different parts of Orissa due to various factors. There was therefore an urgent need to extend MDT services to all general health care facilities in order to detect and treat all leprosy cases.

Intervention to be studied

For the above purpose, the Government of Orissa (GOO) issued an order in September 1999 for the implementation of a revised operational strategy in which some of the important functions of the NLEP were entrusted to the primary health care system, and more specifically, to sub-centres. The functions were:

- Case-detection
- Drug delivery
- Treatment follow-up
- Record maintenance and reporting.

After one year of the implementation of the revised strategy, this study was conducted to assess the extent to which sub-centres were actually involved in providing leprosy services.

2. Research Objectives

General objective

To determine the extent of the involvement of sub-centres in the delivery of MDT services under the new strategy in six blocks (two each in the coastal, plains and remote hilly areas) of Orissa.

Specific objectives

1. To calculate the number of sub-centres having stock of MDT drugs.
2. To verify the quality of MDT blister packs and find out the proportion of packs within the norms of expiry date, colour and condition (quality).
3. To calculate the number of persons suspected to have leprosy by the sub-centre staff.
4. To calculate the number of cases confirmed as having leprosy out of those suspected by the sub-centre staff (single skin lesion (SSL), PB, MB, age- and sex-wise).
5. To determine the regularity of patients collecting drugs at the sub-centres.
6. To asses the number of sub-centres maintaining records and generating reports monthly.
7. To assess the perceptions of health workers, PMWs and patients with regard to the new strategy.

3. Research Methodology

Study type

The study, conducted one year after the implementation of the revised operational strategy for NLEP, was descriptive and was designed to evaluate how far sub-centres were involved in providing MDT services, i.e. suspecting cases of leprosy, drug delivery, treatment follow-up, record maintenance and reporting.

Sampling

All the 30 districts in Orissa state were stratified into three categories, i.e. hilly area (14 districts), plains (nine districts) and coastal area (seven districts). Two districts from each stratum were selected using a simple, random sampling technique. One block primary health centre (PHC) in each district was randomly sampled.

Upon arrival at the PHC headquarter and before going into the field, ten sub-centres were selected using systematic sampling. It was planned to interview the health providers of the selected sub-centres, i.e. all the female and male health workers of the primary health care system and the paramedical worker of the NLEP system. Two patients were also to be interviewed from each sub-centre. Where the number of patients under treatment was more than two, systematic sampling was done.

Table 1: Total districts in each stratum, sampled districts and blocks/PHCs

Area	Total districts	Name of sample dist.	Total no. of blocks	Name of PHC	Total no. of sub-centres
Coastal	7	Jagatsinghpur Kendrapara	8 9	Balikuda Mahakalapada	28 29
Plains	9	Cuttack Mayurbhanj	14 26	Adaspur Dukura	14 18
Hilly	14	Nabarangapur Malkangiri	10 7	Tentulikhunti Padia	19 15

(Source: Geographical map of Orissa and data from districts)

Table 2 shows the actual number of workers and patients interviewed.

Table 2: Number of health providers and patients interviewed

Block	No. of SCs selected	Health providers interviewed			No. of patients	
		HW (F)	HW (M)	PMW	Under treatment	Interviewed
Balikuda	10	10	6	5	39	16
Mahakalpara	10	10	1	5	14	14
Adaspur	10	9	6	2	15	12
Dukura	10	11	4	1	50	24
Tentulikhunti	10	10	5	3	18	18
Padia	10	9	4	2	14	10
TOTAL	**60**	**59**	**26**	**18**	**150**	**94**

(Source: Sampling at PHC/CHC and available records at PHC/CHC and sub-centres)

The planned number of 60 male and 60 female health workers for interview could not be covered because of vacant posts (34 male and two female; one extra HW(F) was interviewed in Mayurbhanj because an additional post had been created there). Also, only 94 of the sampled 150 patients could be interviewed, as the remaining patients were not available in spite of two visits.

Sources of data

Data were collected from sub-centre records as well as through interviews with male and female health workers, leprosy workers and patients under treatment. In addition, the MDT BCPs were physically examined to determine their quality (colour), condition and expiry dates.

Study instruments

Four separate formats for data collection were used to record: (1) the availability and condition of BCPs and the number of patients under treatment; (2) the number of patients registered in the suspect register and the number confirmed; (3) the number of patients under treatment and the number who had received drugs every month; and (4) the number of reports generated using the revised format, their date of submission and correctness. Interview schedules for health workers, PMWs and patients were also developed.

Diagnosis and treatment of leprosy patients at a primary health centre.

Pre-test

A pre-testing of the questionnaire was done in the Chandanpur community health centre (CHC) area in September 2000, on the basis of which some modifications were made. Four research assistants were also given training in data collection for two days.

