Chapter VII

Reproductive and Child Health

Chapter-VII: Reproductive and Child Health

7.1 Institutional and Home deliveries

Institutional delivery is the key intervention for reducing maternal and neo-natal mortality. NRHM aimed to promote institutional deliveries or facility-based births by making available health services in rural areas and by implementing Janani Suraksha Yojana (JSY)[64] and Janani Sishu Suraksha Karyakram (JSSK)[65]. Under the NRHM framework, home based delivery needs to be discouraged. Further, Skilled Birth Attendant (SBA) trained Auxiliary Nurse Midwife (ANM) should be engaged in the cases home deliveries for necessary care.

The status of target and achievement of the institutional deliveries in Assam during 2011-16 is as shown in **Table-29**:

Table-29
Target and achievement of institutional deliveries

Year	Number of PW registered	Number of institutional deliveries						Shortfall in institutional deliveries Column (5-8)	Number of Home Deliveries (Domiciliary deliveries)			Total deliveries during the year Column (8+12)	Percentage of home deliveries to total deliveries
		Estimated Institutional Delivery (as proposed in PIP)			Number of Institutional Delivery reported				Attended by SBA	Not attended by SBA	Total		
		Govt. Facility	Pvt. Facility	Total	Govt. Facility	Pvt. Facility	Total						
1	2	3	4	5	6	7	8	9	10	11	12	13	14
2011-12	8,01,575	4,57,794	50,866	5,08,660	4,18,170	40,883	4,59,053	49,607	10,464	1,04,263	1,14,727	5,73,780	20
2012-13	8,02,343	4,45,414	49,490	4,94,904	4,48,507	49,391	4,97,898	2,994 (Excess)	8,701	91,387	1,00,088	5,97,986	17
2013-14	7,89,120	5,00,976	55,664	5,56,640	4,60,095	55,384	5,15,479	41,161	13,300	85,085	98,385	6,13,864	16
2014-15	7,51,185	4,86,901	73,466	5,60,367	4,61,329	67,950	5,29,279	31,088	20,401	75,496	95,897	6,25,176	15
2015-16	7,40,895	4,86,737	75,549	5,62,286	4,52,370	86,109	5,38,479	23,807	20,365	68,324	88,689	6,27,168	14
Total	**38,85,118**	**23,77,822**	**3,05,035**	**26,82,857**	**22,40,471**	**2,99,717**	**25,40,188**	**1,42,669**	**73,231**	**4,24,555**	**4,97,786**	**30,37,974**	**16**

Source: Information provided by NRHM, Assam and HMIS Web Portal,
Note: Shortfall calculated with reference to the government institutional deliveries only.

The details above indicate that there was a decreasing trend (20 to 14 *per cent)* in home deliveries but at the same time, it was still on the higher side. In case of home deliveries, only 15 *per cent* were attended by SBA.

7.2 Antenatal Care (ANC)

ANC is a type of preventive health care with the goal of providing regular check-ups to the Pregnant Woman (PW) that allows doctors or midwives to treat and prevent potential health problems throughout the course of the pregnancy while promoting healthy lifestyle benefitting both mother and the child. Good ANC reduces the risk of childbirth complications.

WHO recommends that PW should receive four antenatal check-ups. The first ANC was to be provided within 12 weeks of pregnancy, second within 20-24 weeks, the third within 28-32 weeks and the fourth ANC within 34-36 weeks of pregnancy, to monitor the progress. NRHM aimed to provide four ANCs to all PW.

---

[64] JSY is a safe motherhood intervention under NRHM with the objective of reducing maternal and neo-natal mortality by promoting institutional delivery among all the PW.

[65] JSSK is an initiative to eliminate out of pocket expenses for both pregnant women and sick neonates wherein provision for free diet, free diagnostics, free drugs and consumables, free transport facility are provided.

The position of ANCs provided to PW in Assam during the period 2012-16 was as shown in **Table-30**:

