Bridging Gaps in Leprosy Care: The Role of DPMR and Reconstructive Surgery in Odisha

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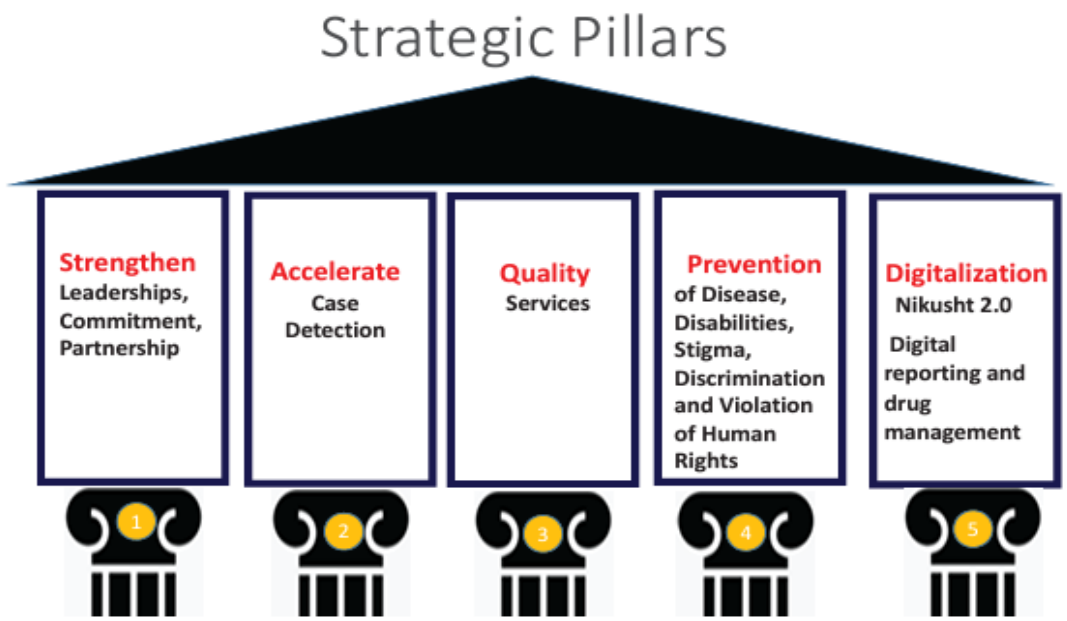
“Leprosy-free India” is the vision of the NLEP

The programme is aligned with the Sustainable Development Goals (SDGs) and the WHO Global Leprosy Strategy, aiming to achieve zero transmission, **zero disability, and zero discrimination by 2027**.



- Prevention of Disease, Disabilities, and Discrimination: Aims to prevent Grade II disabilities and reduce stigma through Post-Exposure Prophylaxis (PEP), disability prevention strategies, community engagement, and behavioral change communication.

- Leprosy, though completely curable with **Multi-Drug Therapy (MDT),** continues to pose challenges due to disability and social stigma.

