

Modified leprosy elimination campaign (MLEC) in the State of Orissa, India

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Summary As part of a country-wide modified leprosy elimination campaign (MLEC) carried out in 21 selected States in India in 1998, the State of Orissa launched activities in early January of that year, during which 28.9 million people were examined, giving 85% coverage of the enumerated population. Using general health care staff and volunteers, 416,604 suspect cases were identified and 62,804 of these were confirmed as leprosy by experience observers. The period of intensive search activity lasted 1 week only, but this was preceded by several months of community mobilization and involvement, health education, training of government and voluntary staff, media messages and the involvement of all relevant health departments, officials and politicians. Both this and the intensive search period were characterized by a high level of interest and cooperation by all concerned. The total of new cases detected and put on treatment (multi-drug therapy; MDT) during the period of only 7 days was approximately equal to that which, on routine population survey by the leprosy services, would be recorded over a period of 2 years. The MLEC in Orissa is judged to have been not only an historic step forward in the control of leprosy in a State previously classified as highly endemic for leprosy, but also one of the most successful State health interventions ever mounted. In the 5 months after completion of the campaign, the voluntary reporting rate increased from 50 to 90%. As a direct result of the campaign, facilities for the diagnosis and treatment of leprosy are now available daily in an additional 1639 institutions, over and above those in existence before the campaign was launched. The achievements in terms of detecting hidden (and thus undiagnosed and untreated) cases exceeded the outset predictions, underlining the importance of continued vigilance and the need to maintain involvement of general health care staff. It is anticipated that the rise in prevalence due to the addition of 62,884 cases will be reduced by the implementation of MDT by 80% by about March 1999. Overall the results of the MLEC in Orissa strongly support the likelihood that an elimination level of less than 1 case per 10,000 of the population will be reached in this State by the year 2000.

General profile of Orissa

The State of Orissa is one of the 32 states and Union Territories of the Republic of India. It is located on the east coast of India and bounded in the north by Bihar, in the west by Madhya Pradesh, in the south by Andhra Pradesh and in the north-west by West Bengal. It has the Bay of Bengal to the south-east, washing the entire coast line of 482 km. The State consists of 30 districts which include 58 sub-divisions, 314 community blocks, 5263 panchayats, 46,553 inhabited villages and 4334 uninhabited villages, with a total population (late 1997) of 33.8 million, which includes a tribal population of 22.2% (the second highest in India, after Madhya Pradesh) and an additional 16% belonging to scheduled castes. The literacy rate of the State is 48.5%. The percentage of urban population of the State is only 13.8%. Small villages with population not exceeding 500 persons account for over 66% of the total villages. Low population density, coupled with widely scattered small villages, poses various problems in providing services close to inhabitants. The economic status of the people of the State is quite low in comparison to the national average, and the overall disease burden, including leprosy, is high.

General health care services

The general health care services in the State are provided by the following: three medical colleges, 32 district status community hospitals, 21 sub-divisional hospitals, 127 area hospitals, 157 community health centres, 185 block level primary health care centres (PHCs), 1119 new PHCs, having one doctor only, at sector level for each 30,000 population, 5916 sub-centres, each covering 5000–6000 population staffed by multi-purpose health workers (MPHW) (male and female) at the most peripheral levels.

Leprosy services

At *State level* (Leprosy Cell), a Joint Director of Health Services (Leprosy and TB) Orissa, acts as State Leprosy Officer and an Assistant State Leprosy Officer (PKBP) acts as Technical Adviser to the State Leprosy Officer. One Sample Survey cum-Assessment Unit (SSAU) headed by an epidemiologist (Class I) and one medical officer (Class II) operates from the State level under the Leprosy Cell.

At *District level*, a District Leprosy Unit in each district functions under a District Leprosy Officer (DLO) or a District Medical Officer (responsible for public health, malaria, filariasis and leprosy) in the 30 districts of the State.