Table-30
Position of ANCs provided to PW in Assam

Year	Total Number of PW registered	Number of registered pregnant women who received check-ups				Number of PW who received 1st and 2nd Tetanus Toxoid (TT) immunisation	Number of PW who received 100 Iron Folic Acid (IFA) tablets	Number of PW detected with hyper-tension	Number of PW detected with Eclampsia[66]	Number of PW detected with severe Anaemia
		1st visit at the stage of registration	2nd visit	3rd visit	4th visit					
2012-13	8,02,343	7,42,802	6,16,294	5,65,922	3,95,127	6,63,168	6,27,956	16,141	1,025	13,292
2013-14	7,89,120	7,84,602	6,74,121	6,24,770	5,52,818	6,73,461	5,83,523	17,684	660	5,046
2014-15	7,51,185	7,47,805	6,76,633	6,31,525	5,89,986	6,64,889	6,81,490	17,332	839	4,542
2015-16	7,40,895	7,40,794	6,80,324	6,43,921	6,09,306	6,71,809	6,69,118	15,580	1,039	5,390
Total	**30,83,543**	**30,16,003**	**26,47,372**	**24,66,138**	**21,47,237**	**26,73,327**	**25,62,087**	**66,737**	**3,563**	**28,270**

Source: Information furnished by NRHM, Assam.
****Full data for 2011-12 was not available***

Table above shows that complete ANC (four) could be provided to 21,47,237 (69.64 *per cent*) PW out of 30,83,543 registered during the period 2012-16 in the State. Shortfall was also noticed in providing Tetanus Toxoid 1st dose (TT1), Tetanus Toxoid- 2nd dose (TT2) and 100 IFA tablets to the PW as the same could not be provided to all the registered PW. The reasons for shortfall were attributed by the selected health centres to fear of side effects among the rural people, short supply of medicines *etc*.

Similarly, in the seven selected districts, 5,98,074 (63.16 *per cent)* out of 9,46,780 PW received four complete ANCs during 2011-16. Further, maternal death review (MDR) reports of the selected districts disclosed that in case of 29 deaths (11 *per cent*) out of 265 during 2013-16, no ANC was provided.

Thus, it would be evident that NRHM, Assam could not create adequate awareness amongst rural people of the importance of ANC check-up and taking of IFA tablets during pregnancy. Shortages and engagement of untrained Accredited Social Health Activist (ASHA) and ANM (as discussed in the previous chapter) could also be one of the reasons for shortfall in providing ANCs.

The number of PW detected with hypertension, eclampsia and anaemia was also significant and were seen as the major reasons of maternal deaths as evident from e-MDR[67] reports which disclosed that 20 *per cent* (732 out of 3,648 maternal deaths) of mothers died of anaemia caused due to iron deficiency during 2013-16.

7.3 Still birth

Still birth denotes death of an infant in the mother's womb after completion of 28[68] weeks of pregnancy. Early detection of obstetric complications would reduce the chances of still birth which can be ensured through timely ANCs and necessary medication to PW.

[66] A potentially dangerous pregnancy complication characterised by high blood pressure.
[67] Electronic- Maternal Death Review.
[68] By 28 weeks, PW were to receive 3 ANCs.

The year-wise position of still births in the State during 2011-16 was as shown in **Table-31**:

Table-31
Position showing number of still births in the State during last five years

Year	Number of PW registered	Number of PW who received 3rd ANC in 28-32 weeks of pregnancy		Total Number of still births	Percentage of still birth in terms of 3rd ANC
		Number	*Per cent*		
2011-12	8,01,575	NA	-	14,612	-
2012-13	8,02,343	5,65,922	71	14,462	2.55
2013-14	7,89,120	6,24,770	79	14,272	2.28
2014-15	7,51,185	6,31,525	84	14,185	2.25
2015-16	7,40,895	6,43,921	87	13,228	2.05

Source: Information furnished by NRHM, Assam.

From the above, it would be seen that during 2012-16, percentage of PW who received 3rdANC in the 28 to 32 weeks of pregnancy increased from 71 to 87 *per cent*. The rate of still birth had also reduced simultaneously and came down from 2.55 to 2.05 *per cent*. Thus, in order to reduce number of still births, further efforts are required to increase percentage of PW receiving 3rd ANC.

In the selected districts, the position of still births is shown in **Table-32**:

Table-32
Position showing number of still births in the selected districts during 2011-16

Name of District	Number of PW registered	Number of PW received 3rd ANC in 28-32 weeks of pregnancy		Total number of Still Births	Percentage of still birth in terms of PWs received 3rd ANC
		Number	*Per cent*		
Kokrajhar	1,08,209	56,198	51.93	1,570	2.79
KarbiAnglong	1,20,793	74,527	61.69	2,055	2.75
Golaghat	1,02,047	74,265	72.77	2,021	2.72
Sonitpur	2,04,815	1,57,404	76.85	4,163	2.64
Darrang	1,21,095	94,019	77.64	1,939	2.06
Sivasagar	1,13,821	1,01,781	89.42	1,648	1.61
Kamrup (R)	1,76,000	1,26,402	71.81	1,399	1.10

Source: Information furnished by DHS

As regards comparison of number of still births in terms of total PW registered in the selected district, Sonitpur district recorded highest number of still births whereas Kamrup (R) recorded the lowest cases of still births during 2011-16. Also, the percentage of still births came down with higher percentage of PW receiving ANC upto 3rd stage (except Kamrup Rural[69]). In Kokrajhar district, the rate of still births was higher where rate of 3rd ANC was less and in Sivasagar district rate of still births was less where 3rd ANC was higher.

