Chapter 9 Performance Indicators

The impact of NRHM would largely be reflected through performance indicators, such as the TFR, IMR, MMR, the position of institutional deliveries, status of immunization, availability and use of contraceptives – both termination and spacing, number of OPD and IPD patients etc. While the GOI has fixed overall targets for the country and the States to be achieved during the Mission period, the SHS has not fixed the year wise targets for the districts, to enable monitoring and corrective action where necessary. In the absence of year wise targets for the State and districts level for impact and performance assessment the progress achieved in implementation of the programme cannot be assessed with any level of accuracy.

9.1 Maternal Health

The TFR of the State as per Census 2001 was 2.4 compared to the national average of 2.7. The IMR and MMR were 68 and 490 compared to the national average of 58 and 301 respectively. Implementation of various components of maternal and child health care is discussed below:

9.1.1 Antenatal care, registration and check ups

One of the major aims of safe motherhood is to register all the pregnant women within 12 weeks of pregnancy and provide them with services like four antenatal check ups, 100 days Iron Folic Acid (IFA) tablets, two doses of Tetanus Toxoid (TT), advice on the correct diet and vitamin supplements and in case of complications, refer them for more specialized gynaecological care. Early detection of complications during pregnancy through the prescribed anti-natal checkups is an important intervention for preventing maternal mortality and morbidity. However, records of ante-natal checkups were not maintained properly in any of the sampled health centres. Details of registration as well as the Maternity and Child Health (MCH) register were not maintained systematically, although registration of pregnant women and antenatal care had increased over the period of implementation of NRHM, as revealed during discussion with the Medical Officers (MOs), in charge of the centres test checked. Sound reporting system from CHCs, PHCs and SCs to the DHS was also absent.

While admitting the facts, the Department stated (January 2009) that the position is being improved and rectified.

9.1.2 Iron Folic Acid Administration

Anaemia is considered as the leading cause of maternal mortality. The RCH-II programme therefore emphasized administration of IFA tablets for pregnant women for a period of 100 days. The details of pregnant women provided with IFA tablets in the State as a whole were as follows:

Table: 16

Year	No. of pregnant women registered at all the health centres	No. of pregnant women who received 100 days of IFA tablets
2005-06	6,77,812	76,160
2006-07	5,89,897	82,842
2007-08	6,42,535	4,64,022
Total	**19,10,244**	**6,23,024**

Source: - Data furnished by DHS (FW)

In the sampled districts, the status of pregnant women who received IFA tablets was as shown in Table:

Table: 17

Name of the District	Year	No. of pregnant women registered	No. of registered pregnant women who were administered IFA tablets	
			Prophylaxis	Therapeutic
Nagaon	2005-06	57,849	32,957	11,635
	2006-07	53,493	4,880	2,878
	2007-08	47,012	6,721	1,390
Nalbari	2005-06	29,672	11,223	4,763
	2006-07	30,834	10,013	5,854
	2007-08	29,464	17,995	7,630
Sivasagar	2005-06	19,959	16,489	3,470
	2006-07	25,055	9,681	2,016
	2007-08	20,899	5,739	194
Lakhimpur	2005-06	7,536	--	--
	2006-07	17,692	--	--
	2007-08	22,783	8,417	
Karbi-Anglong	2005-06	15,495	2,093	6,083
	2006-07	19,923	9,357	3,128
	2007-08	20,918	6,525	2,515
Total	**2005-06**	**1,30,511**	**62,762**	**25,951**
	2006-07	**1,46,997**	**33,931**	**13,876**
	2007-08	**1,41,076**	**45,397**	**11,729**

Source: - Data furnished by DHS (FW)

As can be seen from the above table, the number of pregnant women, who were provided with the prescribed level of IFA tablets-both in the sampled districts as well as the State as a whole-was woefully inadequate. While the shortfall in this regard ranged from 32 to 67 per cent during 2005-08 in the sampled districts, it was 28 to 89 per cent during the period for the State overall.

While accepting (January 2009) the facts, the Department attributed the low coverage to inadequate supply of IFA tablets. The reply is not acceptable, as it was the Department's responsibility to ensure that adequate quantity of drugs are procured on a timely basis.

9.1.3 Tetanus Toxoid Immunisation

To immunize the mother and neonates from tetanus, two doses of tetanus toxoid have been prescribed for all pregnant women. As per the information provided by the Joint Director of Health Services (UIP), 5,99,344, 6,52,089 and 6,35,384 lakh women were fully immunized from tetanus during 2005-06, 2006-07 and 2007-08 respectively, against the target of 8,19,403, 7,17,747 and 8,48,430 lakh for these years respectively, in the State.

Details of immunization against tetanus in respect of the sampled districts is shown below:

Table: 18

District	2005-06		2006-07		2007-08		Total	
	Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
Nagaon	67,576	48,267	70,794	48,812	71,291	62,350	2,09,661	1,59,429
Nalbari	37,078	28,738	39,679	30,351	35,383	23,975	1,12,140	83,064
Sivasagar	33,297	17,486	36,214	18,345	32,375	20,807	1,01,886	56,638
Lakhimpur	27,860	22,202	31,218	25,760	27,379	24,061	86,457	72,023
Karbi Anglong	24,796	13,327	23,768	18,535	25,061	15,367	73,625	47,229
Total	**1,90,607**	**1,30,020**	**2,01,673**	**1,41,803**	**1,91,489**	**1,46,560**	**5,83,769**	**4,18,383**

Source: - Data furnished by DHS (FW)

As can be seen from the above table, in three[1] districts, the achievement vis-à-vis target was fairly high varying from 74 *per cent* to 83 *per cent* while in two[2] districts, the achievement ranged from 56 *per cent* and 64 *per cent*.