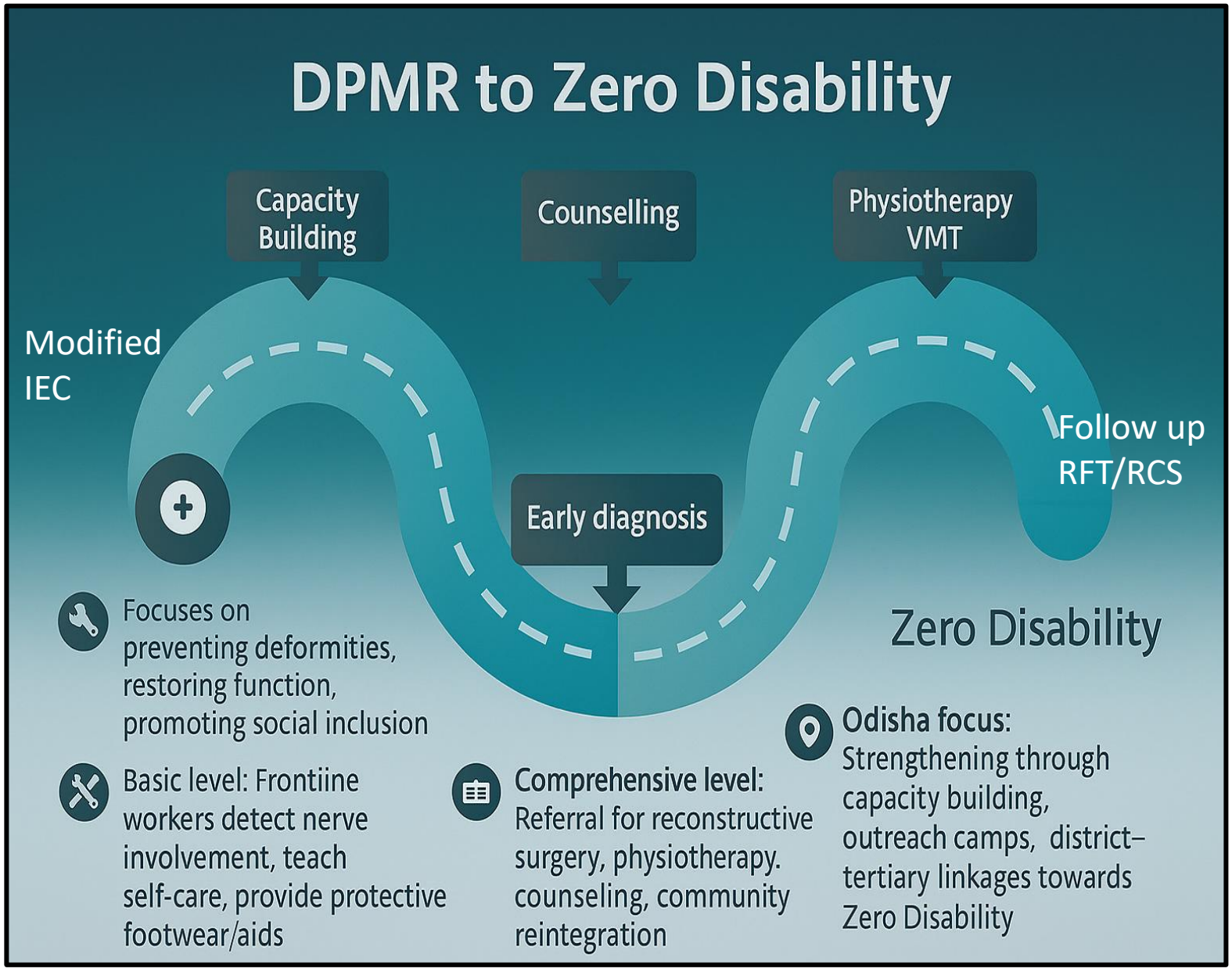
- Many patients still report late for treatment, resulting in nerve damage and **deformities that affect not only their physical health but also their livelihood and dignity**.

- **Disability Prevention and Medical Rehabilitation (DPMR) plays a crucial role in bridging this gap**. It ensures that Persons Affected by Leprosy (PALs) regain functional ability, self-esteem, and social inclusion.

- *In Odisha, where several endemic districts continue to report Grade-2 deformities, a strong and well-integrated DPMR and Reconstructive Surgery (RCS) framework is essential for achieving the goal of "Zero Disability due to Leprosy."*
- *(There are 11 districts which contribute to almost 75% G2D burden in the state)*

State NLEP - Indicators

Indicators	2024-2025	Upto Sept 25
Annual New Case Detection Rate (ANCDR)	15.8	-
Number of New Cases detected in the Year	7349	2852
Prevalence Rate (PR)	1.37	1.17
New Grade 2 Disability (G2D) cases detected	106	59
Grade 2 Disability Proportion among new cases (G2D%)	1.4	1.9
Grade 2 Disability cases per million population	2.3	-
New Child Cases detected	395	113
Child Proportion among new cases (Child %)	5.4	4.0
Treatment Completion Rate (TCR)	95%	-


DPMR to Zero Disability
Capacity Building
Counselling
Physiotherapy VMT
Modified IEC
Follow up RFT/RCS
Early diagnosis
Zero Disability
Focuses on preventing deformities, restoring function, promoting social inclusion
Basic level: Frontiine workers detect nerve involvement, teach self-care, provide protective footwear/aids
Comprehensive level: Referral for reconstructive surgery, physiotherapy. counseling, community reintegration
Odisha focus: Strengthening through capacity building, outreach camps, district–tertiary linkages towards Zero Disability

STAGES OF NERVE INVOLVEMENT

Leprosy

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Primary impairment
Nerve damage