At the *Periphery*, 73 Leprosy Eradication Units (LEU) have been established in the State. Of these, 13 are run by non-government sectors and the rest are functioning under the government. One LEU covers 400,000–500,000 of the population.

Hospitals, include 13 temporary hospitalization wards (20 beds) and one 100-bed hospital established in the State for the treatment of leprosy cases with reactions and other complications.

A *Training Centre* is available for paramedical workers under State direction, and there is also a Regional Leprosy Training and Research Institute for the training of Medical Officers, Non-Medical Supervisors and Paramedical Workers, under Government of India direction.

A *Reconstructive Surgery Unit* is functioning at Olatpur (near the previous State capital of Cuttack), which was established using grants from the Government of India. Another Reconstructive Surgery Unit has been established by LEPRO India at Muniguda.

The leprosy control programme in Orissa is part of the National Leprosy Eradication (previously Control) Programme (NLEP) and receives financial support not only from the Government of India, but also from the World Bank, DANLEP (Danida-Assisted NLEP), Lepro India, The Leprosy Mission, German Leprosy Relief Association and about 13 local, non-governmental organizations.

Coverage of multi-drug therapy (MDT)

The Multi-Drug Therapy Project was started in the State in the year 1982–1983 from one district then extended in a phased manner to other districts, achieving full coverage of all districts in 1998. Due to vacancies at the base level posts, however, around 20% of the State remained only partially covered as far as case detection was concerned, although MDT treatment was available for all registered cases.

Pre-MDT status

Before implementation of the MDT programme in 1983, the entire State was highly endemic for leprosy, with a registered prevalence rate of 121.4 per 10,000 population. Seventy percent of the people were residing in areas where the disease endemicity was more than 100 per 10,000 population and the remainder in areas where disease prevalence was more than 50 per 10,000 population. The annual new case detection rate was 21 per 10,000 population, the multibacillary (MB) rate was 18.25%, the child rate 19.2% and the Disability Grade II rate 13.48%. The smear positivity rate was 3.06% amongst new cases with voluntary case detection only 29%. The contribution of dapsone monotherapy to the situation in Orissa has already been described.¹

MDT achievements

During last 15 years of MDT implementation, the registered prevalence rate of leprosy came down to only 8.33 per 10,000 population by early 1998, more than a 90% reduction. The disability rate declined to only 2.81% and smear positivity rate was 1.77% amongst new cases, but the MB rate remained high at 25.65% as also the child rate at 17.9% amongst new cases. Voluntary reporting of new cases increased to 50%.

Reasons for launching MLEC

In spite of these impressive achievements, the annual new case detection rate remained almost constant at a high level, i.e. 90 per 10,000 population, with an even higher figure for the actively surveyed population of 21.0 per 10,000 population. Every year, around 40,000 new cases were detected over a period of 5–6 years. The annual fall in the registered

prevalence rate was only 24% during the last 3 years. The gap between the estimated and registered prevalence was highly significant in almost all districts, indicating that there were high foci of infection in the community. All these indicators suggested that the elimination goal could not be achieved in the State by the year 2000. So the State had already taken a decision early in 1997 to start implementation of a Leprosy Elimination Campaign (LEC) in selected areas as per WHO norms and specifications.² However, in July 1997 the Government of India decided to launch a modified leprosy elimination campaign (MLEC) in the entire country. Orissa accepted this challenge and was amongst the few States of the country that could launch MLEC early and expediently (31.1.98–05.02.98), since considerable discussion and planning had already taken place.

How the MLEC was launched in the State

First of all, a series of meetings were organized at the State, Zonal and District levels to brief the programme officers about MLEC and its objectives. Following these meetings, the clear-cut objectives and methodology of its operation were developed. This paper describes these aspects and summarizes the results and implications for the future of leprosy control in Orissa, expanding on information reported at the 1998 International Leprosy Congress in Beijing.³

Objectives of MLEC

- To generate community mobilization through intensive public awareness activities for elimination of leprosy.
- To detect all hidden cases of leprosy in the State and ensure regular treatment for all of them from the nearest facility.
- To involve the general health care system and participation in the leprosy elimination process.
- To achieve elimination of leprosy goal by the year 2000.

