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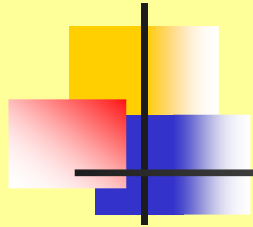
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Leprosy Scenario in India

Dr. Abha Aggarwal

Scientist F

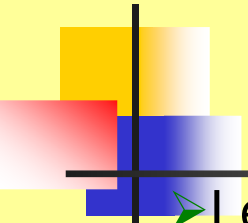
National Institute of Medical Statistics

Indian Council of Medical Research

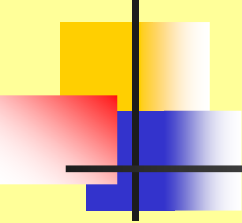
New Delhi-110029

INDIA

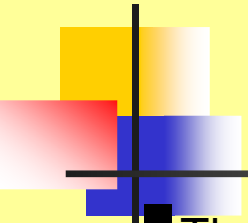
Introduction

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- Leprosy is a chronic infectious disease caused by *Mycobacterium leprae*.
 - It mainly affects the skin and peripheral nerves, but has a wide range of clinical manifestations.
 - The disease is characterized by long incubation period (generally 5-7 years) and is classified as paucibacillary (PB) and multibacillary (MB) types, depending on the bacillary load.
 - From 1994 through 2013, more than 100,000 new cases are being detected annually globally, of whom maximum case load was from India

Global Scenario

- 
- According to Official figures from 115 countries show the global registered prevalence of leprosy at 189 018 at the end of March 2013 and, 232 857 reported new cases against 226 626 in 2012.
 - The global statistics show that 220 810 (95%) of new leprosy cases were reported from Asia and Africa while only 5% of new cases are from the rest of the world.
 - Most countries that were previously highly endemic for leprosy have achieved elimination target of < 1 case per 10,000 population at the national level and are intensifying their efforts at regional and district levels.
 - Pockets of high endemicity still remain in some areas of many countries but a few are mentioned as reference:
 - Angola, Bangladesh, Brazil, China, Democratic Republic of Congo, Ethiopia, **India**, Indonesia, Madagascar, Mozambique, Myanmar, Nepal, Nigeria, Philippines, South Sudan, Sri Lanka, Sudan and the United Republic of Tanzania.

11/22/2014



National Leprosy Eradication Program INDIA

- The National Leprosy Eradication Programme is a centrally sponsored Health Scheme of the Ministry of Health and Family Welfare, Govt. of India.
- The Programme is headed by the Deputy Director of Health Services (Leprosy) under the administrative control of the Directorate General Health Services Govt. of India.
- While the NLEP strategies and plans are formulated centrally, the programme is implemented by the States/UTs.
- The Programme is also supported as Partners by the World Health Organization,
- The International Federation of Anti-leprosy Associations (ILEP) and few other Non-Govt. Organizations.



Partners

- WHO
- Novartis
- State Governments
- ILEP
- Nippon Foundation/SMHF
- Other NGOs



Miles Stone of NLEP

- 1955 Govt. of India launched national leprosy control program with Dapsone
- 1970s- definite cure was identified (MDT) however National program remained with Dapsone
- 1982 wide use of MDT by WHO
- 1983 National leprosy eradication program was launched with the objective to arrest the disease activity in all the known cases of Leprosy.



Highly effective cure available

- Multidrug therapy (MDT)
 - Is a combination of 2 / 3 drugs (clofazimine, rifampicin, dapsona)
 - Cures patients in 6 months / 12 months depending on form of leprosy
 - Kills the leprosy bacilli and stops its transmission
 - Can be delivered under field conditions without special staff and institutions
 - Is available free of charge from WHO



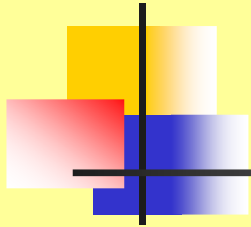
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- In view of the substantial progress achieved with MDT in 1991, World Health Assembly resolved to eliminate leprosy at a global level by the year 2000.
- 1993 world bank supported MDT program phase I
- 1997 mid term appraisal
- 1998-2004 modified leprosy elimination campaign

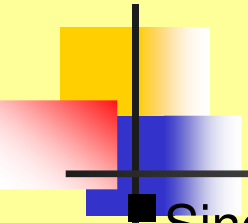


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- 2001-2004 NLEP project **phase II**
- 2002 simplified information system
- Nationwide evaluation of Project II
- NRHM covers NLEP
- 2005- India achieved elimination of leprosy as a public health program at National level
- The 'elimination' was defined as attaining a prevalence Rate (PR) of less than 1 case per 10,000 population



- There is a need to identify whether progress towards the goal of elimination is satisfactory, particularly at the State level.
- During 2009 ,a need was felt to estimate the incidence of leprosy to evaluate elimination at State level.
- NLEP desires to have a study to find whether any new cases of leprosy have developed or not.