Data collection, collation and analysis

The proposal for this study was prepared in a workshop at Puri in September 2000. The fieldwork was started in October 2000, following the pre-testing and training. The team consisted of three investigators and four research assistants. Due to various work responsibilities, it was not possible for the investigators to work together in all blocks. Thus, in two blocks, all the three investigators worked together with three research assistants, and in the remaining four blocks, two investigators worked with four research assistants for data collection.

After the completion of fieldwork in each block, all the three investigators got together to assess and analyse the work done and exchange information about the block, its staff and various activities.

Data were tabulated by hand and a preliminary analysis was carried out prior to a data analysis and report-writing workshop held at Konark in late January 2001.

Timeframe

The fieldwork for the study was started on 13 October 2000 and completed by 20 January 2001. Thus, the timeframe was extended by two weeks.

4. Findings

This chapter presents the findings about the involvement of sub-centres in providing MDT services and the views of health workers, PMWs and leprosy patients.

Availability and condition of MDT drugs at sub-centres

According to the new strategy, all sub-centres should have one packet of drugs for each category of patients, in addition to three months' stock of BCPs for each patient under treatment. The availability and quality of BCPs was examined in the sub-centres studied.

Table 3 shows that 60% of the sub-centres had drugs, while 27% had "adequate" drugs as specified by the strategy. Plains areas were the best supplied and stocked.

Regarding the quality of BCPs, the table shows that 5% of the drugs were damaged in eight (13%) sub-centres. Four of these eight sub-centres did not have patients of the category for which the drugs were damaged. The drugs were partially damaged and had been supplied to the sub-centres during the last modified leprosy elimination campaign (MLEC). Expired drugs were found in only one sub-centre.

The availability of drugs was related to the presence of patients under treatment at a sub-centre. Table 4 shows that 62.5% of the sub-centres without drugs had no patients, while 22% of the sub-centres with patients had no drugs.

Leprosy cases suspected and confirmed

Each sub-centre was expected to maintain a suspect register and enter the names of the suspected persons for confirmation by the PMW or sector medical officer.

Table 3: Availability and adequacy of MDT drugs at sub-centres in coastal, plains and remote blocks

District	Block	Availability of drugs					Quality of BCP and expiry date		SCs with damaged drugs
		Adequate	Inadequate	Sub total	No. in stock	Total	Damaged No.	Expired No.	
Coastal									
Jagatsinghpur	Balikuda	9	1	10	0	10	4/83 (5%)	0/83	4
Kendrapara	Mahakalpara	0	2	2	8	10	0/7	0/7	-
Plains									
Cuttack	Adaspur	3	4	7	3	10	0/31	0/31	-
Mayurbhanj	Dukura	2	7	9	1	10	2/52 (4%)	0/52	2
Remote hilly									
Nabarangapur	Tentulikhunti	2	3	5	5	10	2/11 (18%)	2/11 18%	1
Malkangiri	Padia	0	3	3	7	10	1/8 (13%)	0/8	1
TOTAL		**16**	**20**	**36**	**24**	**60**	**9/177**	**2/177**	**8**
(%)		**27**	**33**	**60**	**40**	**100**	**5**	**1**	**13**

(Source: Verification of stock register and physical verification of drugs at SCs)

Table 4: Distribution of sub-centres by patients and availability of drugs

	Drugs	No drugs	Total
Patients	32 (89% / 78%)	9 (37.5% / 22%)	41 (100%)
No patients	4 (11% / 21%)	15 (62.5% / 79%)	19 (100%)
TOTAL	**36 (100%)**	**24 (100%)**	**60 (100%)**

(Source: Verification of treatment register, stock ledger and physical verification of drugs at SCs)

Table 5 shows the findings based on the verification of suspect registers at sub-centres.

One-fourth of the sub-centres had suspected leprosy cases and recorded the information in the suspect register. The average number of cases suspected by these 15 sub-centres was six, ranging between one to 13 cases, over a period of ten months, which was very low. The number would be even lower if the cases suspected during MLEC-II and recorded in Dukura block (about 30) were excluded from the total.

About one-sixth of the cases suspected to have leprosy were confirmed. The ability to suspect correctly was the best in Dukura and Tentulikhunti blocks and poorest in Padia. Out of the total suspects, 45% were female, and out of the total cases confirmed, 54% were female. Though the numbers were small, it suggested that the involvement of sub-centres helped to increase case-detection among women.

Regularity of drug collection by patients under treatment at sub-centres

It was expected that the patients under treatment (UT) would collect medicines once a month from the sub-centre and this would be recorded in the treatment register available at the SC.

Table 6 shows that on average 90% of the patients were recorded as 'regular' in collecting/receiving MDT drugs from sub-centres, their number ranging between 64% to 100% in different blocks, the lowest being in Malkangiri district and the highest in Cuttack district.