Thus, it was evident that less number of ANC increased the chances of still births but NRHM, Assam failed to ensure complete and timely ANCs to all PW as discussed in paragraph 7.2 of the report.

[69] Kamrup Rural has most number of government hospitals including a nearby Medical College in comparison to other districts.

7.4 Delivery through Skilled Birth Attendant (SBA)

NRHM Framework of implementation envisaged that for improvement of home based newborn care in remote areas located far from the facilities, SBAs, ANMs and ASHA workers were to be engaged. There was acute shortage of SBA trained ANMs in the State. As per APIP 2016-17, only 2,299 ANMs out of the total 9,950 ANMs in the State had been trained as SBA and thus 7,651 ANMs (76.89 *per cent*) remained to be trained, for conducting deliveries.

In the SCs of seven selected districts, availability of SBA trained ANMs were as shown in **Table-33**:

Table-33
Availability of SBA trained ANMs in the SCs of seven selected districts

District	Number of SCs			SCs without SBA			Total population of the district
	In the district	With SBA	Having more than one SBA	Number	Number of villages	Population	
Darrang	163	88	37	75	294	2,85,035	7,56,151
Golaghat	144	40	14	104	570	4,78,563	7,09,640
Kamrup (R)	280	118	40	162	1,006	7,22,454	13,76,198
Karbi Anglong	145	101	28	44	561	2,30,182	6,98,071
Kokrajhar	161	65	15	96	491	3,55,497	6,71,419
Sivasagar	219	64	17	155	681	5,75,009	8,32,956
Sonitpur	275	58	27	217	849	8,72,617	11,67,935
Total	**1,387**	**534**	**178**	**853**	**4,452**	**35,19,357**	**62,12,370**

Source: RHS 2016 data furnished by DHS

From the above table it would be seen that 4452 villages having populations of 35.19 lakh in the selected seven districts did not have the scope of getting the service of SBA. Thus, home deliveries without the supervision of SBA were fraught with the risk of morbidity[70]. It would further be seen that 178 SCs were having more than one SBA whereas 853 SCs did not have any SBA highlighting irrational deployment of SBA in the selected districts. It needs to be mentioned that in the State, 593 SBA trained ANMs were posted (as of March 2016) in 297 number of higher facilities (PHC to DH) instead of in SCs, of which 261 facilities had doctors in place, augmenting further the irrationality in the deployment of SBA.

Scrutiny of records of the selected 45 SCs revealed that there was no SBA in 27 SCs. In the remaining 18 SCs where SBA was found available, deliveries were conducted by only three[71] SCs (447 deliveries during 2011-16). Other 15 SCs could not conduct delivery due to non-availability of labour table. Besides, during 2011-16, altogether 1,397 home deliveries were recorded in villages under the jurisdiction of the selected 45 SCs, of which 1,025 (73 *per cent*) deliveries were not attended by SBAs. Further, 505 (37 *per cent*) out of total 1,397 home deliveries were not visited by any health worker, including SBA, within 24 hours of the delivery to check the health status of new born babies and delivering mothers though required as per norms.

[70] The relative incidence of a particular disease.
[71] Dharapur, Junglebosti and Tekeliakur Grant B.

To utilise the service of SBAs, the State did not ensure providing 'labour table' in the SCs where SBAs were deployed. It was also noticed that the State did not fix any target for number of deliveries to be conducted by SBAs.

Thus, deliveries at home and in the SCs (the first contact point) could not be ensured to be conducted by a skilled person to reduce the risk of morbidity due to shortage of SBAs, irrational deployment of SBAs, lack of logistic support and absence of any fixed target for attending home deliveries by each SBA.

7.5 Post-natal care

(A) As per JSSK guidelines, 48 hours stay at the health facility after childbirth was to be encouraged for the well-being and survival of the mother and the newborn. NRHM framework and IPHS also provided for stay of mothers for 48 hours after delivery.