→

Injury to insensitive
Hands & feet

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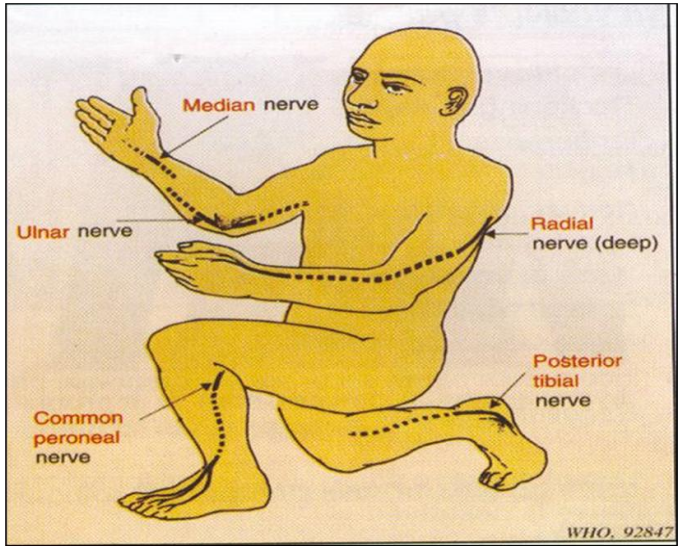


Secondary impairments:
- Ulcers
- Shortening fingers & toes
- Contracture
- Bone destruction

Disability prevention and Medical rehabilitation

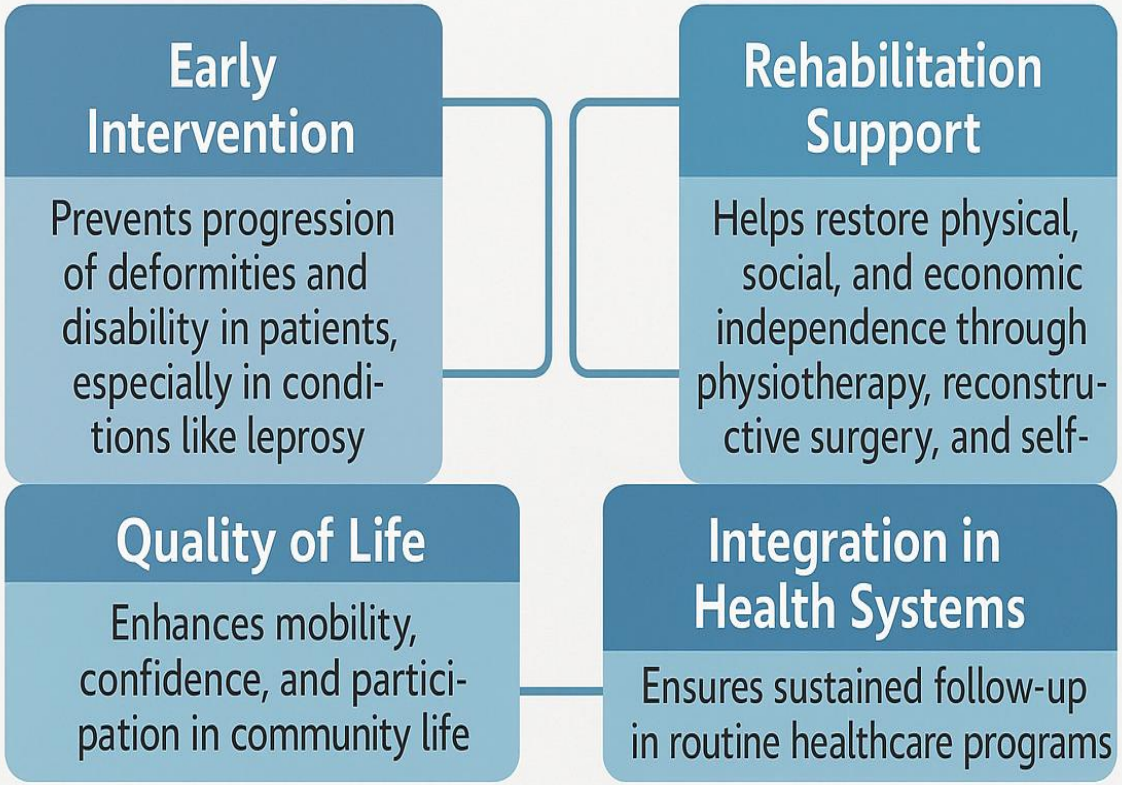
- ***DPMR: Cornerstone of Post-Treatment Leprosy Care***
- Focuses on **preventing deformities**, **restoring function**, and **promoting social inclusion**.
- **Basic level:**

  Frontline workers detect nerve involvement, teach **self-care**, and provide **protective footwear/aids**.
- **Comprehensive level:**

  Referral for **reconstructive surgery**, **physiotherapy**, **counseling**, and **community reintegration**.