Table 5: Number of cases suspected by sub-centre staff and the number confirmed

Districts	Blocks	SCs suspecting cases			No. of suspects					Cases confirmed out of suspects								
		Yes	No	Total	M		F		Total	MB				PB				Total
					A	C	A	C		M		F		M		F		
										A	C	A	C	A	C	A	C	
Coastal																		
Jagatsinghpur	B'kuda	6	4	10	7	4	7	1	19	-	-	1	-	1	-	-	-	2
Kendrapara	M'para	0	10	10	-	-	-	-	0	-	-	-	-	-	-	-	-	0
Plains																		
Cuttack	A'pur	0	10	10	-	-	-	-	0	-	-	-	-	-	-	-	-	0
Mayurbhanj	Dukura	5	5	10	18	2	14	2	36	1	-	-	-	2	-	5	1	9
Remote Hilly																		
Nabarangapur	T'khunti	1	9	10	1	1	-	-	2	1	-	-	-	-	1	-	-	2
Malkangiri	Padia	3	7	10	11	1	12	2	26	-	-	-	-	-	-	-	-	0
TOTAL		**15**	**45**	**60**	**37**	**8**	**33**	**5**	**83**	**2**	**-**	**1**	**-**	**3**	**1**	**5**	**1**	**13**
(%)		**25**	**75**	**100**	**45**	**10**	**39**	**6**	**100**	**5**	**0**	**3**	**0**	**8**	**13**	**15**	**20**	**16**

(M=male, F=female, A=adult, C=child)

Treatment adherence improved after the intervention.

Record-keeping and reporting by sub-centre staff

Maintenance of records at sub-centres

The sub-centres were expected to maintain a treatment register for all leprosy patients, a drug stock ledger and a suspect register, and the case cards of UT patients. The registers and case cards were available at all sub-centres, except Padia block where only a patient treatment register was available.

Table 6: Regularity of patients in collecting drugs at sub-centres

District	Block		Patients		% regular
			Under treatment	Collecting drugs	
Coastal	Jagatsinghpur	Balikuda	35	33	94%
	Kendrapara	Mahakalpara	19	16	84%
Plains	Cuttack	Adaspur	16	16	100%
	Mayurbhanj	Dukura	46	44	95%
Hilly	Nabarangapur	Tentulikhunti	18	16	88%
	Malkangiri	Padia	14	9	64%
TOTAL			**148**	**134**	**90%**

(Source: Treatment registers at SCs)

Treatment registers and stock ledgers of medicines were maintained properly and were up to date. The suspect registers were available at all sub-centres except Padia. Though available, 75% of the sub-centres were not filling in the register, whereas health workers in four sub-centres of Padia were entering names of suspect cases in the NLEP village survey register.

Generation of monthly progress report

All sub-centres were expected to have revised monthly progress report (MPR) formats, which they should complete and submit in the last sector meeting of the month. Reports generated by the sub-centres were examined and the findings are given in Table 7.

Table 7 shows that only nine (15%) sub-centres had generated monthly reports. All these reports were correct and were submitted on time (23rd to 30th of the month or at the last sector meeting).

Submission of reports in Kendrapara was started in October 2000 and in Nabarangapur in April 2000. The other four blocks had not received the MPR format.

Table 7: Number of sub-centres generating monthly reports correctly and on time

Name of districts		Name of block	SCs generating reports (A)		SCs preparing correct reports (A)		SCs submitting reports on time (out of (A)	
			No.	%	No.	%	No.	%
Coastal	Jagatsinghpur	Balikuda	0	0	0	0	0	0
	Kendrapara	Mahakalpara	5	50	5	100	5	100
Plains	Cuttack	Adaspur	0	0	0	0	0	0
	Mayurbhanj	Dukura	0	0	0	0	0	0
Hilly	Nabarangapur	Tentulikhunti	4	40	4	100	4	100
	Malkangiri	Padia	0	0	0	0	0	0
TOTAL			**9**	**15**	**9**	**100**	**9**	**100**

(Source: SCs monthly progress report of current and succeeding months with verification of other relevant records)

Knowledge and attitudes of health providers

In order to carry out leprosy-related tasks, health providers were trained in leprosy work. The knowledge and attitudes of health workers (59 female, 26 male) were assessed through structured interviews, and the results presented below are based on the questionnaires obtained.

Signs and symptoms of leprosy

It was found that all except one health worker were able to name the signs of leprosy, either as a hypopigmented anaesthetic patch or a patch with thickened nerve. However, none mentioned the presence of acid fast bacilli (AFB) in skin smear.

Types of leprosy and its treatment

Table 8 shows that 72% of the health providers were able to name all the three types of leprosy, while 8% were not able to name any type. While 67% of the respondents knew the correct duration of the treatment of all categories of leprosy cases, 8% were not able to answer the question.

Knowledge regarding the types of leprosy was the poorest in Padia block and knowledge regarding the duration of treatment was poor in both the remote hilly blocks (Annex 2, Table 2A).