■ Since no methodology for estimation was available due to large population coverage with huge cost involved, our Institute was invited to develop a survey methodology for estimation of disease burden of leprosy..

■ Inverse sampling was proposed and conducted on pilot basis in one high endemic district..

■ Inverse sampling was found to be effective for estimation of disease burden in terms of less population covered, less time consumed and cost effective.

■ A National level survey was conducted and found that ANDCR is much higher.

■ Govt. has taken steps and activated the program to reduce the new cases of leprosy by modifying the strategies for reduction.



Disease Burden

- Based on the reports received from all the states and UTs in India for the year of 2013-2014 current leprosy situation in the country has been observed as below.
 - A total of 1.27 lakh new cases were detected during the year 2013-14, which gives Annual New Case Detection Rate (ANCDR) of 9.98 per 100,000 population. This shows ANCDR reduction of 7.4% from 10.78% during 2012-2013.
 - A total of 0.86 lakh cases are on record as on 1st April 2014, giving a Prevalence rate (PR) of 0.68 per 10,000 population. This shows decrease in PR by 12.8% from 2012-13 (0.78).



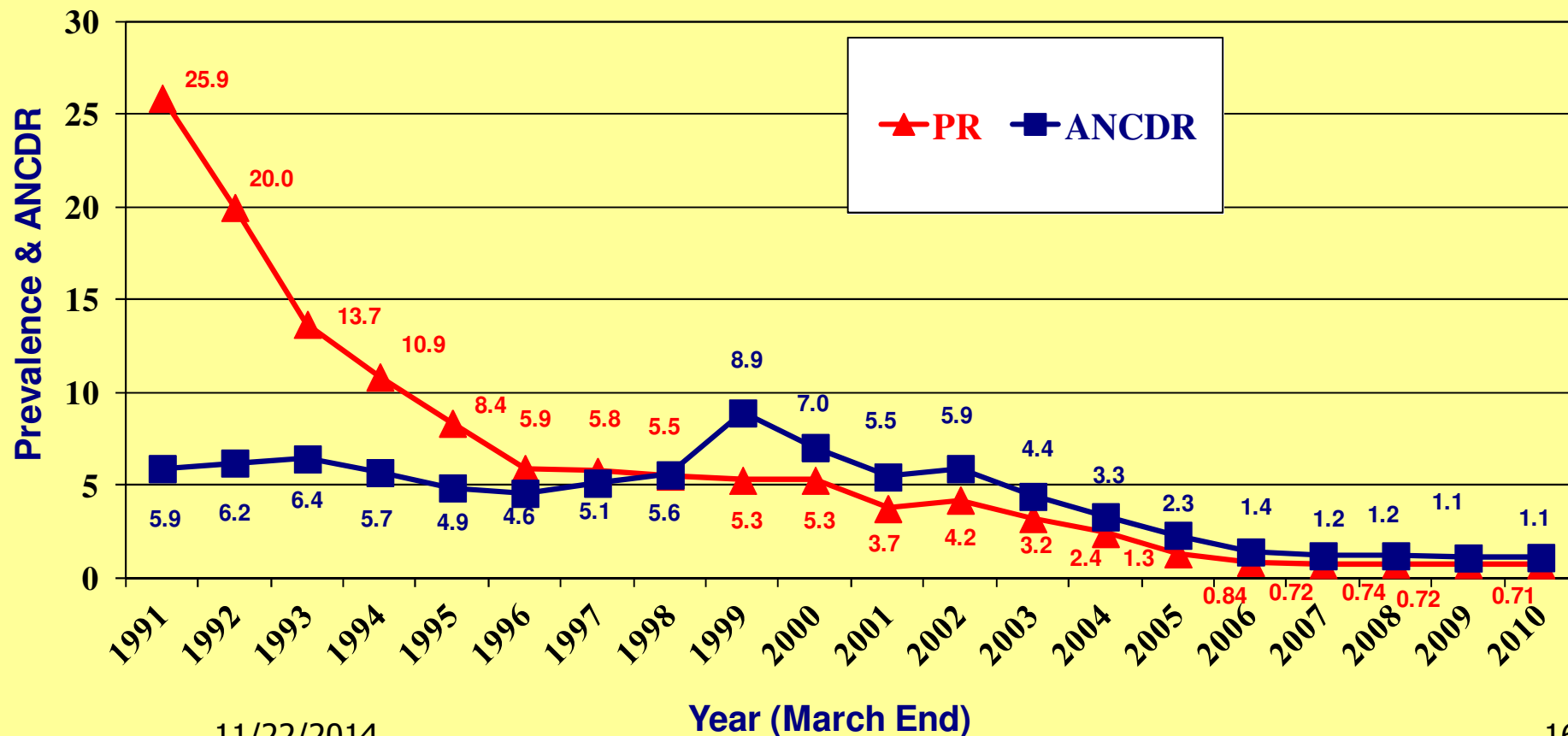
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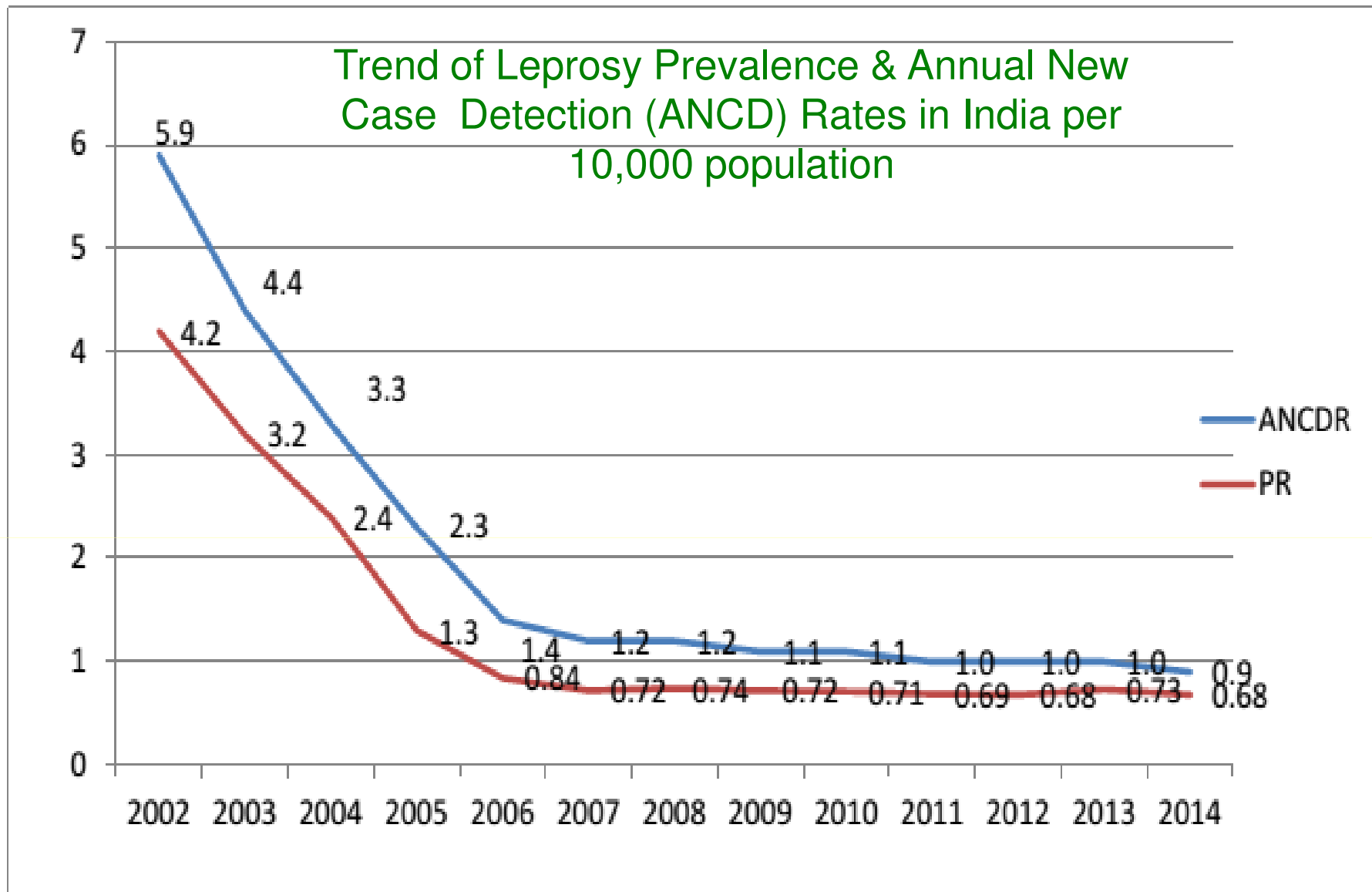
- Detailed information on new leprosy cases detected during 2013-14 indicates the proportion of MB (51.48%), Female (36.91%), Child (9.49%), Grade II Deformity (4.14%), ST cases (17.88%) and SC cases (18.03%).
- A total of 5256 Gr. II disability detected amongst the New Leprosy Cases during 2013-14,
- indicating the Gr. II Disability Rate of 41.3 / 100,000 population
- A total of 12043 child cases were recorded, indicating the Child Case rate of 0.95/100,000 population.
- This shows reduction in child case rate from the year 2012-13 (1.07) by 11.21%
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CURRENT LEPROSY SITUATION IN INDIA