The position of institutional deliveries and discharge of women within 48 hours of delivery during 2011-16 in the State was as shown in **Table-34**:

Table-34

Position of women discharged within 48 hours of delivery during 2011-16 in the State

Year	Total Number of deliveries at government institutions	Number of women discharged within 48 hours of delivery	Percentage of women discharged within 48 hours
2011-12	4,18,170	2,34,761	56.14
2012-13	4,48,507	2,28,477	50.94
2013-14	4,60,095	1,92,569	41.85
2014-15	4,61,329	1,68,444	36.51
2015-16	4,52,370	1,55,719	34.40

Source: Information furnished by NRHM, Assam.

The position above shows that the number of women discharged within 48 hours had decreased gradually during 2011-2016 which was a positive indication. However, the percentage of discharge (34.40 *per cent*) during 2015-16 was still on the higher side.

The status of institutional deliveries at government health centres in the selected districts where women were discharged within 48 hours of delivery, was as stated in **Table-35**:

Table-35

Position of women discharged within 48 hours of delivery in the selected districts

Name of District	Total Number of institutional deliveries at government health centres	Number of women discharged within 48 hours of delivery	Percentage of women discharged within 48 hours	Reasons for discharge within 48 hours
Kokrajhar	75,910	52,323	69	Staff were not staying in most of the delivery points. Diet facility, as required, was not provided in all the delivery points except in DHs& SDCHs. There was not enough facility for patients to stay in the periphery and they also availed of LAMA[72].
Karbi Anglong	79,597	56,061	70	
Sonitpur	1,45,445	55,662	38	
Darrang	72,563	20,240	28	
Sivasagar	78,651	12,947	16	
Golaghat	80,649	41,765	52	
Kamrup (R)	1,01,729	38,522	38	

Source: Information furnished by DHS.

[72] Leave Against Medical Advice.

As per IPHS and Janani Sishu Suraksha Karyakram (JSSK), free diet upto three days for normal deliveries and seven days in case of caesarean deliveries are to be provided in PHCs, CHCs, SDCHs and DHs. However, scrutiny revealed that facility for providing the cooked food was not available in PHCs and CHCs. On being pointed out in audit, it was stated that construction for kitchen sheds for all the 1014 PHCs had been proposed in the APIP 2016-17.

Thus, gap in support services being the reason for early discharge of women as stated above was not addressed to ensure safety of mother and the new born.

(B) The post-natal period is a critical phase in the lives of mothers and newborn babies. Most of the maternal and infant deaths occur in the first month after the birth. Every mother and baby should get four Post-natal Care (PNC) check-ups *viz*., first on day one (within 24 hours), second on day three (48–72 hours), third on day seven to 14 and fourth in the sixth week.

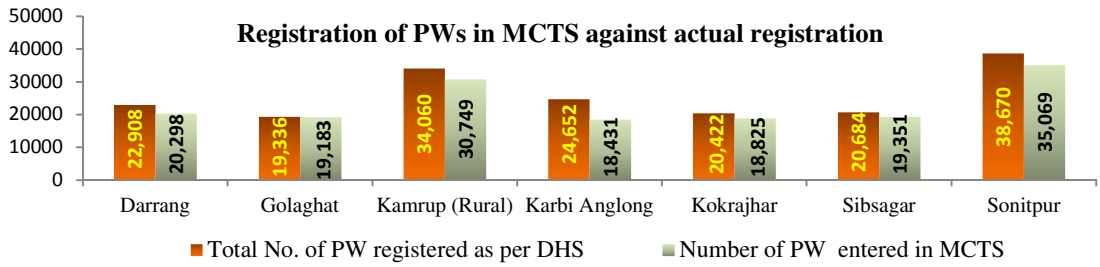
In the selected districts, it was seen that 74 *per cent* of women visited the health centres for PNC check-ups of which, one *per cent* were found with complications. Thus, in respect of 26 *per cent* women who had not taken PNC, cases of complications developed, MTP (medical termination of pregnancy) required or infection by RTI/STI, if any remained un-ascertained.

7.6 Utilisation of Mother & Child Tracking System (MCTS)

MCTS, launched by GoI in December 2009, is a centralised web based application for improving delivery of health care services to each and every PW and children up to five years of age through name-based tracking and monitoring of service delivery to avoid drop out in order to reduce maternal and infant mortality. MCTS was implemented in the State since 2011-12.

Analysis of the MCTS data for the year 2015-16[73] revealed that MCTS did not provide comprehensive status of all PW and children upto five years of age. The actual data of the selected districts did not tally with the MCTS data as shown in **Chart-4**:

Chart–4
Registration of PW in MCTS against actual registration of PW in selected districts during 2015-16



Source: Information furnished by DHS and data of MCTS.