Advice given by HWs to patients at the time of giving MDT drugs

It was observed that 92% of the health providers advised patients at the time of starting the treatment, the most common advice being to take drugs regularly (87%). About half of the health providers advised patients about the possible adverse reactions and steps to take in case of reaction, namely, contact the health worker, PMW or medical officer. Only two out of 85 health providers told patients about the length of treatment whereas 8% were not able to answer the question.

Table 8: Knowledge of health providers about types of leprosy and duration of its treatment

		Total (N=85)	%
Types of leprosy	All 3 types	61	72
	1 or 2 types	17	20
	None	7	8
Duration of treatment	All 3 types	57	67
	1 or 2 types	21	25
	None	7	8

Table 9: Advice given to patients at the time of giving MDT (multiple response)

		Total (N=85)	%
Advice given	To take MDT regularly	74	87
	Length of treatment	2	2
	Possible adverse reaction and what to do	44	52
	Redness of urine and skin colour can occur	8	9
	No response	7	8

Suspecting a case of reaction and dealing with it

Table 10 shows that 38 out of the 85 health workers said that they could suspect a case of reaction. However, eight of them, when asked, gave irrelevant answers. Most common responses were swelling and redness of patches (27%), followed by ENL reaction (14%). Nearly three-fourths of the health providers said that they knew how to deal with reactions (refer patients with problems to the PHC medical officer or PMW).

Table 10: Knowledge and management of adverse reactions to MDT

		Total (N=85)	%
How to suspect a case of reaction?	Yes	38	45
	No	47	55
Signs and symptoms of reaction	Appearance of new patch	10	12
(multiple response)	Swelling and redness of patch	23	27
	Thickening and tender nerve	9	11
	Fever and joint pain	7	8
	ENL	12	14
	Irrelevant answer	7	8
Able to deal with reaction	Yes	74	87
	No	11	13

Possible consequences of irregular treatment

Table 11 shows that almost all health workers were aware that irregular treatment of leprosy could lead to deformity. Again, the level of knowledge was the lowest among HWs in Padia block (Annex 2, Table 2D).

Table 11: Possible consequences of irregular treatment (multiple response)

		Total (N=85)	%
Possible consequences	Leads to deformity	68	80
	Aggravates the disease	79	93
	Transmits the disease	47	55

Knowledge of male and female health providers

Male and female health providers' knowledge about leprosy was also compared. The results are as follows :

Table 12: Male and female health providers' knowledge about leprosy

Sex of worker	Know 3 types of leprosy	Know 1 or 2 types of leprosy	None	Total
Male	16 (62%)	7 (27%)	3 (11%)	26 (100%)
Female	45 (76%)	10 (17%)	4 (7%)	59 (100%)
TOTAL	**61**	**17**	**7**	**85**

Table 12 shows that 76% of the female workers knew about all the three types of leprosy as compared to 62% of male workers. The difference in knowledge was statistically significant (c^2 = 9.63, P<0.01).

The knowledge of male and female health workers regarding the consequences of irregular treatment was also compared. Nearly 70% of male workers and 85% of female workers said that it could lead to deformity. However, 35% of male workers and 64% of female workers said that the transmission of the disease could continue. The latter difference was statistically significant (c^2 = 10.01, P < 0.01).

Practices of health providers

The reported practices followed by health providers were studied with respect to leprosy-related tasks. These are detailed in Table 13.

Table 13 shows that all the HWs(F) were providing MDT services to leprosy patients. Eighty-six per cent of the HWs said that they provided drugs at the patient's residence when the patient did not collect drugs on

time. While 46% of the workers supplied drugs for more than one month when necessary, the remaining 54% said that they did not do so for fear of misuse and damage. Nearly 80% of the workers retrieved irregular patients for treatment but the remaining one-fifth said that there were no irregular patients in their area, so the question of retrieval did not arise. More home delivery was done in the coastal and remote areas than in the plains area. The coastal area workers were more flexible in providing medicine for more than one month to the patient if needed, in comparison to plains and remote areas.

Table 13: Practices followed by health providers in delivering MDT and retrieving irregular patients

	District	Block (N)	Home delivery		Supply of drugs for more than one month		Irregular patients retrieval	
			Yes	No	Yes	No	Yes	Not applicable
Coastal	Jagatsinghpur	Balikuda (16)	15	1	13	3	12	4
	Kendrapara	Mahakalpara (11)	11	0	7	4	11	0
Plains	Cuttack	Adaspur (15)	12	3	4	11	11	4
	Mayurbhanj	Dukura (15)	7	8	8	7	10	5
Remote Hilly	Nabarangapur	Tentulikhunti (15)	15	0	4	11	13	
	Malkangiri	Padia (13)	13	0	3	10	10	3
	TOTAL (N=85)		**73**	**12**	**39**	**46**	**67**	**18**
	(%)		**86**	**14**	**46**	**54**	**79**	**21**

(Source: Questionnaire for health providers)

Problems with leprosy work

Only seven workers (8%) felt that they already had a heavy workload and leprosy was an additional responsibility, while 78 workers (92%) said that they had no difficulty in carrying out leprosy work.