Per/1,00,000 population

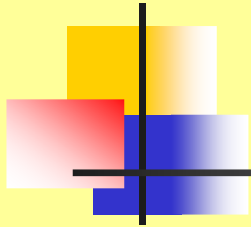
Trend of Leprosy Prevalence & Annual New Case Detection (ANCDR) Rates





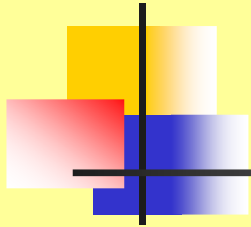
Note: The increase in new cases and prevalence during 2012-13 was attributable to the NLEP strategy to carry out extensive house to house survey for new case detection and to treat them with MDT to cut down the transmission potential in the future. In 2013-14, both PR and ANCDR have shown decreasing trend in spite of the extensive surveys carried out, covering both high and low endemic districts.

Status in the States/UTs



33 States/ UTs had already achieved the level of elimination i.e. PR less than 1 case per 10,000 population and they are:

Nagaland, Haryana, Meghalaya, Himachal Pradesh, Mizoram, Tripura, Punjab, Sikkim, Jammu & Kashmir, Assam, Manipur, Rajasthan, Kerala, Arunachal Pradesh, Daman & Diu, A & N Islands, Puducherry , Gujarat, Karnataka, Lakshadweep, Tamil Nadu, Andhra Pradesh, Uttarakhand, Madhya Pradesh, Maharashtra , Goa, Odisha , Uttar Pradesh, Delhi, Jharkhand, West Bengal, Chandigarh and Bihar.



Three other States/UT viz. Qdisha, Chandigarh and Lakshadweep which achieved elimination earlier have shown slight increase in P.R. (1-2), in the current year.

PB Child proportion was high in 4 States/UTs nemely (i) Bihar 11.04% (ii) D&N Haveli 21.88%, (iii) A&N Islands 12.50% and (iv) Puducherry 10.53%.

.No	State	% of Child leprosy
.	Andhra Pradesh	10.90
.	Maharashtra	12.70
.	Bihar	15.55
.	Goa	11.11
.	Puducherry	12.28
.	D&N Haveli	23.75
.	J&K	11.43
.	Punjab	12.96
.	Kerala	10.87
0.	Nagaland	10.13
1.	A&N Islands	15.63
2.	Sikkim	11.11
3.	Lakshadweep	15.38
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NATIONAL LEPROSY ERADICATION PROGRAMME

MONTHLY PROGRESS REPORT FOR THE YEAR 2013-14

SI no	State/UT	Percentage of New Cases Detected													
		MB		Female		Child						Schedule Tribe among New Cases		Schedule Caste	
						MB		PB		Total					
		No.	%	No.	%	No	%	No	%	Total	%	No.	%	No.	%
1	Andhra Pradesh	3782	53.21	2791	39.27	217	3.05	558	7.85	775	10.90	956	13.45	1788	25.15
2	Arunachal Pradesh	22	95.65	7	30.43	1	4.35	0	0.00	1	4.35	15	65.22	1	4.35
3	Assam	789	75.29	294	28.05	54	5.15	43	4.10	97	9.26	50	4.77	29	2.77
4	Bihar	7365	40.49	6882	37.84	820	4.51	2008	11.04	2828	15.55	237	1.30	4323	23.77
5	Chhattisgarh	4402	51.67	3269	38.37	178	2.09	365	4.28	543	6.37	1773	20.81	1343	15.76
6	Goa	54	75.00	37	51.39	4	5.56	4	5.56	8	11.11	0	0.00	0	0.00
7	Gujarat	4227	43.48	4648	47.81	220	2.26	687	7.07	907	9.33	6277	64.57	255	2.62
8	Haryana	465	74.76	132	32.00	6	0.96	8	1.29	14	2.25	17	2.73	45	7.23
9	Himachal Pradesh	134	83.23	41	25.47	2	1.24	2	1.24	4	2.48	1	0.62	24	14.91
10	Jharkhand	1967	48.92	1426	35.46	141	3.51	187	4.65	328	8.16	1247	31.01	680	16.91
11	Jammu & Kashmir	127	72.57	41	23.43	16	9.14	4	2.29	20	11.43	3	1.71	4	2.29
12	Karnataka	2171	62.64	1278	36.87	107	3.09	213	6.15	320	9.23	303	8.74	785	22.65
13	Kerala	521	66.62	213	27.24	18	2.30	67	8.57	85	10.87	0	0.00	0	0.00
14	Madhya Pradesh	4161	65.33	2219	34.84	192	3.01	188	2.95	380	5.97	1831	28.75	1041	16.34
15	Maharashtra	9421	57.45	7290	44.45	605	3.69	1478	9.01	2083	12.70	4742	28.91	2443	14.90
16	Manipur	8	66.67	6	50.00	1	8.33	0	0.00	1	8.33	6	50.00	0	0.00
17	Meghalaya	17	70.83	1	4.17	1	4.17	0	0.00	1	4.17	6	25.00	1	4.17
18	Mizoram	15	50.00	0	0.00	0	0.00	2	6.67	2	6.67	0	0.00	1	3.33
19	Nagaland	141	89.24	58	36.71	12	7.59	4	2.53	16	10.13	71	44.94	82	51.9
20	Odisha	4977	46.75	4120	38.70	261	2.45	647	6.08	908	8.53	3172	29.80	2094	19.67
21	Punjab	512	79.01	58	8.95	44	6.79	40	6.17	84	12.96	4	0.62	21	3.24
22	Rajasthan	955	88.51	294	27.25	17	1.58	4	0.37	21	1.95	115	10.66	164	15.20
23	Sikkim	10	55.56	7	38.89	1	5.56	1	5.56	2	11.11	3	16.67	2	11.11