The reasons for lower achievement in two districts were neither on record nor stated by the Department.

9.1.4 Institutional delivery care

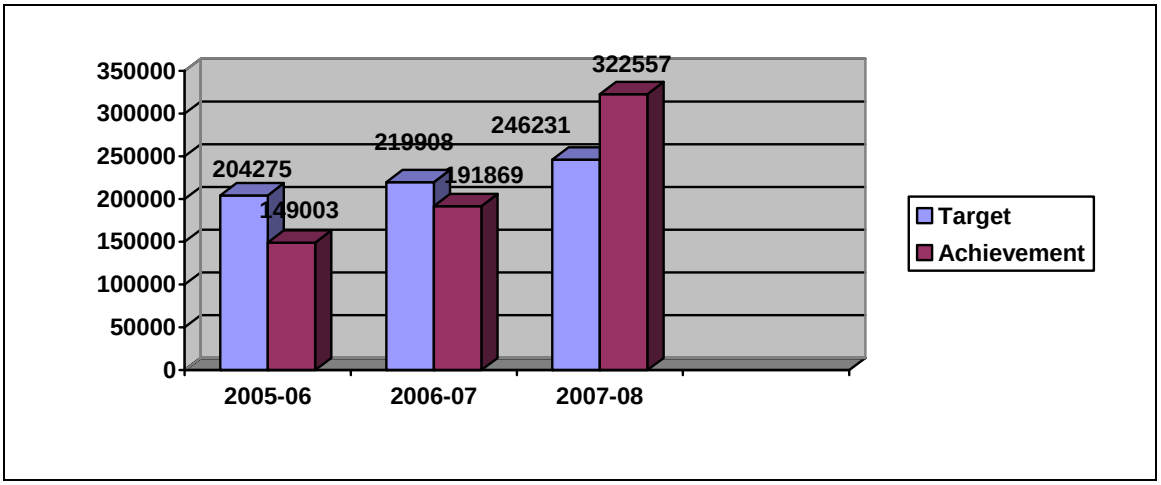
NRHM, with its programme of RCH-II, aims to encourage the prospective mothers to undergo institutional deliveries. To encourage institutional delivery, the Janani Suraksha Yojana (JSY) was launched to provide all pregnant women cash assistance of Rs.1,400/- irrespective of their age and number of previous deliveries and Rs.600/- to ASHA per case for bringing pregnant women to the health centre.

Campaign for institutional delivery at Manja PHC

The targets for institutional deliveries in the State and the achievement thereagainst during 2005-08 is given below:

[1] Nagaon, Nalbari and Lakhimpur.
[2] Sivasagar and Karbi-Anglong.

Chart No.7



Source: Data supplied by SHS

As can be seen from the chart above, the achievement with regard to institutional deliveries was 70, 87 and 147 *per cent* of the target. The status of domiciliary deliveries for the State as a whole for the above period is not available. Thus, the percentage of institutional deliveries has been increasing over the period of implementation of NRHM, which is encouraging.

This is also evident from the status of pregnant women who had institutional/ domiciliary deliveries as verified from the Maternity and Child Health Registers in the sampled districts as shown below:

Table: 19

Year	No. of pregnant women registered	Institutional deliveries	Domiciliary deliveries
2005-06	1,30,511	22,824	39,658
2006-07	1,46,997	43,352	36,576
2007-08	1,41,076	80,082	25,830

Source: - Data collected from DHS

The table above confirms that institutional deliveries were on the rise compared to domiciliary deliveries, as envisaged by NRHM.

According to the Facility Survey, out of a total of 912 PHCs, only 227 PHCs had the facility of 24 X 7 delivery services. The facility assessment at 29 PHCs revealed that the facility of 24 hour delivery services was available only at 18 PHCs. The reasons for non-availability of delivery services was attributed by the Department to absence of medical officers, staff nurses, labour room etc. at the PHCs.

9.1.5 Obstetrics care

Essential obstetrics care includes antenatal care, supply of essential obstetric drugs, neonatal resuscitation, equipment for newborns etc. Scrutiny revealed that out of 58 SCs,

29 PHCs and 14 CHCs, equipment for neonatal care and neonatal resuscitation were available only in 14 PHCs and 5 CHCs and none of the 58 SCs.

Of the 108 CHCs in the State, 29 were upgraded as First Referral Units (FRU). Out of the 14 sampled CHCs, in 4 CHCs, emergency obstetric care including the facility of caesarean section was not available. This was due to the absence of specialists in obstetrics and gynaecology, anaesthesist, non-functional operation theatre, lack of adequate infrastructure, support staff, blood storage facility etc. as brought out in paragraph 6.2.

9.1.6 Postnatal care

Postnatal care includes immunization, monitoring the weight of the child, physical examination of the mother, advice on breast-feeding, family planning etc. The health centres in the sampled districts failed to furnish the information regarding postnatal care provided. It is therefore presumed that proper attention was not paid to postnatal care. The rate of postnatal care in the State as a whole, however, was 13.8 *per cent* in 2005-06 (NFHS-3) compared to antenatal care of 36.3 *per cent* in the same year, which shows a drop out of cases from receiving services of ANC, to institutional delivery and postnatal care. This indicated that tracking of the registered pregnant women was not done adequately.