[73] NRHM Assam could provide data only for the year 2015-16.

The number of PW registered in the MCTS was less than that of actual registration in all the selected districts ranging from 153 (Golaghat) to 6,221 (Karbi Anglong). Thus, all the PW were not entered/ uploaded on MCTS and hence, all PW could not be tracked to deliver health services, as intended.

Further, inconsistencies in the data of MCTS such as huge variation in the number of deliveries, number of new born babies, number of BCG[74] recorded and number of OPV[75] '0'recorded was also noticed as shown in **Table-36**:

Table-36
Inconsistency in data in MCTS (Year 2015-16)

Name of district	Mother tracking		Child tracking			
	Number of PW Registration in MCTS	Number of deliveries recorded	Number of new born babies recorded	Number of Mother ID against Child Registration	Number of BCG recorded	Number of OPV '0' recorded
Darrang	20,298	1,306	15,781	15,780	10,780	7,541
Golaghat	19,183	1,019	16,104	16,027	8,091	1,481
Kamrup (R)	30,749	10,311	25,139	23,782	15,516	3,046
Karbi Anglong	18,431	1,386	12,857	12,823	9,227	665
Kokrajhar	18,825	5,583	15,047	15,031	11,718	2,280
Sivasagar	19,351	8,452	16,766	16,749	13,348	6,989
Sonitpur	35,069	3,451	30,051	30,039	13,570	1,976
Total	**1,61,906**	**31,508**	**1,31,745**	**1,30,231**	**82,250**	**23,978**

Source: Information furnished by DHS and data of MCTS.

From the above table, it would be seen that against 31,508 deliveries, 1,31,745 new born babies were registered in the MCTS. Further, out of 1,31,745 newborn babies, OPV '0' dose, being the birth dose, was shown as 23,978 only. As such, the data in MCTS was unreliable.

Thus, intended objective of MCTS to monitor and track each and every PW and child to ensure complete service delivery (ANC/PNC for PW and immunisation of children) could not be achieved.

7.7 Implementation of Institutional delivery promoting schemes

For encouraging institutional delivery, the following incentive schemes to attract the PW, had been taken up by NRHM.

7.7.1 Janani Suraksha Yojana (JSY)

JSY is a safe motherhood intervention under NRHM with the objective of reducing maternal and neo-natal mortality by promoting institutional delivery among all the PW. The beneficiaries are paid ₹ 1,400 and ₹ 1,000 each in rural and urban areas respectively. MD, NRHM, Assam directed (August 2012) that after delivery, JSY incentive money needs to be paid to mothers before discharge from the health centres.

[74] Bacillus Calmette-Guerin (BCG) is a vaccine used for preventing tuberculosis.
[75] Oral Polio Vaccine used to prevent polio.

As per information furnished by six[76] out of seven selected districts, JSY incentive was reported to have been paid to 4,72,164 (82.71 *per cent*) out of 5,70,859 beneficiaries registered during 2011-16 as shown in **Table-37**:

Table-37
Position showing reported number of beneficiaries received JSY incentive in the test-checked district during 2011-16

Name of District	Total Number of PW registered under JSY	Total Number PW received JSY incentive	Number of PW who did not receive JSY incentive
Kokrajhar	75,910	75,748	162
Karbi Anglong	77,352	38,298	39,054
Sonitpur	1,78,004	1,72,165	5,839
Darrang	57,215	41,867	15,348
Golaghat	80,649	51,022	29,627
Kamrup Rural	1,01,729	93,064	8,665
Total	**5,70,859**	**4,72,164**	**98,695**

Source: Information furnished by DHS.

However, the information furnished by the DHSs was not reliable as in Kokrajhar district, only 162 women were shown to have not been paid JSY incentive, whereas scrutiny of records in three selected health centres only in Kokrajhar revealed that 1,763[77] beneficiaries were not paid JSY incentive during 2011-16.

Besides, 1,181 cheques (issued during April 2011 to February 2016) though shown to have been paid to the beneficiaries by nine health centres[78], were found retained by the health centres. The cheques had however, lost their validity being time barred. Further, delay ranging from 11 to 1085 days in making payment of JSY money was noticed in seven selected health centres[79] of the four districts.