Importance of Disability Prevention and Medical Rehabilitation (DPMR)

To reduce disability, promote early detection, and ensure functional recovery for affected individuals.



IMPLEMENTATION FRAMEWORK

(THREE LEVELS OF CARE)

PRIMARY LEVEL
(PHC/CHC/Dispensary)

- Detection of neuritis and early disability
- Basic ulcer care and footwarr distribution
- Counseling and demonstration of self-care
- Referral to secondary/tertiary levels for conplications

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SECONDARY LEVEL
(District Hospital/CHC)

- Management of complicated ulcers and eye problems
- Supervision and monitoring of DPMR activities
- Referral of suitable cases for reconstructive surgery
- Physiotherapy and nerve function assessment

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TERTIARY LEVEL
(PMR/NGO Hospitals)

- Reconstructive Surgery (RCS) for hand, foot, and eye deformities
- Specialized management of severe neuritis and reaction cases
- Postoperative physiotherapy and rehabilitation

Images from field (Self care camp, provision of self care kits to the patients)
MAYURBHANJ DISTRICT

Ulcer dressing

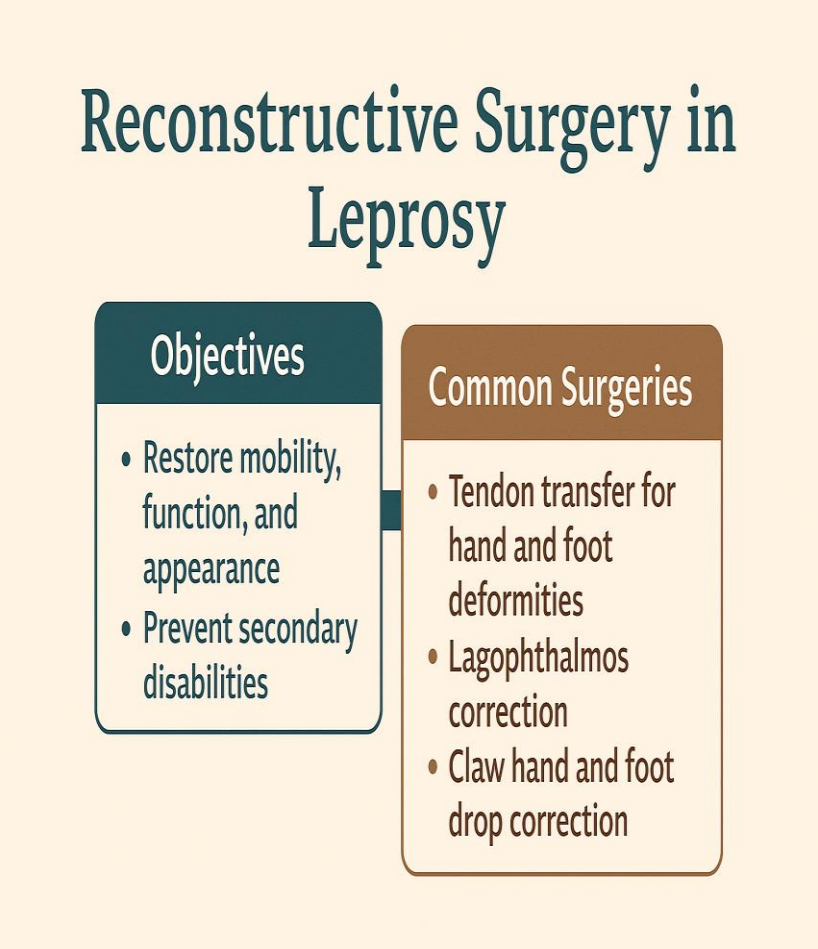
Physiotherapy exercises

AIDS AND APPLIANCES

This is a snippet from from the Koraput referral centre(LEPRA SOCIETY)

Moulded plastic with Velcro straps and spoon
Fitted based on hand size and grip strength
Used in hand deformity to improve the Activities of Daily Living like eating

Reconstructive surgery not only restores physical ability but also renews hope, dignity, and independence.