9.1.7 Referral services

The RCH-II programme included the scheme for lump sum assistance to Panchayats to transport pregnant women from BPL families from their residence to the health centre and back. During 2005-08, no fund was provided to Panchayats/VHSC for referral services. Out of the five sampled districts, while the expenditure details were not available in two[3] districts, in three[4] districts, Rs.1.64 crore were released for referral services. Out of this amount, only Rs.40.07 lakh was utilized by various health centres, primarily by Block Public Health Centres, and Rs.1.24 crore remained unutilized.

Under the scheme, the referring centre should get feedback from the referral centres regarding the progress of treatment given by the specialists. In addition, records of such referred women should be maintained at all the levels and ANMs should visit the referred women every week during their antenatal, natal and postnatal periods for follow up. Scrutiny revealed that at 58 SCs, 29 PHCs and 14 CHCs test checked, registers for referral cases were not maintained and feedback from the referral centres was also not obtained.

9.1.8 Maternal / neonatal mortality

One of the most important goals of NRHM is bringing down the Maternal Mortality Rate (MMR) to 100 per 1,00,000 pregnant women by 2012.The rate of maternal deaths and neonatal deaths in the State was 490 and 68 respectively as per the Sample Registration System (SRS)-03 and SRS-06 respectively. The status of actual number of maternal deaths and neonatal deaths during 2005-08 was not available with the Sate Health Society.

[3] Karbi-Anglong ,Nagaon
[4] Nalbari, Sivasagar and Lakhimpur.

In the five sampled districts, the status of maternal deaths and neonatal deaths were available only in three districts[5] for 2005-06 and 2006-07 and four districts[6] in 2007-08 as shown below:

Table: 20

Year	No. of districts	No. of maternal deaths	No. of neonatal deaths
2005-06	3	189	119
2006-07	3	87	87
2007-08	4	74	130

Source: - Data collected from DHS

Conclusion

While there was considerable achievement in the areas of tetanus toxoid immunization and institutional delivery, the overall achievement in terms of maternal health was far from satisfactory since registration of pregnant women for systematic ante-natal check up and tracking was not in place. There was poor coverage of IFA administration due to inadequate supply of tablets; 24 X 7 delivery services were not in place; essential obstetrics care facilities were lacking in almost all the health centres. Thus maternal health care was not implemented effectively. The targets and performance indicators may require a re-look in a State like Assam, where the MMR and IMR is quite high compared to the national average.

Recommendation

Maternal health programme needs to be implemented in its entirety covering all the essential areas like registration, reporting and tracking of pregnancies, IFA administration, immunization, antenatal and postnatal care and referral matters etc.

9.2 Reproductive Healthcare

Reproductive health care is aimed at countering Reproductive Tract Infection (RTI) and Sexually Transmitted Infection (STI) and ensuring safe Medical Termination of Pregnancy (MTP).

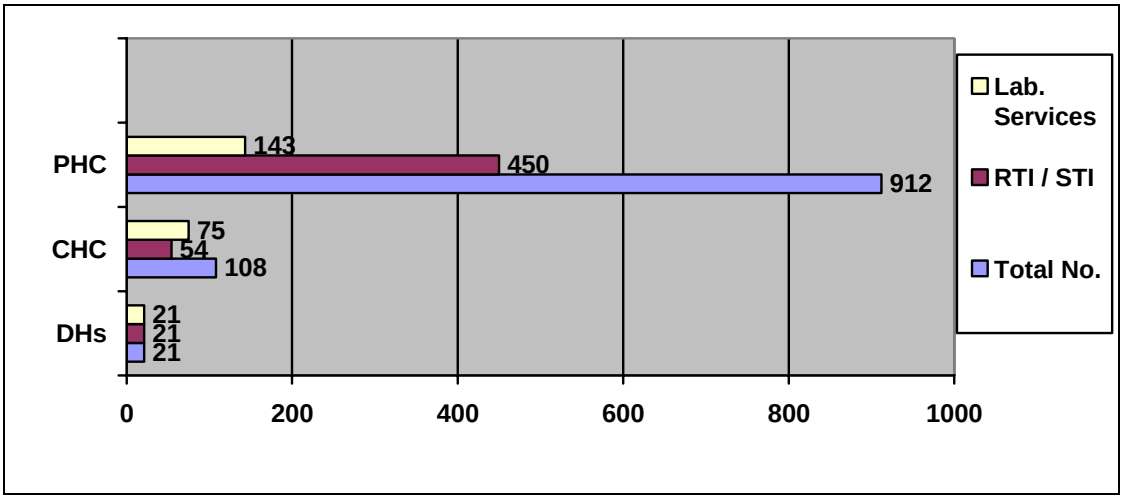
9.2.1 RTI and STI services

The RCH programme envisaged establishment of RTI and STI clinics in all the district hospitals and FRUs/CHCs.

Scrutiny revealed that RTI/STI management facilities were available at all 21 district hospitals. The status of availability of these facilities in the other health centres is given below:

[5] Karbi Anglong, Lakhimpur and Nagaon
[6] Karbi Anglong, Lakhimpur, Nagaon and Nalbari

Chart No.8



Out of 29 sampled PHCs in five districts, the RTI/STI facilities were available in 22 PHCs. In one district there was no laboratory technician and in 3 districts, there were no gynaecologists. In the five sampled districts, there were 59 laboratory technicians and 24 gynaecologists against the requirement of one laboratory technician and one gynaecologist in each of the five district hospitals, 29 CHCs and 229 PHCs. Due to partial availability of RTI/STI facilities in the health centres, the objective of management of such cases especially among women, remained unfulfilled.