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22

24	Tamil Nadu	2040	53.54	1118	29.34	57	1.50	292	7.66	349	9.16	62	1.63	513	13.46
25	Tripura	26	70.27	7	18.92	0	0.00	0	0.00	0	0.00	13	35.14	5	13.51
26	Uttar Pradesh	9315	41.28	7297	32.34	477	2.11	894	3.96	1371	6.08	129	0.57	5422	24.03
27	Uttarakhand	189	50.27	118	31.38	6	1.60	9	2.39	15	3.99	17	4.52	67	17.82
28	West Bengal	6466	70.89	2669	29.26	377	4.13	331	3.63	708	7.76	1305	14.31	1744	19.1
29	A & N Islands	14	43.8	16	50.00	1	3.13	4	12.50	5	15.63	0	0.00	0	0.00
30	Chandigarh	94	65.28	41	28.47	4	2.78	5	3.47	9	6.25	0	0.00	0	0.00
31	D & N Haveli	97	30.31	178	55.63	6	1.88	70	21.88	76	23.75	317	99.06	0	0.00
32	Daman & Diu	1	0.00	1	0.00	1	0.00	3	0.00	4	0.00	2	0.00	0	0.00
33	Delhi	829	72.40	261	22.79	38	3.32	31	2.71	69	6.03	0	0.00	0	0.00
34	Lakshadweep	3	23.08	6	46.15	2	15.38	0	0.00	2	15.38	13	100.00	0	0.00
35	Puducherry	20	35.09	21	36.84	1	1.75	6	10.53	7	12.28	0	0.00	3	5.3
	Total	69357	51.48	46845	36.91	3888	3.06	8155	6.43	12043	9.49	22687	17.88	22880	23.03

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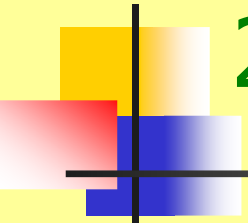
Year wise endemicity of districts on ANCDR basis

ANCDR/100,000	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
<10	394	405	431	444	443	459
10-20	159	144	132	122	119	115
>20-50	73	79	70	63	73	65
>50-100	4	5	7	11	13	16
>100	0	0	0	0	1	2
Total	630	633	640	640	649	657

Year wise Status Of Districts on PR basis

PR/10,000	2009	2010	2011	2012	2013	2014
<1	510	510	530	542	528	542
1-2	94	103	80	71	85	74
2-5	25	20	29	26	30	38
5-10	1	0	0	1	6	3
>10	0	0	1	0	0	0
Total 11/22/2014	630	633	640	640	649	657 25

Situation of States as per Prevalence- 2006 Vs 2014



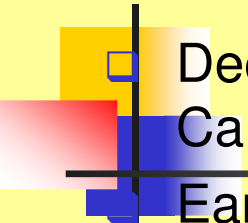
Year	Number of States having a PR of				
	<1	1 – 2	2 – 5	5 - 10	>10
2006	25	8	1	Nil	Nil
2014	30	3	2	Nil	Nil

Status of Districts endemicity as on March 2006 vs.2014 on PR basis

PR/10,000	2006		2014	
	No. Districts	%	No. Districts	%
<1	439	73.7	542	82.5
1-2	128	21.5	74	11.3
2-5	28	4.7	38	5.8
>5	1	0.1	3	0.4
Total	596		657	

11/22/2014

Elimination strategy in India



- Decentralized integrated leprosy services through General Health Care system.

- Early detection & complete treatment of new leprosy cases.

- Carrying out house hold contact survey in detection of Multibacillary (MB) & child cases.

- Early diagnosis & prompt MDT, through routine and special efforts

- Involvement of Accredited Social Health Activists (ASHAs) in the detection & complete treatment of Leprosy cases for leprosy work

- Strengthening of Disability Prevention & Medical Rehabilitation (DPMR) services.