Methodology adopted

- Launch MLEC in the entire State from 30.0 1.98 to 05.02.98.
- Conduct intensive health education activities at different levels at least 1 month prior to search activity.
- Involve the entire health machinery and other Departments such as Women and Child Development, Information and Public Relations, Education, Urban Development, Revenue, Home Department, Transport and Communication, Rural and Panchayati Raj Departments, NSS, NYK, NGOs, Mahila Mandals and local community in public awareness and search activities.
- Distribute a specially designed information leaflet to all houses 1 day prior to search activity.
- Conduct search activity by visiting every house both in rural and urban areas by search teams. One sub-centre area in rural area, having 5000–6000 population was divided into five or six sub-units consisting of an average of 800–1000 population for each sub-unit. Two local volunteers (one male and one female) were selected to work in the sub-unit with

two MPHWs (male and female) of that sub-centre. Similarly in an urban area for 3000 population, four people were selected to conduct the search activity.

- Confirm all suspects by mobile confirmation team consisting of one medical officer and one leprosy worker and immediately deliver MDT to all confirmed cases of leprosy.
- Make both diagnosis and treatment facilities available at all general health institutions.
- Report and document all the activities of MLEC.

Development of ‘microplans’ in all districts and estimation of budget

Operational, detailed ‘microplans’ were developed in all districts, which included activity plans for each village and town, block, zonal and district levels for all the activities, including public awareness, search and confirmation activities.

Pre-search activities

- Participating personnel were identified.
- Training programmes for all the categories planned and conducted at different levels.
- Information, Education and Communication (IEC) materials were developed for different levels and were made widely available.
- Search forms were designed and printed and distributed to all teams.
- Diagnostic cards were designed, printed and made available to all search teams.
- Sensitizing meetings at different levels were organized.
- NGO coordination meetings were organized at different levels.
- Meetings with highest decision makers and politicians.
- Press conferences at different levels.
- Newspaper articles and advertisements in important newspapers published both at State and district levels.
- TV and radio programmes on leprosy and MLEC were broadcast daily from all television centres and All India Radio.
- Loudspeaker announcements, Swasthya Rath movement, audio-video shows, street plays, different village level meetings, school and college student rallies, human chains in different villages, pamphlet distribution, banners at all important places, inter-personnel communication in tribal areas, using local languages. All the above measures helped to produce a ‘tidal wave’ of leprosy awareness flowing around in the community and alerting people to the visit of the search team to their house.
- Just 1 day prior to the search activity, every house received an information leaflet from village volunteers.

Search activity

In every 800–1000 population area of a sub-centre, two local community members (volunteers) were selected who did the search activity in their respective areas, together with male and female health workers. The completed survey of the allotted population was completed in 1 day, as per planning. The male and female workers of respective

sub-centres or wards did the search activity on the next day in the neighbouring zone of 800–1000 population with separate groups of volunteers identified from the same locality. In this manner, more than 85% of the population of one sub-centre or ward was examined within 6–7 days. Thus, the entire population of the State was searched within 6–7 days.

Search team personnel

• Paramedical staff (workers/supervisors)	14,389
• Volunteers (community members + ICDS workers)	76,000
• Total	90,389

All suspects were given a referral slip. On the next day, the confirmation team visited the village and the volunteer of that village assisted them by handing over the search form and locating the houses of suspect cases. During MLEC 33,857,823 persons were enumerated and 28,961,085 (85%) examined.