Knowledge and attitudes of paramedical workers

Leprosy and the revised operational strategy

The data showed that all the 18 PMWs interviewed had adequate knowledge about the cardinal signs and duration of treatment of leprosy.

Fifteen out of the 18 had adequate knowledge of diagnosing reaction and all the 18 PMWs could treat a case of reaction. All but one of the 18 PMWs had adequate knowledge about the role of HWs in the revised operational strategy. They also knew that their own role was to replace drugs, confirm leprosy cases and assist in the maintenance and preparation of records at the sub-centre level.

Practices of PMWs under revised operational strategy

In the revised strategy of the NLEP, the PMWs were expected to perform certain tasks at sub-centres as part of their day-to-day work.

All PMWs said that they visited their SCs once or more than once a month as per the guideline. Case cards of under-treatment patients were kept at their respective SCs and health institutions. All PMWs said that they replaced drugs in time, two-thirds said they distributed drugs to the patients with the health workers, and 16 out of the 18 confirmed the suspects were identified by HWs. It is also seen that 16 PMWs assisted

Table 14: Practices of PMWs at sub-centres under the revised strategy (NLEP)

District	Blocks	Frequency of visits to SCs per month			Tasks at SC			
		One or more visits	Don't visit	Total	Replace drugs	Distribute drugs	Confirm suspects	Assist in record main-tenance and reporting
Coastal								
Js'pur	B'kuda	5	0	5	5	4	5	5
K'para	M'para	5	0	5	5	2	4	5
Plains								
Cuttack	Adaspur	2	0	2	2	2	1	2
M'bhanj	Dukura	1	0	1	1	1	1	1
Remote hilly								
N'pur	T'khunti	3	0	3	3	2	3	2
M'giri	Padia	2	0	2	2	1	2	1
TOTAL (%)		**18**	**0**	**18**	**18 (100)**	**12 (67)**	**16 (89)**	**16 (89)**

(Source: Questionnaire for PMWs)

in preparing and maintaining records and reports at SCs. Fourteen PMWs were satisfied with their job while four were not satisfied as they feared loss of job security, irregular treatment to patients, increased default rate, and HWs facing problems in preparing correct reports.

Knowledge and attitudes of patients

This section presents information collected from 94 patients under treatment who were interviewed for the study.

Table 15: Distribution of interviewed patients by sex and leprosy category

	MB	PB	Total
Male	22	37	59
Female	18	17	35
TOTAL	**40**	**54**	**94**

(Source: Questionnaire for PMWs and records)

Patients were asked the name of the disease they were being treated for, treatment duration, source of drugs, curability, etc. The findings are summarised in Table 16 below, while the block-wise data are presented in Annex 2, Tables 2E - 2H.

Table 16: Patients' knowledge regarding different aspects of leprosy

Question	Area of knowledge	Total (N=94)	%
Do you know for which disease you are taking treatment?	Leprosy (*kustha* in Oriya, *mase roga* in Kui)	27	29
	Chhau (patch in Oriya)	42	45
	Badira jaga (anaesthetic area in Oriya)	5	5
	No idea	20	21

(Source: Questionnaire for leprosy patients)

Out of the 94 patients interviewed, 29% said that they were suffering from leprosy *(kustha* in Oriya and *mase roga* in Kui); 45% said that they were suffering from patches (*chhau*) and 21% did not know what disease they were suffering from. Only eight patients in the coastal blocks said the disease was caused by bacteria, while the rest could not answer. Nobody mentioned heredity, sin or curse as a cause of leprosy.

Table 17: Information to the leprosy patients given by health providers at the time of starting treatment

Question	Answer	Total (N=94)	%
What did the health worker/ PMW tell you about your disease at the time of starting treatment?	To take regular treatment	65	69
	Period of treatment	26	28
	In case of reaction, meet MO/PMW/SC	9	10
	If urine is red, do not worry	3	3
	Take drugs on empty stomach on first day	4	4
	Discontinuation of drugs leads to deformity	3	3
	Leprosy is curable	6	6
	No response	11	12

Sixty-nine per cent of the patients said that they were advised to take their drugs regularly. Twenty-eight per cent were told the correct period of treatment while only 6% of the patients said that they were told that the disease was curable.

Table 18: Knowledge of patients about leprosy

Question	Answer	Total (N=94)	%
Is leprosy curable?	Yes	83	88
	No	11	12
	TOTAL	**94**	**100**

However, 88% of the patients knew that the disease was curable, 73% of the patients knew about the duration of the treatment, and all patients knew where to go if they had any problems or complications.

It was striking that all the patients in Padia block were aware that they were suffering from leprosy and that the disease was curable. The reason may be that no stigma is attached to leprosy in the local community (Annex 2, Tables 2E and 2G).