RCS can effectively correct or improve:

- **Lagophthalmos** (inability to close eyelids)
- **Foot drop** (paralysis of common peroneal nerve)
- **Ulnar/Median paralysis** affecting fingers and thumb
- **Collapsed nose** (nasal deformity due to septal or cartilage damage)

Key Precautions for Successful Outcome

•**Mandatory pre- and post-operative physiotherapy** to maintain muscle strength and joint mobility.

•**Patient motivation and cooperation** are essential - the person must learn to use the improved function through rehabilitation and training.

Role of Reconstructive Surgery in Restoring Function and Dignity

Objective

To correct deformities, restore funct-ion, and enhance self-esteem among persons affected by disabiiities such as leprosy.

Key Points

Functional Restoration: Improves mobility, grip, facial movement, and overall physical function.

Aesthetic Improvement: Helps corre visible deformities, reducing stigma

Psychological Rehabilitation: Boosts confidence, self-image, and emotional well-being.

Holistic Approach: Combines surgery with physiotherapy, counseling, and vocational training for comprehensive rehabilitation.

Referral Mechanism for RCS

- **Listing of Grade II disability at PHC**

- **MO PHC → Physiotherapist → DLO → RCS Centre**
  ↳ PMW → MO PHC

Criteria for Referral for RCS

A. Social and Motivational Criteria

- Surgery should **improve the patient's social, occupational, or economic status**.
- The deformity correction must **enhance acceptance** within family and community.
- Patient should be **well-motivated**, responsible in self-care, and compliant with instructions.
- **Unmotivated patients** are not suitable for RCS, as they are unlikely to adhere to pre- and post-operative physiotherapy.
- **Financial preparedness** is important since the procedure may involve temporary income loss and travel expenses.

B. Physical Criteria

- 15–45 years preferred.
- At least **1 year**, ideally **not exceeding 3 years**.
- Joints should be mobile; severe contractures or stiffness make RCS unsuitable.
- No active skin infection, ulcers, or deep cracks at the time of referral.
- Deformity should be mobile and without ankylosis.

C. Leprosy Treatment Criteria

- Completed **MDT course** or taken MDT for **at least 6 months**.
- **No lepra reaction or neuritis** during the last **6 months** (unless surgery is specifically for neuritis).
- **No tenderness** over major peripheral nerves at the time of referral.
- **Medically stable** and free from systemic infection.

- **Follow up of RFT and Post RCS cases**
- Inclusion of the follow up of RFT cases (under risk of developing Grade I and Grade II disabilities)
- Predetermined monthly follow up of RFT patients at Risk (MO PHC)
- Post operative follow up with Physiotherapist and surgeon
  - Initially every 15 days
  - At 3 Months, 6 Months, One year
  - Extended follow up when deformities are multiple
- Monitoring the Intensive distribution during follow up

Status of DPMR and Reconstructive Services in Odisha

- DPMR services integrated with NLEP (National Leprosy Eradication Programme)
- Availability of reconstructive surgery units in key hospitals
- Collaboration with NGOs and referral centers

Challenges:

- Limited trained manpower
- Accessibility in remote areas
- Follow-up and rehabilitation gaps

I. DPMR (Disability Prevention and Medical Rehabilitation) services are provided to all leprosy affected persons with disabilities in all Govt. health Institutions up to block level which includes ulcer dressing, self-care practices, Reaction & Complication Management, distribution of MCR foot-wears and Ulcer dressing kits, counselling and free medicines etc.