Confirmation activity

• Total Medical Officers engaged for confirmation activity	1641
• Paramedical staff (leprosy) engaged for confirmation activity	1345

In all, 62,844 new cases were confirmed as suffering from leprosy out of 416,604 suspects by the confirmation teams during the MLEC and all of them were given their first dose of MDT on the spot, under supervision. 'ROM' treatments (rifampicin, ofloxacin, and minocycline)⁴ was used for single skin lesion cases for the first time in this State. Paucibacillary (PB) cases were registered for 6 months treatment and multibacillary (MB) cases for the shorter period of 12 months treatment, as recently recommended by WHO.⁵ All confirmed cases were given an identity card with instructions to collect next month's MDT drugs from the institution nearest to him. Paramedical workers immediately did the charting in the patient's card. Each confirmation team was provided with appropriate transport and if necessary vehicles were hired. The confirmation team filled up the second part of search/confirmation forms. One report was sent daily by the medical officer of the confirmation team to the PHC Medical Officer, who then compiled all information received and sent it to the district authority, who in turn sent information to the State Headquarters. Thus, information on all the districts was compiled and sent to the Government of India in New Delhi within 7 days.

Outcome of the MLEC

Outcome of public awareness activity

A strong community movement was generated which helped the carrying out of all activities well in time. In many areas the search teams recorded people who came out voluntarily for examination. There was a very good response particularly females and in most areas female examination coverage was higher than male examination coverage. Most of the people dutifully remained in the house on the search day, thus accounting for 85% coverage of the

population during MLEC. During the last 5 months, the statistics show 90% voluntary reporting of new cases, a figure never before recorded in any part of this State.

Outcome of search activity

In all, 28,961,085 (85%) out of 33,857,823 persons enumerated were examined during campaign period and 416,604 suspects were identified.

Outcome of the confirmation activity

A total of 416,604 suspects were re-examined and out of these, 62,844 cases were confirmed as suffering from leprosy.

Type of cases detected in MLEC

Multibacillary (MB)	15,337, i.e. 24.4%
Paucibacillary (PB)	35,409, i.e. 56.3%
Single	12,098, i.e. 19.3%
Total	62,844
Disability GII rate	1554, i.e. 2.4%

Capacity building

Technical inputs were given to the following personnel:

<i>Category of Personnel</i>	<i>Numbers</i>
Higher level health administrators	25
District level health Officers	320
Secondary & Primary Level Health Institutions (health personnel)	2982 (doctors)
Paramedical Staff	15,734
Volunteers	76,000
I.E.C. personnel	350
Total	95,411

It bears emphasis that all these personnel will be available for either suspecting or confirming a case and providing anti-leprosy drugs to centres nearest to patients. Furthermore, facilities for the diagnosis and treatment of leprosy cases are now available daily in 1639 additional health institutions apart from those that were available before MLEC.

Impact analysis and conclusions

Out of a total of cases detected, 12,098 (19%) were single lesion cases, 35,409 (57%) were PB cases and 15,337 (24%) were MB cases. A total of 1554 cases (2.47%) were found having disability Grade II. Every 10,000 of the population in the State yielded 21.7 new leprosy cases, which shows the disease incidence is quite high. The incidence of the disease in MLEC is also the same as the incidence in the regular surveys by NLEP staff. Furthermore, the MB,

PB, single lesion cases and deformity ratios are the same as with the regular surveys, strongly supporting the accuracy of diagnosis during the MLEC and indicating that the campaign approach is the best approach and far more effective in detection of all cases from the community in the shortest time span. It also proved that brief but well conducted orientation of all concerned persons involved in the campaign activity can yield excellent results. The prevalence of the disease in the State has gone up from 8.62 to 26.02 per 10,000 population due to the addition of 62,844 new cases to the existing 31,112 cases. No doubt this prevalence will come down by 65% within the next 6 months and by 80% by March 1999. The new case detection pattern and number in the last 5 months show that 90% of cases are now voluntarily detected and most of them are detected at general health care levels, with a 50% fall in the number of new cases detected in the same month in the previous year. These results strongly support the likelihood that an elimination level of less than 1 case per 10,000 of the population will be achieved in this State by the year 2000.

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