Over 60% of the patients knew that MDT was available at SCs whereas about 40% did not know about this. Sixty-two per cent of the patients

Table 19: Duration of treatment

Question	Answer	Total (N=94)	%
Do you know for how many months you have to take the medicines?	Yes	69	73
	No	25	27
	TOTAL	**94**	**100**

Table 20: Patients' knowledge regarding availability of MDT drugs and their source

Question	Answer	Total (N=94)	%
Is MDT available at the sub-centre?	Yes	57	61
	No	37	39
	Total	94	100
From where do you get your medicines?	PHC	21	23
	Sub-centre	37	39
	Home	10	11
	LEU	26	27
	TOTAL	**94**	**100**

were collecting drugs from the SC or PHC and 27% were still receiving them from the LEU staff. Most of the patients (21 out of 26) receiving drugs from the LEU staff were from Dukura and Padia blocks, which were covered by Lepra India. Ten patients (11%) were being provided drugs at their home by HWs (Annex 2, Table 2H).

Confidence in the health care services

The study showed that 96% of the patients said they would send new leprosy patients, if they came across any, to the places from where they were receiving treatment.

5. Discussion

Availability of MDT drugs

Though data showed that adequate supplies of MDT drugs were not available in over 70% of the sub-centres at the time of visit, HWs insisted that patients got their drugs on time, because just before the pulse date (a fixed date in a month when the patient comes to collect the MDT), the PMW had replaced the drugs. Also, no patient complained about the non-availability of MDT drugs as per requirement. It appeared that PMWs did not leave MDT packets at the sub-centres where there was no UT case, nor did they supply three months' requirements as per the government guidelines. They informally expressed their concern about the potential damage to or expiry of unused drugs if the guidelines were strictly followed.

Suspecting leprosy cases

According to the records, only 15 out of the 50 sub-centres having suspect registers had recorded information on suspected cases of leprosy. While examining the records, it was found that the female health workers though did not put it on record, they did suspect and referred cases for confirmation. This was an area which appeared to be weak as regards the practice of health workers. It was possible that while workers had theoretical knowledge of the signs and symptoms of leprosy, in practice their skills were limited.

Records and registers

Except for the suspect register records, the maintenance of treatment registers, stock ledgers and case cards was satisfactory. But the regular generation of monthly progress reports had been started only in Tentulikhunti, and very recently in Mahakalpara. Other blocks had not yet started the MPR writing due to the non-supply of reporting formats. However, the female health workers said that they were reporting on leprosy to the PMW in the last sector meeting, either verbally or on a loose sheet of paper.

Suspecting reactions

Though almost all HWs had limited knowledge about how to suspect reactions, most of them said they referred the patients with any kind of problem to the appropriate health official/facility.

Sources of drugs for patients

While integration aimed at providing drugs regularly to patients through the PHC system, about 60% of the patients said they collected their drugs through the present system and 11% received them at home. The sub-centre records did not indicate whether patients collected their drugs themselves or had them delivered at home. It was encouraging to know that nearly all patients were receiving their drugs on time.

Workers' views on integration

It was also encouraging to know that only eight out of 85 workers expressed their dissatisfaction with the new strategy of the NLEP, seeing it as an extra burden on them. But according to the data there were only two to four patients per sub-centre which should not amount to extra load on them as they were in contact with the people for other health programmes.

Four of the 18 PMWs interviewed seemed to be threatened by the impending integration as they felt they will lose their jobs as well as identity.

Naming the disease

Nearly half of the patients did not mention the word "leprosy *(kustha)*" while talking about their disease, suggesting thereby that there was some hesitation in talking freely about leprosy. It was assessed that the disease had different names like *char*, anaesthetic area, etc. During interviews local languages were used to describe leprosy such as *mase roga* in Kui (a tribal language spoken by the *Khond* people) and *kustha* in Oriya.

Curability

It was striking that though none of the health providers had told their patients that leprosy was curable, nearly 90% of the patients believed it was. This suggested that IEC activities had made considerable impact.

Period of treatment

While 67% of the health workers knew the length of treatment for all the three types of leprosy, only 2% of them said that they actually told

their patients about it. However, 73% of the patients actually knew the length of treatment though about 28% of them said they had been told about this at the time of starting the treatment. It was possible that the patients were provided this information by leprosy staff and/or medical officers when starting treatment or due to the intensive IEC activities.

Padia block

The Padia block in Malkangiri covers large, inaccessible tribal and hilly areas where integration had been started shortly before the visit of the study team. Thus, seven out of the ten sub-centres there did not have drugs, and only the treatment registers had been distributed to the sub-centres. Health workers' knowledge levels were also low. Another problem in the block was the lack of familiarity of health workers with the local language. However, all patients interviewed did not hesitate to say that they suffered from leprosy (*mase roga*) and all of them knew that the disease was curable. It was felt that there might be no reservation about the disease or no social stigma attached to it in the community.