9.2.2 Medical termination of pregnancy (MTP)

One of the important components of NRHM is to increase the number and quality of MTP. The programme envisaged need based training to medical officers and nurses, provision of equipments and operation theatre and MTP kits at district hospitals, CHCs and PHCs. As per the information provided by the SHS, 21 district hospitals, 64 CHCs and 188 PHCs had the MTP facilities.

In the sampled districts, 23 out of 27 CHCs and 64 out of 229 PHCs had the facility of MTP services. In 4 CHCs and 165 PHCs, MTP services were not available due to the absence of either the necessary equipment or trained doctors/nurses. Thus, availability of MTP services was not up to the mark in the health centres.

9.2.3 Spacing methods

Oral pills, condoms and intra-uterine device insertion are the three prevailing spacing methods of family planning to reduce the total fertility rate. The year wise details of targets and achievement in the use of spacing contraceptives in the State are shown below:

Table: 21

Year	IUD insertion		Oral pills cycle		Condom distribution	
	Target	Achievement	Target	Achievement	Target	Achievement
2005-06	NA	NA	NA	NA	NA	NA
2006-07	NA	3,256	60,600	37,766	NA	NA
2007-08	40,000	29,083	46,000	32,274	NA	23,029

Source: - Data furnished by DHS (FW)

Among the total spacing method users during 2007-08, 38 and 35 *per cent* accounted for IUD users and oral pills respectively, while around 27 *per cent* accounted for condom users.

Conclusion

RTI/STI facilities were not adequate in the health centres. MTP facilities were also inadequate and the DHSs do not have the complete details relating to the spacing methods adopted by the rural population. In the absence of such details, focused targeting of user groups would not be possible.

Recommendation

Adequate steps should be taken to provide better facilities to counter RTI and STD and also provide for MTP in the health centres.

9.3 Immunisation and child health

9.3.1 Routine Immunisation

Immunization of children against six preventable diseases viz. tuberculosis, diphtheria, pertussis, polio and measles etc., has been the cornerstone of routine immunization under the universal immunization programme. Tables 22-A and B give a summary of the targets and achievements under this programme.

Table: 22-A

Year	Target	Achievement				FI[7]
		BCG[8]	Measles	DPT[9]	OPV[10]	
2005-06	6,54,912	6,72,731	5,70,715	5,81,214	5,79,718	4,90,301
2006-07	7,17,747	7,02,868	6,12,258	6,21,956	6,37,402	5,38,014
2007-08	6,89,922	7,29,154	6,09,718	6,49,927	6,36,749	5,68,665
Total	**20,62,581**	**21,04,753**	**17,92,691**	**18,53,097**	**18,53,869**	**15,96,980**

Source: - Data furnished by DHS (FW)

Table: 22-B

Year	DT[11]		TT[12] (at the age of 10)		TT (at the age of 11 to 16)	
	Target	Achievement	Target	Achievement	Target	Achievement
2005-06	6,83,142	4,79,148	6,88,788	2,22,975	5,98,455	1,86,410
2006-07	7,07,850	4,88,001	7,13,700	3,41,981	6,20,100	2,71,439
2007-08	7,19,660	3,77,280	7,25,607	3,34,549	6,30,446	2,41,803
Total	**21,10,652**	**13,44,429**	**21,28,095**	**8,99,505**	**18,49,001**	**6,99,652**

Source: - Data furnished by DHS (FW)

The overall achievement of full immunization of children between 0 to 1 year age group covering BCG, Measles, DPT and OPV ranged from 75 to 82 *per cent* during 2005-08.

[7] Fully Immunised
[8] Bacillus of Calmette and Guerin
[9] Diptheria Pertusis Tetanus
[10] Oral Polio Vaccine
[11] Diptheria Tetanus
[12] Tetanus Toxoid

Besides, for secondary immunization, children in the age group of 5 to 6 years were required to be administered DT, and two doses of TT at the age of 10 and 16 respectively. The shortfall in achievement of the targets in the secondary immunization ranged from 30 to 48 *per cent* for DT, 52 to 68 *per cent* for TT (10) and 52 to 68 *per cent* for TT (16). In the sampled districts, targets were not fixed annually on the basis of the projected population. The status of targets and achievements for immunization in the districts are shown below:

Table: 23

Name of district	Year	Target for complete Immunization	Actual achievement				
			Up to one year (Complete course)	Above one and a half years (DPT & OPV booster)	Above five years (DT only)	Above 10 years (TT)	Above 16 years (TT)
Nagaon	2005-06	57,502	38,674	26,708	11,625	5,363	6,205
	2006-07	59,853	36,665	43,933	21,968	14,024	5,829
	2007-08	59,926	51,553	58,309	18,361	13,238	8,426
Nalbari	2005-06	31,866	26,024	12,233	12,058	8,256	6,385
	2006-07	33,546	25,794	29,847	6,327	9,412	3,012
	2007-08	29,742	21,078	26,704	4,025	4,138	4,100
Sivasagar	2005-06	28,688	18,864	20,408	15,079	8,589	4,906
	2006-07	30,617	18,821	20,135	8,022	8,552	5,925
	2007-08	27,214	20,670	24,667	14,610	4,906	5,920
Lakhimpur	2005-06	24,117	15,615	24,290	14,070	3,001	12,014
	2006-07	26,393	19,537	23,078	18,297	12,873	14,262
	2007-08	23,014	19,973	26,130	6,044	11,701	7,082
Karbi Anglong	2005-06	21,542	12,999	58,668	12,345	4,906	3,001
	2006-07	20,095	15,736	17,444	12,676	13,355	1,004
	2007-08	21,066	13,983	17,037	11,777	12,130	3,929
Total	**2005-06**	**1,63,715**	**1,12,176**	**1,42,307**	**65,177**	**30,115**	**32,511**
	2006-07	**1,70,504**	**1,16,553**	**1,34,437**	**67,290**	**58,216**	**30,032**
	2007-08	**1,60,962**	**1,27,257**	**1,52,847**	**54,817**	**46,113**	**29,457**