On this being pointed out in audit, it was stated that some beneficiaries left without collecting the cheques and many of them did not have bank accounts. The reply was however, not tenable as it was the responsibility of health centres to disburse the cheques to the beneficiaries before their discharge from the health centres. Further, opening of bank account and encashment thereof, could also be ensured through ASHA workers at the time of registration of PW under the provision of JSY guideline.

[76] The information regarding number of PW registered with JSY who did not receive JSY incentive money was not furnished in respect of Sivasagar district.

[77]

Name of the health centre	Number of deliveries during 2011-16	Number of beneficiaries not paid JSY incentives
Dotma CHC	3868	1570
RNB Civil Hospital	14716	168
RNB SDCH Gossaigaon	11764	25
Total	**30348**	**1763**

[78] Mangaldoi Civil Hospital, Sipajhar CHC, Gorukhuti PHC, Ligiripukhuri SDCH, Sivasagar Civil Hospital, Dotma CHC, RNB Civil Hospital, RNB SDCH Gossaigaon, TRB Civil Hospital.

[79] Dotma CHC, Mangaldoi DHSipajhar CHC, Gorukhuti PHC, Ligiripukhuri SCDH, Kolabari CHC, Kanaklata Civil Hospital.

7.7.2 Janani Sishu Suraksha Karyakram (JSSK)

The Mission aimed at eliminating out of pocket (OOP) expenditure by providing free cashless delivery, drugs and diagnostics, blood, diet, conveyance back from health centre *etc.,* under JSSK.

7.7.2 (i) Adarani under JSSK

In the State of Assam, Adarani is a scheme which aims at the safe conveyance of mother and her child after delivery from hospital to their residence under the JSSK which is funded under NRHM. As of March 2016, altogether 235 Adarani vehicles had been operating under the scheme throughout the State.

The information collected from test checked health centres revealed that 13[80]out of 26 health centres did not have Adarani service and hence 8,745 mothers who delivered babies during 2011-16 were not provided with the conveyance under the scheme. In case of the remaining 13 health centres[81], 'Adarani' service was available but the facility of free drop back to residence was not provided to 61,951 (45 *per cent)* out of 1,37,711 mothers after the delivery during 2011-16.

Reasons (as stated by Golaghat DH and Merapani CHC) for not providing the service to all beneficiaries was attributed to inadequacy of vehicles while in Golaghat DH local taxi drivers prevented the Adarani service and local administration failed to take appropriate action for the resumption of the service .

Thus, mothers and new born children had been deprived of the service of free transport after delivery.

7.7.2 (ii) Out of pocket expenditure per delivery under JSSK

JSSK entitles all PW delivering in public health institutions to absolutely free and no expense delivery including in the case of a caesarean section.

As reported by NFHS-4[82], OOP expenditure per delivery in public health centres (rural areas) in the State was ₹ 3,054, the basis of this calculation was not available in the records made available to audit.

[80] Hamren SDCH, Tekelanjun SHC, Baithalangshu PHC. Santak MPHC, Nazira SHC, Bokota MPHC, Jharbari SD, Garukhuti MPHC, Rangamati MPHC, Gelabil MPHC, Kachomari SD, Halem SHC, Haleswar MPHC.

[81] Mangaldoi Civil Hospital, RNB Civil Hospital, Sivasagar Civil Hospital, Ligirpukhuri SDCH, HowraghatCHC,Diphu Civil Hospital, Azara CHC, Sualkuchi FRU,Rampur PHC, Chariduar CHC, Merapani CHC, Sarupathar CHC, K K Civil Hospital.

[82] NFHS-4 –the 4th National Family Health Survey conducted in 2015-16 under Ministry of Health and Family Welfare, Government of India.

During test check of 265 numbers of Maternal Death Report (MDR) of the sampled districts, audit came across one maternal death (Narmada Das, Kamrup (R) district died on 14th November 2014), wherein poor financial condition of the family of the deceased woman was highlighted. It was revealed that the PW visited Bezera CHC on 6th November, 2014 for check-up and she was advised to be admitted into Mahendra Mohan Civil Hospital (MMCH), Guwahati immediately. But due to poor financial condition of the family, the patient could not be admitted immediately to MMCH. After two days *i.e.,* on 8th November, 2014 only when the PW was critically ill, she was taken to MMCH by hiring an Auto Rikshaw. The PW gave birth to a baby girl on the next day. It was mentioned in the report that the husband arranged the money from others and spent around ₹ 2,000. The patient was released from MMCH on 12th and again on 14th November, 2014 the patient was brought to Kamalpur Model Hospital by '108' Ambulance (reached one hour late) as she was developing pain and swelling of limb. Finally the patient expired and doctor opined that she died during transportation.