- Information, Education & Communication (IEC) activities in the community to improve self reporting to Primary Health Centre (PHC) and reduction of stigma.

- Intensive monitoring and supervision at Primary Health Centre/Community Health Centre.



Treatment

- **Multibacillary (MB) leprosy**
 - For adults the standard regimen is: Rifampicin: 600 mg once a month Dapsone: 100 mg daily Clofazimine: 300 mg once a month and 50 mg daily Duration= 12 months.
- **Paucibacillary (PB) leprosy**
 - For adults the standard regimen is: Rifampicin: 600 mg once a month Dapsone: 100 mg daily Duration= six months
- **Single Skin Lesion Paucibacillary leprosy**
 - For adults the standard regimen is a single dose of: Rifampicin: 600 mg Ofloxacin: 400 mg Minocycline: 100 mg

MDT Dose for Multi-bacillary Leprosy

Adult	Child 10-14 yrs.	Child 6-9 yrs.
Day 1	Day 1	Day 1
Supervised monthly treatment	Supervised monthly treatment	Supervised monthly treatment
<i>Rifampicin 600mg</i>	<i>Rifampicin 450mg</i>	<i>Rifampicin 300mg</i>
Clofazimine 300mg	Clofazimine 150mg	Clofazimine 100mg
Depsonsone 100mg	Depsonsone 50mg	Depsonsone 25mg
Day 2-28	Day 2-28	Day 2-28
Daily Clofazimine 50 mg	Clofazimine 50 mg	Clofazimine 50 mg
Daily Depsonsone 100mg	Depsonsone 50mg	Depsonsone 25mg

Regimen of three drugs – Rifampicin, Clofazimine and Dapsone for 12 months; first dose of each month to be given in presence of HW.

Multi- drug therapy(MDT) for paubacillary leprosy

Adult	Child 10-14 yrs.	Child 6-9 yrs.
Day 1	Day 1	Day 1
Supervised monthly treatment	Supervised monthly treatment	Supervised monthly treatment
Rifampicin 600mg	Rifampicin 450mg	Rifampicin 300mg
Dapsone 100mg	Dapsone 50mg	Dapsone 25mg
Day 2-28	Day 2-28	Day 2-28
Daily Dapsone 100mg	Dapsone 50mg	Dapsone 25mg

Regimen of two drugs – Rifampicin and Dapsone for 6 months provided in blister packs

EPIDEMIOLOGICAL STATUS FOR 2005-2010

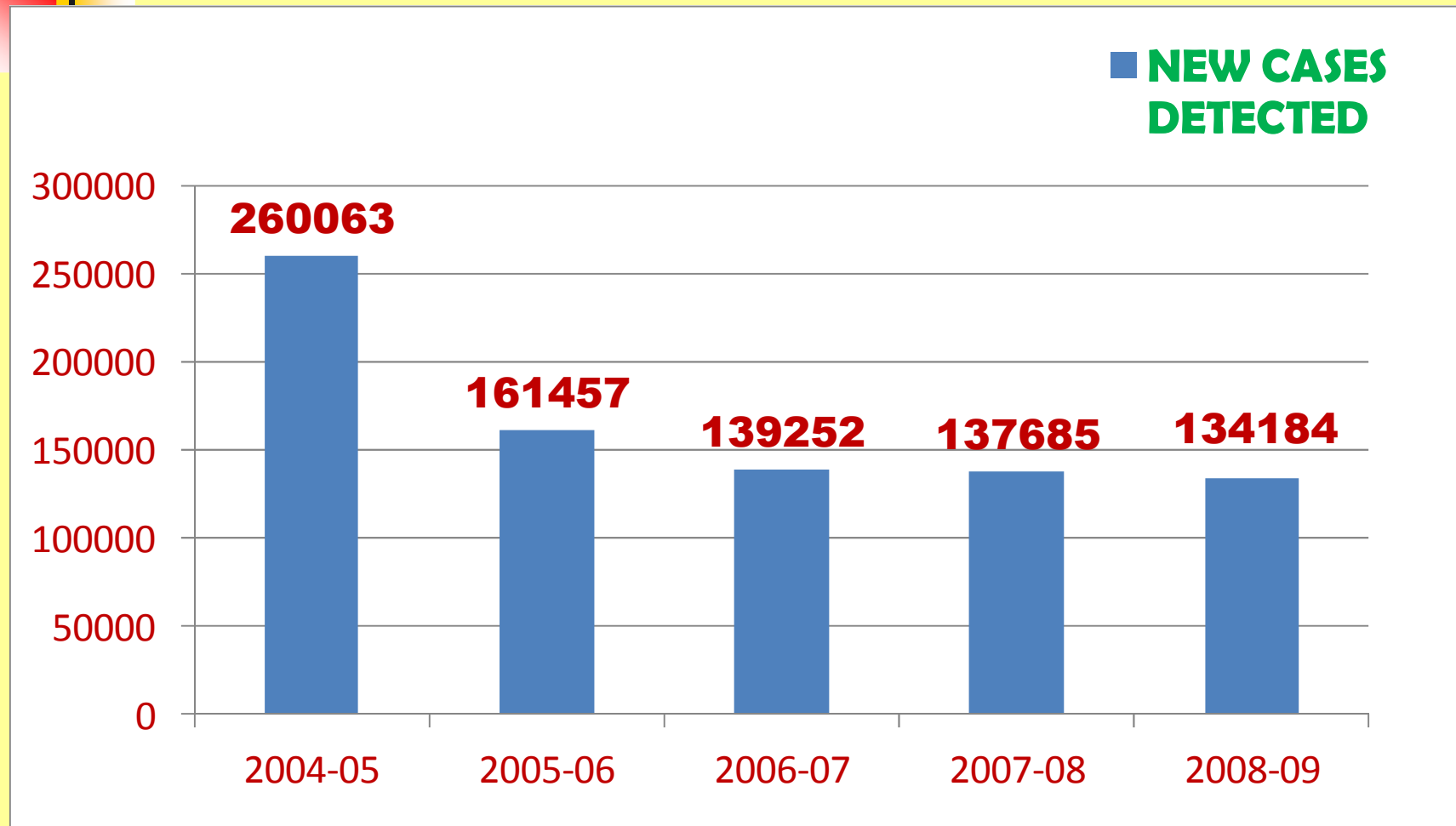
Year	New Cases Detected	ANCDR per 10,000	Cases on record	PR per 10,000	Grade II Disability	Disability %
2005-06	161457	14.27	95150	0.84	3015	1.87
2006-07	139252	12.07	82801	0.72	3130	2.25
2007-08	137685	11.70	87228	0.74	3477	2.53
2008-09	134184	11.19	86331	0.72	3763	2.80
2009-10	133717	10.93	87190	0.71	4117	3.08