6. Conclusions and Recommendations

The study showed that the involvement of sub-centres in MDT services had started well and was accepted by most health providers and patients. It required some more time and support to become fully functional. The following recommendations are made to support this process, based on the findings of the study.

1. Health workers should be given more field training on suspecting leprosy cases and recognising reactions. They should also be trained in patient counselling and encouraged to develop their own checklist for standard information to be provided to each patient.
2. The Paramedical Worker (PMW) should ensure that all sub-centres have the prescribed quantity of drugs as per the guidelines. He/she should check the quality of drugs and the expiry date of blister calendar packs (BCPs) on a regular basis while replenishing the stocks. It is suggested that supervision should be strengthened at different levels to monitor the activities of PMWs .

Blister pack for adult PB case.

3. District Programme Officers should ensure that all sub-centres have the required registers and reporting formats.
4. Sector Medical Officers, assisted by Health Supervisors, should monitor the record-keeping and reporting by Health Workers, especially the maintenance of the suspect registers. PMWs should continue to assist HWs in this task.
5. The future status of PMWs should be clarified to them by the government in the light of integration.
6. Leprosy elimination activities should be strengthened in the Padia block through training of health workers and provision of drugs, records and registers.

Annexes

Annex 1

Revised Operational Strategy for Leprosy Services

PHC (block level) will be treated as Unit for MDT service delivery.

PHC (N) will be intermediate service delivery point (Sub-unit).

Sub-centres (SC) will be treated as Drug Delivery Centres (DDC).

Anti-leprosy drugs will be available at all primary health institutions (PHIs) and SCs.

Case Cards of all Under Treatment patients will be available at the respective health facilities, including the SCs.

Accordingly, the PMW sectors will be reorganized and made co-terminous with the PHC sectors.

Accordingly, the Health Worker will suspect cases during the routine field visit and either refer the case to sector MO for confirmation or hold the patient to be confirmed later by the PMW on the fixed-day visit and maintain both suspect and treatment registers along with the stock ledger.

HWs will also administer remaining doses of MDT to the patients who have been diagnosed and treated by the sector MOs and referred back to him/her.

Each month the HW will generate a report from the Sub-centre and submit it to the sector MO where the same will be compiled and a consolidated report sent to the Block PHC.

The HW will exclusively do leprosy work one day in a month along with the PMW, who will visit the SC on the fixed day.

Annex 2

Knowledge, Attitudes and Practices of Health Workers and Patients Regarding Leprosy

Table 2A: Knowledge of health workers regarding types of leprosy and their treatment

District	Block(N)	Types of leprosy			Duration of treatment		
		All 3 types	One or two	None	All 3 types	One or two	None
Coastal							
Jagatsinghpur	Balikuda (16)	11	5	0	11	5	0
Kendrapara	Mahakalpara (11)	11	0	0	11	0	0
Plains							
Cuttack	Adaspur (15)	11	1	3	10	2	3
Mayurbhanj	Dukura (15)	14	1	0	14	1	0
Remote Hilly							
Nabarangapur	Tentulikhunti (15)	12	2	1	9	5	1
Malkangiri	Padia (13)	2	8	3	2	8	3
TOTAL (N = 85)		**61**	**17**	**7**	**57**	**21**	**7**
(%)		**(72)**	**(20)**	**(8)**	**(67)**	**(25)**	**(8)**

Table 2B: Advice given by health workers to the patient at the time of giving MDT drugs (multiple responses)

District	Block	To take MDT	Advice given			
			Length of treatment	Possible adverse reaction and what to do	Redness of urine and skin colour	No advice
Coastal						
Jagatsinghpur	Balikuda (N=16)	12	1	9	3	2
Kendrapara	Mahakalpara (N=11)	8	0	4	2	1
Plains						
Cuttack	Adaspur (N=15)	15	1	6	1	1
Mayurbhanj	Dukura (N=15)	14	0	13	2	0
Remote Hilly						
Nabarangapur	Tentulikhunti (N=15)	15	0	7	0	
Malkangiri	Padia (N=13)	10	0	5	0	2
TOTAL (85)		**74**	**2**	**44**	**8**	**7**
(%)		**(87)**	**(2)**	**(52)**	**(9)**	**(8)**

Table 2C: Knowledge of health workers regarding suspecting and dealing with a case of reaction