Thus, the deceased PW could not be shifted immediately to the higher hospital due to poor financial condition of the family which highlighted the deficiencies in achieving the norms of free and no expense delivery at public health centres under NRHM.

During field visit of health centres, instances of shortage of medicines, insufficiency of transportation facility, lack of functional equipment, diagnostic services *etc.*, were noticed. As a result, free and cashless health care services were not feasible. Joint survey of patients[83] conducted by Audit with the departmental officials of DHs also revealed that patients had to spend their own money ranging from ₹ 950 to ₹ 8,100 for purchasing medicines, diagnostic test, transportation *etc.*, from outside.

Thus, the intended objective of providing free delivery service under NRHM was diluted due to high OOP expenditure in the State and also impacted adversely on reducing MMR by encouraging institutional delivery.

7.8 Immunisation

Target and achievement for immunisation in the State of Assam during 2011-16 were as stated in **Table-38**:

Table-38
Target and achievement for immunisation in the State (2011-16)

Year	Number of live births during the year	Target for complete Immunisation	Actual achievement (for all vaccines as prescribed)				Target for administration of Vitamin A	Actual achievement		
			Up to one year	Above one and half years	Above five years	Above 10 years		1st dose	2nd dose	3rd to 5th dose
2011-12	5,56,037	6,94,349	5,37,223	3,27,468	1,15,104	8,59,846	38,02,652	5,64,691	1,67,300	6,20,502
2012-13	5,76,475	7,05,011	5,90,806	4,10,225	1,97,741	3,77,218	38,67,552	6,02,058	3,74,999	8,51,917
2013-14	5,95,774	6,80,900	5,96,264	4,76,054	2,40,909	8,15,416	39,34,374	5,70,018	4,18,866	8,48,090
2014-15	6,12,883	6,68,181	5,75,634	4,82,108	2,48,838	3,84,566	80,00,841	5,36,651	4,04,738	6,36,045
2015-16	6,14,136	6,80,528	6,00,067	5,39,831	2,84,380	3,84,189	6,80,528	5,81,903	4,54,116	7,44,918
Total	**29,55,305**	**34,28,969**	**28,99,994**	**22,35,686**	**10,86,972**	**28,21,235**	**2,02,85,947**	**28,55,321**	**18,20,019**	**37,01,472**

Source: Information furnished by NRHM, Assam.

[83] 10 PW and mothers in each of the seven selected DH were surveyed during audit (December 2016).

It is thus revealed that-

- In case of 29 lakh out of 29.55 lakh live births (98.13 *per cent),* the children upto one year of age were immunised. But beyond one year and upto five years of age, there was a decreasing trend. Further during the period 2011-16, against the target of 202.86 lakh for the administration of Vitamin A doses, the State could only administer 83.77 lakh doses of Vitamin-A (41.29 *per cent).*

- In the selected seven districts, two districts[84] did not fix any target of immunisation. In the remaining five districts, the highest achievement of 95 *per cent* for complete immunisation *i.e.*, children upto one year of age was reported by Kamrup (R) whereas Golaghat district was the least performer with 66 *per cent* immunisation, against the target set.

It needs to be mentioned that, as regards administration of Polio drops, the State achieved 98.57 *per cent* of its target during 2011-16 which was high but 100 *per cent* immunisation to eradicate Polio from the State was still not achieved.

7.9 Availability of Cold Chain equipment in health centres

A Cold Chain, consisting of equipment such as refrigerators, cold boxes, ice packs *etc*., is a temperature-controlled supply chain. It is used to preserve and to extend and ensure the shelf life of chemicals and pharmaceuticals. This is important in the supply of vaccines to distant clinics in hot climates by poorly developed transport networks.

Test check of selected 30 PHCs revealed the following:

- In 11 PHCs[85] out of 30, no cold chain was found to store vaccines and logistics in the prescribed temperature (2 to 8^0 C) for which they had to depend on other PHCs/CHCs. Of these, in four PHCs[86], vaccine carrier was also not found available.

- In three PHCs[87] out of 30, though freezer and logistics were available but generator service was not available.

Thus, due to inadequate Cold Chain infrastructure, effectiveness of the vaccines could not be ensured in the health centres mentioned above.

On this being pointed out, NRHM, Assam noted (March 2017) the audit observation and assured that comprehensive proposal for additional cold chain points would be proposed in the APIP 2017-18.