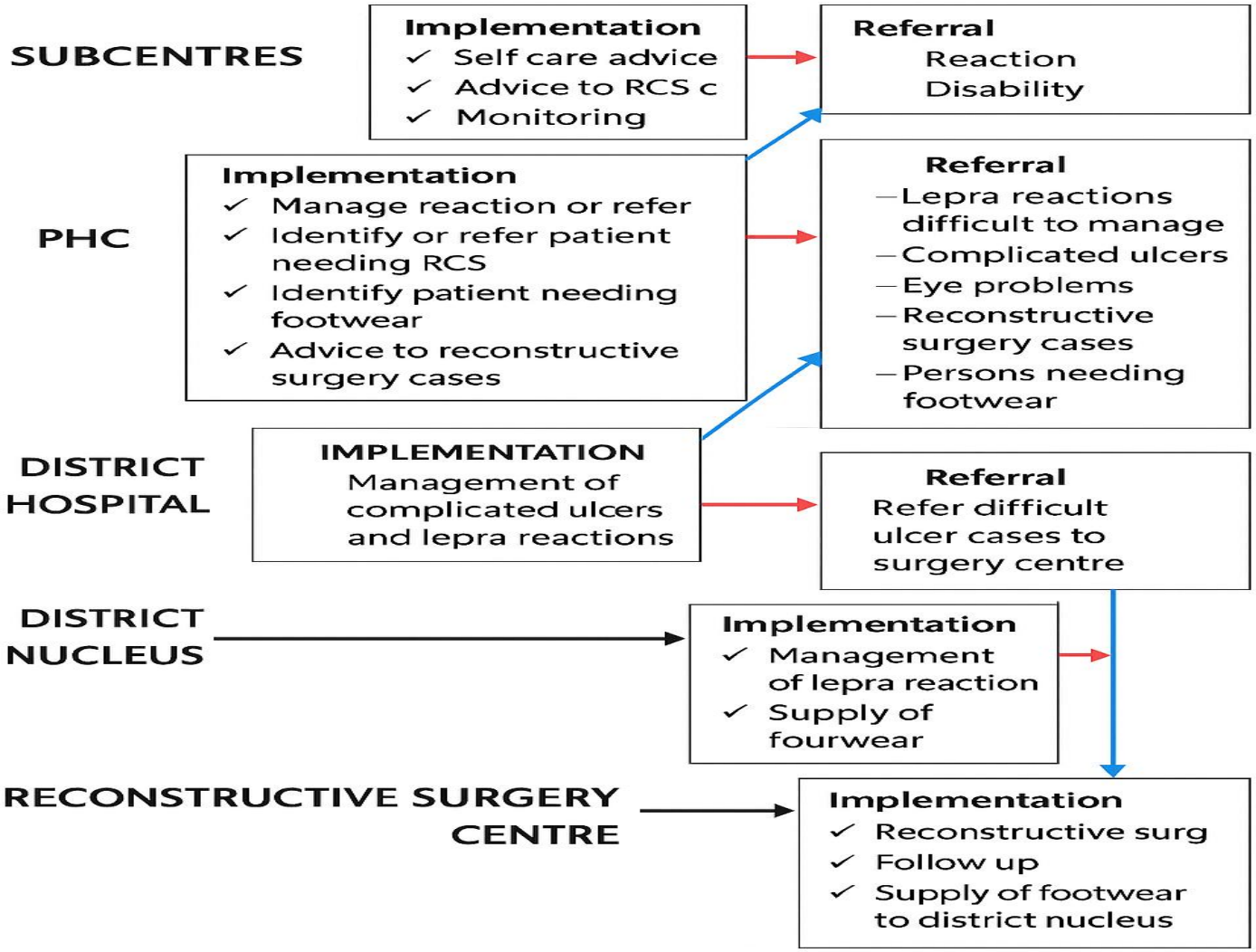
II. 386 DPMR clinics have been strengthened (DHH-32, SDH - 33 CHC-314 & Urban CHC-7)