Source: - Data furnished by DHS (FW)

The above data indicates wide inter-district variations in achievement of immunization targets. Inadequate supply of vaccines was the main reason for shortfall in achievement, which resulted in prevalence of vaccine preventable infant and child diseases in the sampled districts, as shown below:

Table: 24

Name of District	Year	Number of cases				
		Neonatal tetanus	Diphtheria	Tetanus	Whooping cough	Measles
Nagaon	2005-06	2	4	2	0	545
	2006-07	0	0	0	0	150
	2007-08	5	26	5	0	547
Nalbari	2005-06	0	0	0	9	267
	2006-07	0	0	0	0	413
	2007-08	0	0	0	6	319
Sivasagar	2005-06	0	3	0	0	34
	2006-07	0	0	0	0	57
	2007-08	0	0	0	0	118
Lakhimpur	2005-06	1	0	1	0	812
	2006-07	0	0	0	0	934
	2007-08	5	0	5	0	1494

Karbi-Anglong	2005-06	0	0	0	0	479
	2006-07	0	0	0	0	370
	2007-08	0	2	0	0	172
Total	**2005-06**	**3**	**7**	**3**	**9**	**2137**
	2006-07	**0**	**0**	**0**	**0**	**1924**
	2007-08	**10**	**28**	**10**	**6**	**2650**

Source: - Data furnished by DHS (FW)

During the exit conference, the Department stated that immunization dosage was given to the actual target groups rather than projections. However, in the absence of any authentic documents in this regard, the Department's contention could not be verified.

9.3.2 Pulse polio immunization

In pursuance of the World Health Assembly Resolution of 1988, in addition to the Universal Immunisation Programme, Pulse Polio Immunisation (PPI) was launched in 1995-96 to cover all the children below the age of five years to eradicate polio and ensure zero transmission by the end of 2008.

The year wise details of polio cases in the State during the review period are tabulated below.

Table: 25

Year	No. of new Polio cases	No. of children given Polio drops	
		Target	Achievement
2005-06	Nil	46,66,527	45,45,186
2006-07	2	46,78,538	45,08,353
2007-08	Nil	47,38,280	45,72,881
Total	**2**	**1,40,83,345**	**1,36,26,420**

Source: - Data furnished by DHS (FW)

The details of polio cases and immunization in the sampled districts are shown below. Targets were, however, not set as regards the number of children to be administered the required dosage.

Table: 26

District	Year	No. of new Polio cases	No. of children given Polio drops	
			Target	Achievement
Nagaon	2005-06	Nil	Not set	58,668
	2006-07	Nil		43,933
	2007-08	Nil		58,309
Nalbari	2005-06	Nil	Not set	27,829
	2006-07	Nil		30,248
	2007-08	Nil		27,914
Sivasagar	2005-06	Nil	Not set	24,310
	2006-07	Nil		21,056
	2007-08	Nil		24,667
Lakhimpur	2005-06	Nil	Not set	18,502
	2006-07	Nil		24,119
	2007-08	Nil		26,130

Karbi-Anglong	2005-06	Nil	Not set	12,233
	2006-07	Nil		18,523
	2007-08	Nil		17,037
Total	**2005-06**	Nil		**1,41,542**
	2006-07	Nil		**1,37,879**
	2007-08	Nil		**1,54,057**

Source: - Data furnished by DHS (FW)

While the overall achievement of PPI was about 97 *per cent* in the State as a whole, in the sampled districts, the achievement ranged from 12,223 to 58,668 during 2005-08. There were no new cases of polio in the sampled districts.

9.3.3 Vitamin A solution

RCH-II programme emphasized administration of Vitamin A solution for all children less than 3 years of age. The first dose of Vitamin A should be administered at 9 months of age alongwith measles vaccine, the second dose alongwith DPT/OPV, and subsequently three doses at six monthly intervals. In the five sampled districts, the status of achievement of administration Vitamin A solution is shown below.

Table: 27

District	Year	Target (FI)	Actual achievement		
			1st dose	2nd dose	3rd to 5th dose
Nagaon	2005-06	NA	11,620	19,201	12,632
	2006-07		18,094	11,612	15,429
	2007-08		18,094	11,612	15,429
Nalbari	2005-06	NA	18,240	8460	13201
	2006-07		15,744	15216	15386
	2007-08		13,601	11543	20079
Sivasagar	2005-06	NA	22,756	3,478	14,210
	2006-07		12,756	14,698	18,301
	2007-08		12,845	17,121	14,579
Lakhimpur	2005-06	NA	2,746	4,579	7,121
	2006-07		5,380	14,021	7,486
	2007-08		21,017	19,578	12,601
Karbi-Anglong	2005-06	NA	12,097	4,599	4,697
	2006-07		4,100	5,821	10,777
	2007-08		13,566	5,263	18,943
Total	**2005-06**		**67,459**	**40,317**	**51,861**
	2006-07		**56,074**	**61,368**	**67,379**
	2007-08		**79,123**	**65,117**	**81,631**

Source: - Data furnished by DHS (FW)

While specific targets for administration of Vitamin A solution were not set, the main reason for variation in achievement during 2005-08 when compared to the total number of children who had been given the 1st dose, was short supply of Vitamin A solution to the health centres. In addition, the Department stated (January 2009) that in view of certain probable death cases, Vitamin A was not forcefully administered in the State.