---

[84] Kokrajhar and Kamrup (R).
[85] Rupshi, Bhalukmari, Suffry, Bokota, Samaguri, Tekelanjun, Bhoksong, Dampur, Guimara SD, Kulshi SD, Kakila.
[86] Bhalukmari, Suffry, Guimara SD, Kulshi SD.
[87] Furkating, Dakhinhengera, Jharbari.

7.10 Cases of Adverse Event Following Immunisation

As per Surveillance and Response Operational Guidelines 2010 (GoI), Adverse Event Following Immunisation (AEFI) is a medical incidence that takes place after an immunisation, causes concern and is believed to be caused by immunisation. AEFIs are grouped into *inter-alia*, vaccine reaction, programme error and injection reaction. The impact of AEFI can be minimised by providing quality immunisation services, appropriate case management and communication strategies. As per records of the DHS (FW), Assam, total number of AEFI death cases during the period 2011-16 was 39. However, as per Health Management Information System (HMIS), cases of AEFI reported during 2011-16 were as stated in **Table-39**:

Table-39
Cases of AEFI in the State (2011-16)

Year	Cases of AEFI		
	Number of cases of Abscess reported following immunisation	Number of cases of death reported following immunisation	Number of cases of other complications reported following immunisation
2011-12	280	0	1,750
2012-13	171	3	2,820
2013-14	217	5	2,971
2014-15	116	4	3,264
2015-16	93	1	3,843
Total	**877**	**13**	**14,648**

Source: HMIS data.

The above table indicated that cases of AEFI were found to be on an increasing trend during 2011-16. Death cases and complications arising out of the immunisation could have been reduced had timely appropriate action been taken by NRHM, Assam.

On this being pointed out, NRHM, Assam stated (March 2017) to have noted the audit observation for necessary compliance.

7.11 Family Planning

As envisaged in the NRHM Framework (2012-17), family planning services would be utilised as a key strategy to reduce maternal and child morbidities and mortalities in addition to stabilising population. NRHM aimed to provide services for both male and female sterilisation under family planning. Permanent methods of sterilisation included vasectomy/no scalpel vasectomy (NSV), tubectomy, laparoscopy *etc.*, whereas under spacing methods of sterilisation, intrauterine device (IUD) insertion, distribution of condoms, oral pill *etc.*, were being used. The NRHM, Assam aimed at reducing TFR to 2.2 per woman by March 2016 by successfully implementing activities of family planning. The position of TFR in the State however, could not be improved and remained constant (2.3) since 2012-13.

Target and achievement under family planning in the State during 2011-16 were as shown in **Table-40**:

Table-40
Target and Achievement under Family Planning of the State

Year	Vasectomy/NSV		Tubectomy		IUD insertion		Oral pills distribution	
	Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
2011-12	18,887	8,161	1,09,722	69,310	85,942	70,852	*Data not furnished*	-
2012-13	13,850	4,056	98,000	58,704	90,000	60,064		10,07,321
2013-14	8,438	4,407	1,00,221	53,003	97,651	80,722		11,54,782
2014-15	9,380	4,391	71,973	41,178	95,200	90,241		13,33,537
2015-16	9,380	5,210	71,973	33,233	95,200	48,330		10,22,145
Total	**59,935**	**26,225**	**4,51,889**	**2,55,428**	**4,63,993**	**3,50,209**		**45,17,785**

Source: Information furnished by NRHM, Assam.
(Data with respect to target as well as achievement in case of mini-lap sterilisation, laparoscopy and distribution of condom was not furnished).

Table above shows that the State was lagging behind in achieving the target under different segments of family planning programmes highlighting the inadequacy in implementation of the programme. Reasons for shortfall were not on record.

This indicated that implementation of family planning programme in the State was not adequate and effective.

It was thus, revealed that home deliveries decreased from 20 to 14 *per cent* in the State during 2011-16. However, 85 *per cent* of home deliveries were not attended by the Skilled Birth Attendants. There were shortfalls in providing for the four Antenatal Care check-ups, distribution of Iron Folic Acid tablets and administration of Tetanus Toxoid injections to pregnant women. New mothers and child were discharged from hospitals before 48 hours' mandatory stay in 34 *per cent* cases of institutional deliveries during 2015-16. Instances had been noticed where patients had to spend their own money for delivery in government hospitals contrary to the aim of the NRHM. Cases of Adverse Event Following Immunisation were found to be on an increasing trend in the State during 2011-16. The State was lagging behind in achieving the target under different segments of family planning programmes. Implementation of health care services relating to reproductive and child health needs to be reviewed and strengthened under NRHM.