EPIDEMIOLOGICAL STATUS FOR LAST 5 YEARS

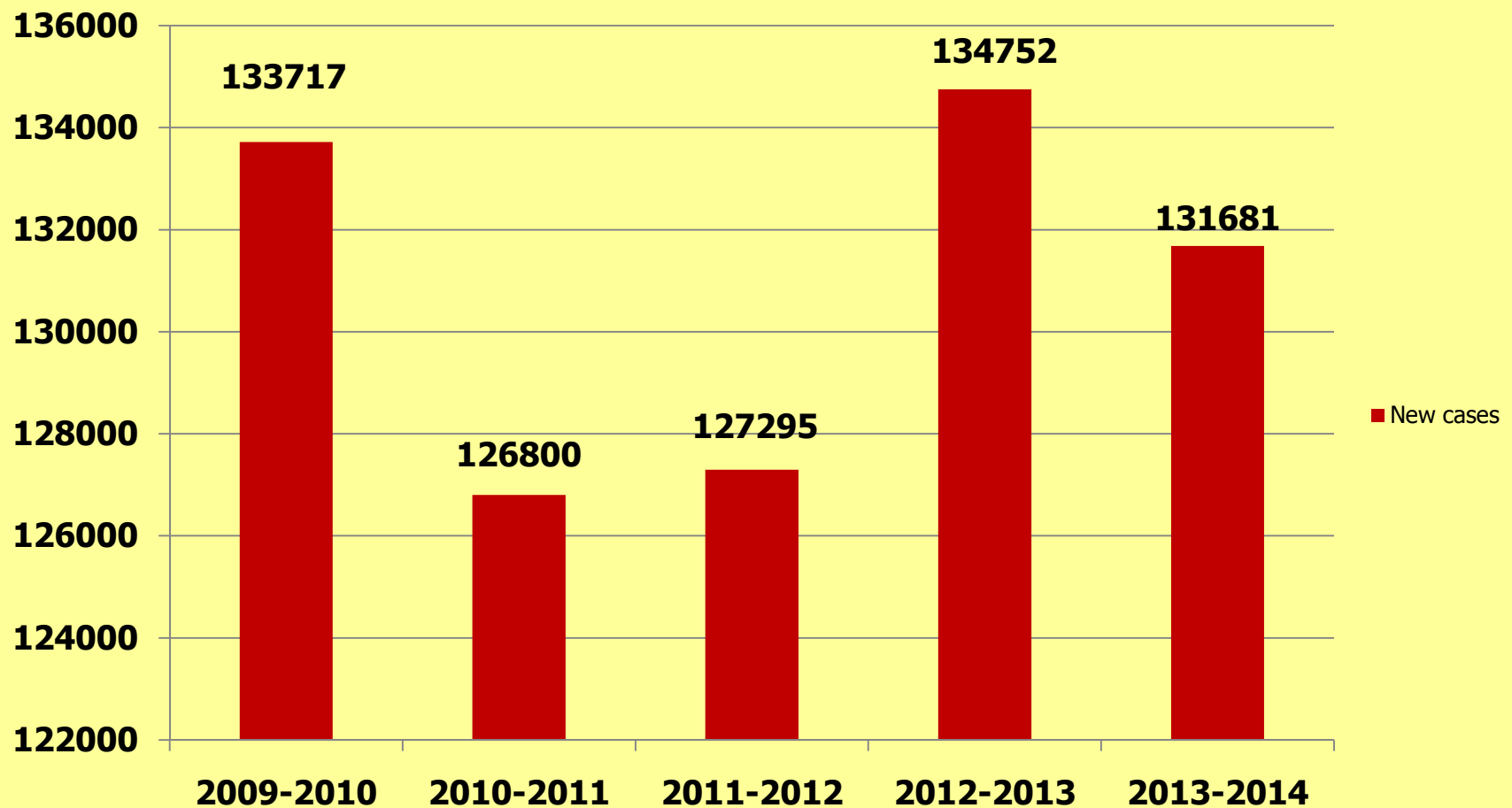
Year	New Cases Detected	ANCDR per 10,000	Cases on record	PR per 10,000	Grade II Disability	Disability %
2009-10	133717	10.93	87190	0.71	4117	3.08
2010-11	126800	10.48	870000	0.71	3927	3.24
2011-12	127295	10.35	83000	0.69	3927	3.10
20112-13	13452	10.78	92000	0.68	4650	3.72
2013-14	126900	9.98	86000	0.73	5256	4.13