Conclusion

There was a wide variation among the districts with regard to achievement of targets for immunization. The overall achievement, especially secondary immunization was quite poor.

Recommendation

The targets fixed for immunization may be re-examined and the targets may be designed with zero tolerance to achieve universal immunization.

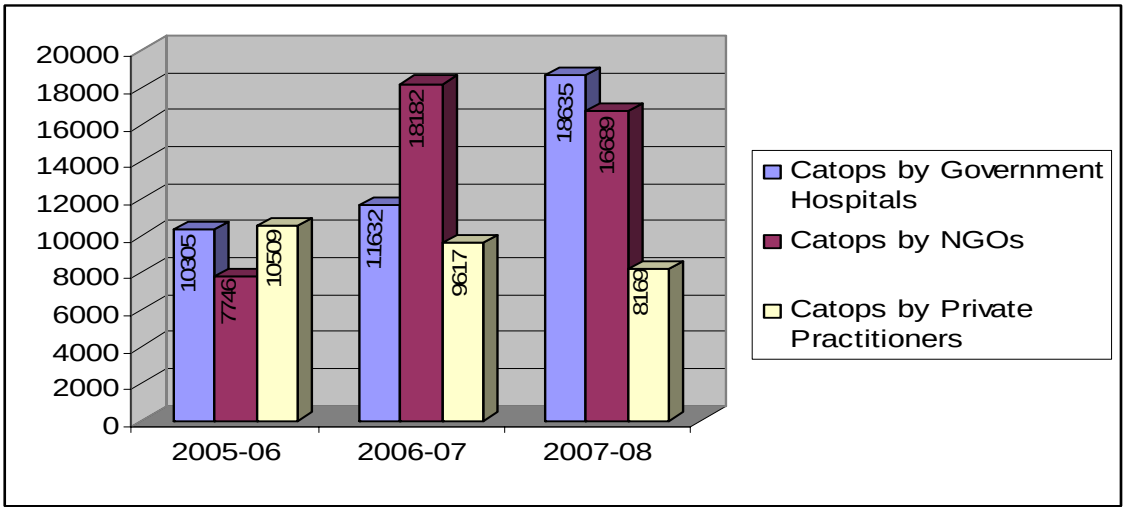
9.4 National Programme for Control of Blindness (NPCB)

The NPCB aimed at reducing the prevalence of blindness cases to 0.8 *per cent* by 2007 through increased cataract surgery (46 lakh by 2012), school eye screening and free distribution of spectacles, collection of donated eyes and creation of donation centres and eye banks and strengthening of infrastructure by way of supply of equipment and training of eye surgeons and nurses.

9.4.1 Cataract operations

Cataract operations are performed by the Government doctors in Government hospitals, by NGOs and private practitioners in clinics and eye camps. The status of cataract surgeries performed in the State is given below:

Chart No.9



The distribution of workload (catops to be performed) aimed at reducing blindness was expected to be shared equally by the private and public sectors. While the NGOs and private sector together carried out 57.15 to 70.50 *per cent* of the total number of Catops performed (1,11,484) during 2005-06 to 2007-08, the Government sector could perform only 29.50 to 42.85 *per cent* of the cataract operations.

The programme contemplated cataract operations (catops) performed in eye camps to be in the range of 20 *per cent*. The details of catops performed in the camps are given below:

Table: 28

Year	No. of catops performed		In camps as percentage of total
	Total	In camps	
2005-06	28,560	7,746	27.12
2006-07	39,431	18,182	46.11
2007-08	43,493	16,689	38.37
Total	**1,11,484**	**42,617**	**38.22**

Source: - Data furnished by Society for NPCB

From the above table it is seen that cataract operations in camps were performed far in excess of the norm.

9.4.2 Availability of Eye Surgeons

As per information provided by State Programme Officer (NPCB), there were 98 Eye Surgeons (as of April 2008) in various district hospitals, and other health centres (CHCs and PHC), out of which, 58 were operating Eye Surgeons including 49 trained surgeons. This indicates that 9 Eye Surgeons were performing catops without any training. Scrutiny, however, revealed that 13 out of the 49 trained Eye Surgeons were posted in various health centres where operation (catops) facilities were not available.

Further, out of 58 operating Eye Surgeons, 55 were posted in various district hospitals while 3 were posted in a PHC, CHC and in Government Ayurvedic College. Out of a total of 40 non-operating surgeons, including 13 trained, one was posted as Zonal Malaria Officer, 3 were posted in CHC and PHC but working in District Hospitals.

These indicated poor manpower management by the State.

9.4.3 Catops failure

In the 'Mega Eye Operation Camp' held at Regional Institute of Opthalmology, Guwahati during September to November 2006, 509 cataract operations were performed against the target of 5,000 cases. The authorities were compelled to stop operations in September 2006 due to the occurrence of post-operative endopthalmitis in 38 cases out of which, 35 cases had to be referred to Shri Sankardeva Netralaya, Chennai for further treatment. All these patients finally lost their vision and had taken recourse to law seeking compensation. This was evidently due to setting up of Mega Camp for the sake of fulfillment of the unrealistic targets set, without having proper infrastructure and logistic requirements for such a Camp.

9.4.4 Refractive errors and free distribution of spectacles

The programme envisaged training of teachers in Government and Government aided schools, for screening refractive errors among students and free distribution of spectacles to the students having refractive errors. As against the total number of 43,455[13] such schools in the State, only 16,898 teachers were trained during 2005-08. The number of free spectacles issued did not correspond to the students having refractive errors. During 2005-06, 2006-07 and 2007-08 288, 1,764 and 2,153 spectacles were distributed against the total detection of 2,499, 9,867 and 5,032 cases of refractive errors respectively.