District	Block	Can suspect			Signs and symptoms (multiple response)						Able to deal with reaction	
		Y	N	Total	Appearance of new patch	Swelling and redness	Thickening of tender nerve	Fever and joint pain	ENL	Irre-levant answer	Y	N
Coastal												
Jagatsinghpur	B'kuda (N=16)	4	12	16	2	2	1	2	0	0	14	2
Kendrapara	M'para (N=11)	3	8	11	0	1	0	1	3	0	11	0
Plains												
Cuttack	Adaspur(N=15)	8	7	15	0	3	8	2	2	2	11	4
Mayurbhanj	Dukura (N=15)	12	3	15	2	9	3	0	7	2	15	0
Remote Hilly												
Nabarangpur	T'khunti (N=15)	9	6	15	5	8	0	2	0	3	13	2
Malkangiri	Padia (N=13)	2	11	13	1	0	0	0	0	0	10	3
TOTAL (N=85)		**38**	**47**	**85**	**10**	**23**	**9**	**7**	**12**	**7**	**74**	**11**
(%)		**(45)**	**(55)**	**(100)**	**(12)**	**(27)**	**(11)**	**(8)**	**(14)**	**(8)**	**(87)**	**(13)**

Table 2D: Knowledge of health workers regarding possible consequences of irregularity in treatment (multiple response)

District	Block	Leads to deformity	Aggravates the disease	Transmits the disease to others
Coastal				
Jagatsinghpur	Balikuda	14	15	10
Kendrapara	Mahakalpara	10	9	7
Plains				
Cuttack	Adaspur	13	15	5
Mayurbhanj	Dukura	13	12	15
Remote Hilly				
Nabarangapur	Tentulikhunti	12	15	8
Malkangiri	Padia	6	13	2
TOTAL		**66**	**79**	**47**

Table 2E: Patients' name for the disease for which they are being treated

District	Block	Leprosy	Patch (*Chhau*)	Anaes-thesia	No idea	Total
Coastal						
Jagatsinghpur	Balikuda	4	7	1	4	16
Kendrapara	Mahakalpara	5	8	0	1	14
Plains						
Cuttack	Adaspur	5	3	0	4	12
Mayurbhanj	Dukura	2	11	4	7	24
Remote Hilly						
Nabarangapur	Tentulikhunti	1	13	0	4	18
Malkangiri	Padia	10	0	0	0	10
TOTAL		**27**	**42**	**5**	**20**	**94**
(%)		**(29)**	**(45)**	**(5)**	**(21)**	**(100)**

Table 2F: Information given to patients at the time of starting treatment

	Coastal		Plains		Remote Hilly		TOTAL	%
District	Js'pur	K'para	Cuttack	M'bhanj	N'pur	M'giri		
Block	B'kuda	M'para	Adaspur	Dukura	T'khunti	Padia		
About regularity of treatment	16	10	10	12	13	4	65	(69)
Told the period of treatment	4	2	2	10	7	1	26	(28)
If reaction, meet MO/ PMW/SC	7	0	1	0	0	1	9	(10)
If redness of urine, do not worry	0	1	1	0	1	0	3	(3)
To take medicine on empty stomach on 1st day	3	1	0	0	0	0	4	(4)
If not continue medicine regularly, it will lead to deformity	0	1	0	1	1	0	3	(3)
Curable	0	1	0	3	2	3	9	(10)
Others	0	2	0	3	1	0	6	(6)
No response	0	0	1	1	3	3	11	(12)

Table 2G: Knowledge of patients about curability of leprosy, duration of treatment and where to report if any problem

Name of district	Name of block	Curability		Duration of treatment		Report for problem (multiple response)			Any other
		Y	N	Y	N	SC	PHC	LEU	
Coastal									
Jagatsinghpur	Balikuda (N=16)	15	1	12	4	8	10	2	1
Kendrapara	Mahakalpara (N=14)	11	3	8	6	6	7	2	0
Plains									
Cuttack	Adaspur (N=12)	8	4	9	3	3	10	2	0
Mayurbhanj	Dukura (N=24)	22	2	20	4	11	8	4	2
Remote Hilly									
Nabarangapur	Tentulikhunti (N=18)	17	1	16	2	16	3	1	0
Malkangiri	Padia (N=10)	10	0	4	6	11	2	5	0
TOTAL		**83**	**11**	**69**	**25**	**45**	**40**	**16**	**3**
(%)		**(88)**	**(12)**	**(73)**	**(27)**	**(49)**	**(43)**	**(17)**	**(3)**

Table 2H: Patients' knowledge regarding availability of drugs at SCs, and their source of MDT drugs

Name of district	Name of block	MDT available at SC			Collect drugs at		
		Yes	No	PHC	SC	Home	LEU
Coastal							
Jagatsinghpur	Balikuda	11	5	4	6	2	4
Kendrapara	Mahakalpara	12	2	5	6	3	0
Plains							
Cuttack	Adaspur	6	6	8	4	0	0
Mayurbhanj	Dukura	10	14	4	6	0	14
Remote Hilly							
Nabarangapur	Tentulikhunti	17	1	0	13	4	1
Malkangiri	Padia	1	9	0	2	1	7
TOTAL		**57**	**37**	**21**	**37**	**10**	**26**
(%)		**(61)**	**(39)**	**(23)**	**(39)**	**(11)**	**(27)**