11/22/2014

NEW CASES DETECTED AT NATIONAL LEVEL (Annual)



NEW CASES DETECTED AT NATIONAL LEVEL (ANNUAL)



11/22/2014



New Paradigm in NLEP

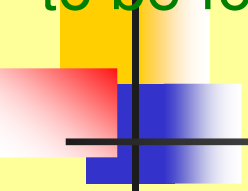
- Post elimination, NLEP needs to expand the scope of leprosy services provided to patients, their families and community. Govt. of India has approved the 12th Plan (2012-13 to 2016-17) with the objectives
- Elimination of leprosy i.e. prevalence of less than 1 case per 10,000 population in all districts of the country.
- Strengthen Disability Prevention & Medical Rehabilitation of persons affected by leprosy.
- Reduction in the level of stigma associated with leprosy.



Targets

Indicators	Baseline (2011-12)	Target March 2017
■ Prevalence Rate (PR) < 1/10,000	543 Districts (84.6%)	642 Districts (100%)
■ (ANCDR) <10/100,000 population	445 Districts (69.3%)	642 Districts
■ Cure rate Multi Bacillary Leprosy cases (MB)	90.56%	>95%
■ Cure rate Pauci Bacillary Leprosy Cases (PB)	95.28%	>97%
■ Gr.II disability rate in percentage of New cases reduction	3.04%	35% (1.98%)

To achieve the objectives of the 12th plan, the main strategies to be followed are:



- Integrated leprosy services through General Health Care system.
- Early detection & complete treatment of new leprosy cases.
- Carrying out house hold contact survey for early detection of cases.
- Involvement of Accredited Social Health Activist (ASHA) in the detection & completion of treatment of Leprosy cases on time.
- Strengthening of Disability Prevention & Medical Rehabilitation (DPMR) services.
- Information, Education & Communication (IEC) activities in the community to improve self-reporting to Primary Health Centre (PHC) and reduction of stigma.
- Intensive monitoring and supervision at block Primary Health Centre/Community Health Centre.



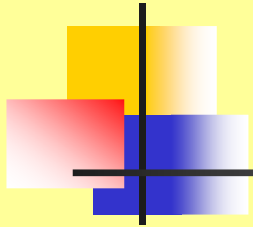
...but some challenges remain

- Leprosy remains a public health problem in 2 States and 99 districts
- Poor coverage with MDT services in some difficult to reach areas
- Hidden cases who continue to spread the infection
- Late detection of patients, many with visible deformities
- Poor treatment completion and cure
- Fear, prejudice and stigma surrounding leprosy
- Limited community awareness and involvement



Challenges contd..

- Decreasing expertise/resource persons
- Services for complication management
- Low priority/competitive other health programs
- Emerging drug resistance



Thank you



Disability prevention and medical rehabilitation plan

Objectives of the rehabilitation plan:

1. Persons with lepra reactions are adequately managed so as to prevent occurrence of disabilities.
2. Persons with disabilities due to leprosy are assisted with care and support to prevent worsening of their existing disabilities
3. Persons with deformities suitable for correction are provided reconstructive surgery services through specialized centers managed by government and voluntary organizations.



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