[13] Higher Secondary (620), High (4629), Middle (8143) and Primary (30063) schools.

In the five sampled districts, out of 14,10,470 students in 11,651 schools, 1,56,913 students were screened during 2005-08 and 1,339 were provided with free spectacles against the detection of 4,416 cases of refractive errors.

9.4.5 Eye banks

Development of eye bank is an important activity to address corneal blindness. As of March 2008, only 4 eye banks were operational in the State out of which, 2 were in the Government sector and the other two in the voluntary sector. Further, none of the 21 district hospitals had facilities for eye donation. The performance of the eye banks is tabulated below:

Table: 29

Year	No. of eyes						
	Opening balance	Donated	Utilized	Transferred to other banks	Rendered unfit	Used for research	Closing balance
Government sector							
2005-06	NA	NA	NA	NA	NA	NA	NA
2006-07	-	19	17	-	-	-	-
2007-08	-	20	17	-	-	-	-
Total	-	39	34	-	-	-	-
Voluntary sector							
2005-06	NA	NA	NA	NA	NA	NA	NA
2006-07	-	81	49	-	-	-	-
2007-08	-	241	96	-	-	-	-
Total	**-**	**322**	**145**	**-**	**-**	**-**	**-**
Grand total	**-**	**361**	**179**	**-**	**-**	**-**	**-**

Source: - Data furnished by Society for NPCB.

Conclusion

Performance of catops both in Government and Private Sectors was poor primarily due to the non-availability of Eye Surgeons and infrastructure facilities in rural health centres.

Recommendations

- ***Eye Surgeons may be appointed in all the CHCs and trained appropriately in addition to providing infrastructural facilities in rural health centres for catops. To address corneal blindness, more eye banks may be established in the State.***
- ***School children should be screened at prescribed intervals to detect cases of refractive errors early and provide spectacles in a timely manner.***

9.5 Revised National Tuberculosis Control Programme (RNTCP)

The main objective of the RNTCP is to diagnose as many cases of TB as possible by detecting at least 70 *per cent* cases and ensure a cure rate of at least 85 *per cent* of smear positive cases through Direct Observed Treatment Short Course (DOTS).

9.5.1 Targets and achievements under RNTCP

The year wise details of targets and achievements under the RNTCP regarding sputum examination and case detection are given below:

Table: 30

Year	Sputum examination		Detection new Sputum '+' ve cases		
	Target	Achievement	Target (70% of sputum examination)	Achievement	
		Number		Number	*Per cent*
2005-06	2-3% of OPD attendants[14]	1,08,397	75,878	11,659	15.36
2006-07		1,22,353	85,647	13,785	16.09
2007-08		1,43,067	1,00,147	16,192	16.17

Source: - Data furnished by Society for RNTCP

The cure rate ranged between 78 and 81 *per cent* in the State against 85 *per cent* prescribed under RNTCP during 2005-08, which is encouraging. The details are shown below:

Table: 31

Year	TB patients registered	No. of cases evaluated	Cured/Treatment completed	Died	Treatment failure	Treatment discontinued	Transferred out
2005-06	21,224	21,224	17,115	1,008	378	2,488	235
2006-07	24,155	24,155	19,179	1,075	336	3,332	233
2007-08	26,581	26,581	20,624	1,117	339	4,314	187

Source: - Data furnished by Society for RNTCP

9.5.2 Availability of diagnostic facilities

As per NRHM framework, full treatment of tuberculosis is guaranteed at CHCs and PHCs. 92 out of 108 CHCs and 267 out of 912 PHCs were covered under the DOTS scheme of the programme.

Scrutiny of 14 CHCs and 29 PHCs revealed that full services like existence of DOTS centres having laboratory services for sputum examination etc. for treatment of tuberculosis were available in 12 CHCs and 7 PHCs. In 2 CHCs and 22 PHCs, full diagnostic services were not available due to non-availability of technician or microscope.

Conclusion

Detection of new sputum positive cases in the State was below the RNTCP goal of 70 per cent. While the cure rate was quite good, full facilities for tuberculosis treatment were not available in the CHCs and PHCs.

[14] OPD cases for the State were not available at SHS (NRHM).

Recommendation

The State Government should make available the full complement of diagnostic facilities at all the CHCs and PHCs and fix realistic targets for sputum examination.

9.6 National Vector Borne Disease Control Programme (NVBDCP)

The NVBDCP aims to control vector borne diseases by reducing mortality and morbidity due to malaria, filaria, kala azar, dengue, chikungunia and japanese encephalitis in endemic areas through close surveillance, controlling breeding of mosquitos, indoor residual spray of larvicides and insecticides and improved diagnostic and treatment facilities at all health centres.

9.6.1 Annual Blood Examination Rate (ABER) and Annual Parasitic Incidence (API) for malaria

The programme stipulated to achieve ABER of 10 *per cent* and API of less than 0.5 per thousand. ABER was 7.92 *per cent*, 9.75 *per cent* and 8.09 *per cent* and API was 2.34, 4.30 and 3.19 *per thousand* during 2005-06, 2006-07 and 2007-08 respectively, for the State as a whole. The records regarding ABER and API in the sampled districts indicated that in two[15] districts, ABER was less than the State average of 8.59 *per cent* and in three[16] districts, API was more than the State average of 3.28 per thousand during 2005-08 which indicates that vector control measures are not achieving results to the desired extent. The reasons for ABER below 10 *per cent* was due to inadequate surveillance because of the large number of vacancies in the field.