III. Monday is declared as Leprosy day, where in all the services are provided to the patients.

IV. DPMR referral system is maintained starting from the subcentre to PHC followed by the District level

V. Odisha is one of the first states to have conducted RCS in all the district hospitals.

DPMR REFERRAL MECHANISM



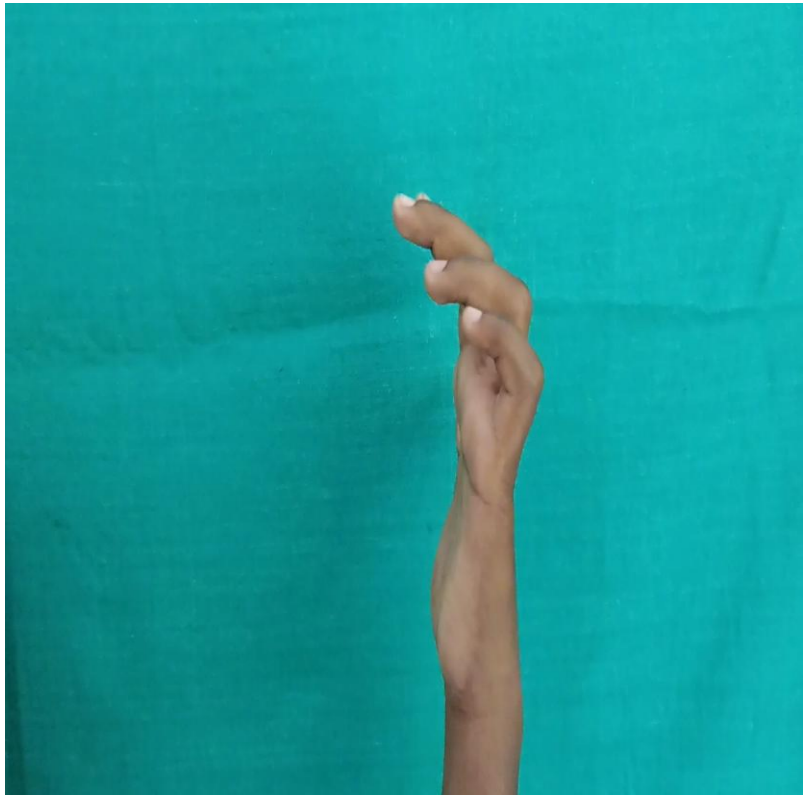
DPMR Status

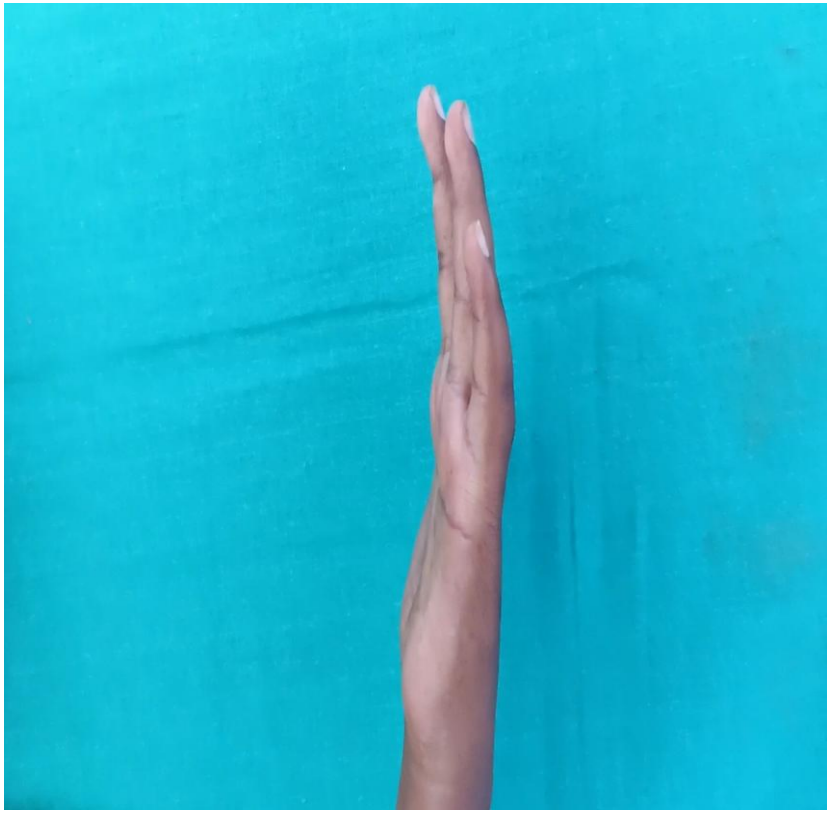
Details	2023-24	2024-25	2025-26 (Sept.)
Identified Hospitals for RCS in the State/UT	31	31	31
G2D cases eligible for RCS	146	93	42
Backlog of Eligible RCS cases awaiting surgery	-	-	-
Number of RCS conducted	146	93	18
Welfare allowance for RCS cases No. of RCS undergone patients paid incentives / loss of wage after RCS	146	93	16
No. of patients remaining to be paid incentives/wage loss after RCS	-	-	02
No. of MCR Footwear distributed	8493	8815	3258
No. of Self-care Kit Distribution	13753	14339	6496

Success Stories

Case examples of successful reconstructive surgeries

Foot Drop case(Pre and Post RCS surgery





(Pre and Post surgery)

Pre and Post Surgery Lagopthalmus case

Conclusion

- DPMR and reconstructive surgery are vital to achieving holistic leprosy care
- Focus on restoring function, dignity, and inclusion
- Bridging gaps requires collaboration, training, and commitment

THANK YOU

A world without leprosy
begins with awareness
and action.