The Department during discussion stated that rapid diagnostic strips are being used for early diagnosis.

9.6.2 Population protected with insecticides

Under the NVBDCP, all the areas having API of 2 and above were required to be covered under compulsory indoor residual spray of Dichloro-Diphenyl-Trichloroethane (DDT) and anti larva solution. Scrutiny revealed that residual spray of DDT (50 *per cent*) was carried out once in 2005-06 and two rounds each in 2006-07 and 2007-08 throughout the State against the stipulation of two rounds of spray every year.

The details of population targeted and covered under indoor residual spray of DDT (50 *per cent*) is given below:

Table: 32

Year	Round	Period of spray	Population targeted (in lakh)	Population covered (in lakh)	Percentage covered
2005-06	1st	04/2005 to 10/2005	129.65	101.01	78
	2nd	No DDT spray operation performed			
2006-07	1st	04/2006 to 08/2006	125.35	92.67	74
	2nd	07/2006 to 11/2006	128.20	117.21	91
2007-08	1st	02/2007 to 06/2007	133.65	109.23	82
	2nd	04/2007 to 08/2007	102.98	77.45	75

Source: - Data furnished by Society for NVBDCP

[15] Nalbari and Sivasagar.
[16] Nagaon, Lakhimpur and Karbi-Anglong.

9.6.3 Incidence of vector borne diseases

The status of morbidity and mortality due to various vector borne diseases during 2005-08 is given below:

Table: 33

Year	Kala Azar		Malaria		Filaria		Japanese Encephalitis		Dengue	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
2005-06	Nil	Nil	67,885	113	80	Nil	145	52	Nil	Nil
2006-07	Nil	Nil	1,26,178	304	24	Nil	392	119	Nil	Nil
2007-08	65	Nil	94,853	152	490	Nil	424	133	Nil	Nil
Total	**65**	**Nil**	**2,88,916**	**569**	**594**	**Nil**	**961**	**304**	**Nil**	**Nil**

Source: - Data furnished by Society for NVBDCP

As can be seen from the above table, the detection of cases with respect to Malaria, Filaria and Japanese Encephalitis (JE) showed wide inter-year variation and the deaths due to Japanese encephalitis had increased. The Society however, could not provide reasons for such variations. To combat the incidence of vector borne diseases, micro-plan for routine immunisation in the entire State was planned and 88 *per cent* of villages (over 1,000 population) were to be covered one or more times a month and 12 *per cent* of villages were to be covered one or more times a quarter during the year 2007-08. In addition, 62 *per cent* of slums/high risk areas were planned to be covered monthly. Scrutiny revealed that vaccination for JE was carried out in two[17] districts during July 2006 and two[18] other districts during March 2007 in selected areas. The reasons for high mortality may be due to emergence of drug resistance.

Recommendation

Diagnostic facilities for detection of various vector borne diseases need to be provided in all CHCs and PHCs. Compulsory indoor residual spray of DDT and anti larva solution should be taken up in endemic areas.

9.7 National Leprosy Elimination Programme (NLEP)

The NLEP aimed at eliminating leprosy by the end of Eleventh plan and the State was to ensure leprosy prevalence rate of less than one per thousand. The total number of leprosy cases in the State during 2005-06, 2006-07 and 2007-08 were (NA), 2,165 and 2,294 respectively with incidence of 1,176, 1,067 and 1,268 new cases. The Prevalence Rate (PR) and Annual New Case Detection Rate (ANCDR) per 10,000 in the State were 0.38 and 0.41, 0.35 and 0.36 and 0.38 and 0.42 during 2005-06, 2006-07 and 2007-08 respectively, which indicated that the State has achieved the goal of Leprosy Elimination i.e. PR below 1 per 10,000 population.

9.8 Cold Chain Management

To support the immunization programme, cold chain maintenance was visualized in all CHCs and BPHCs. As per the information furnished by the Director of Health Services (FW), cold chain equipment was provided in 102 CHCs and 818 PHCs and all these were

[17] Dibrugarh and Sivasagar.
[18] Jorhat and Golaghat.

functional. However, scrutiny of the facilities in the five sampled districts (29 CHCs and 229 PHCs) revealed that most of the equipment required in this regard was not available in the health centres, as can be seen from the table below:

Table: 34

Equipment	No of CHCs having the equipment		No of PHCs having the equipment	
	Available	Working	Available	Working
Walk-in-coolers	Nil	Nil	Nil	Nil
Icelined freezers	29	29	191	191
Refrigerators	Nil	Nil	Nil	Nil
Walk-in-freezers	Nil	Nil	Nil	Nil
Deep freezers	29	29	191	188

Conclusion on Performance Indicators

Anaemia, being the leading cause of maternal mortality was not addressed adequately by the SHS leading to a high MMR and IMR and there is much to be achieved in terms of immunization of the target groups. While there has been an improvement in institutional deliveries, there are several drawbacks in providing the requisite antenatal and postnatal care. Reproductive healthcare was not accorded the required priority and the shortfall in the supply of drugs was not tackled.

Recommendations

- ***The targets and performance indicators prescribed for various services to be achieved during the Mission period require a re-look in a State like Assam where the MMR and IMR is quite high compared to the national average and more realistic targets need to be worked out.***
- ***The State needs to plan its requirements for universal immunization in a systematic manner so as to cover all the target groups within a specified timeframe.***
- ***Reproductive healthcare should be given adequate attention and the required drugs should be procured and provided on a timely basis.***