Chapter – 6 Maternal and Child Care and Cancer

Adequacy of healthcare services relating to maternal and infant care and cancer treatment

6.1 Maternal and Child Health

Maternal health refers to the health of women during pregnancy, childbirth and the postpartum period, whereas prenatal health refers to health from 22 completed weeks of gestation until seven completed days after birth. New born health is the babies' first month of life. A healthy start during the prenatal period influences infancy, childhood and adulthood[24].

6.1.1 MMR and IMR (State level)

Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR)[25] are important indicators of the quality of maternal and child care services available and form part of the most sensitive index of quality of maternal and new born care. The All India MMR during 2011-13 stood at 167 per 100,000 which declined to 130 in 2014-16 and was 113 in 2016-18. The All India IMR which stood at 40/ 1000 Live Births in 2013 fell to 33/ 1000 Live Births by 2017.

The goal set forth by the State Government in its SPIP[26] 2014-17 was to reduce MMR from 298 (HMIS, 2013-14) to 150 by 2014-17 and to reduce IMR from 49/ 1000 Live Births (SRS-2012) to less than 30 by 2014-17. Trend of MMR and IMR in Meghalaya during 2014-19 was as follows:

Table 6.1: Trend of MMR and IMR of Meghalaya during 2014-19

Year	Number of reported			MMR (of one lakh live births)	IMR (of 1000 live births)
	Livebirths	Maternal deaths	Infant deaths		
2014-15	84,908	187	2,307	220	27
2015-16	85,790	211	2,508	246	29
2016-17	85,297	198	2,427	232	28
2017-18	83,269	197	2,512	237	30
2018-19	83,258	164	2,073	197	25
Total	**4,22,522**	**957**	**11,827**		

Source: HMIS data of the Director, NHM, Shillong.

- During 2014-19, the State's MMR ranged between 246 per one lakh live births in 2015-16 and 197 in 2018-19 and that of IMR ranged between 29 per 1000

[24] According to World Health Organisation (WHO).

[25] Maternal Mortality Rate (MMR) is the number of deaths per 100,000 live births due to maternal causes. Infant Mortality Rate (IMR) is the number of deaths of infants (under one year) per 1,000 live births.

[26] State Program Implementation Plans (SPIP) is a crucial documents in NHM through which the States/UTs plan, prioritise and propose strategies and activities to address the challenges in public health.

live births in 2015-16 and 25 in 2018-19. Both the MMR and IMR showed a declining trend, which is a positive sign.

- The MMR of 220 per one lakh live births in 2014-15 had reduced to 197 in 2018-19, a 10 *per cent* decline. However, the target of 150/ 100000 livebirths set-forth by the State (2014) to be achieved by 2017 was yet to be achieved even as of 2019. The State's MMR at 197 in 2018-19 continues to be higher than the all India MMR of 113 for 2016-18.
- The IMR of 28 per 1000 live births in 2016-17 was better than the all India rate of 33/1000 for 2017.

6.1.2 MMR and IMR in the test-checked DHs

The trend of MMR and IMR of three[27] out of four test-checked DHs during 2014-19 was as given in table below:

Table 6.2: Trend of MMR and IMR in the test-checked DHs

Year	Jowai CH					Tura MCH					Nongpoh CH				
	Live births	Infant deaths	M/ deaths	MMR	IMR	Live birth	Infant death	M/ death	MMR	IMR	Live birth	Infant death	M/ death	MMR	IMR
2014-15	2153	81	6	279	38	1651	104	28	1696	63	342	10	0	0	29
2015-16	2442	94	4	164	38	1689	119	39	2309	70	454	4	0	0	9
2016-17	2331	68	2	86	29	1615	122	19	1176	76	579	2	0	0	3
2017-18	2682	116	9	336	43	1550	115	20	1290	74	574	3	0	0	5
2018-19	2998	92	2	67	31	1609	125	13	808	78	615	4	0	0	7
Total	**12606**	**451**	**23**			**8114**	**585**	**119**			**2564**	**23**			

Source: Records of the test-checked DHs.
M/death=Maternal death

From the Table above, it can be seen that:

- During 2014-19, the average IMR of two test-checked DHs *viz.* Tura MCH and Jowai CH with 72 and 36 per 1000 live births was much higher than the State average of 28 per 1000 live births. The IMR of Tura MCH displayed an upward trend and was also persistently higher than the State figures *i.e.* IMR of 63 per 1000 live births of Tura MCH in 2014-15 had gone up to 78 in 2018-19;
- The major causes of infant deaths during 2014-19 have been identified as Pneumonia (19 *per cent*), Fever (11 *per cent*), Asphyxia (six *per cent*), Sepsis & LBW (five *per cent* each), Diarrhoea (three *per cent*), *etc*. while the major causes of maternal deaths have been identified as Anaemia, Haemorrhage (both Ante and Post-Partum), Retained Placenta, Cardiac and Respiratory failure; and
- In respect of MMR, again the Tura MCH with a five-year average of 1456 per one lakh live births was higher than the State average (226) by 549 *per cent*.

Thus, the State Government needs to address the trends for both IMR and MMR in Tura, urgently.

[27] Shillong CH did not provide maternity and child services as the same is being provided by Ganesh Das Hospital, a Government Hospital at Shillong.

The MS, Tura MCH stated that the hospital used to conduct maternal death review meeting. Overall, Audit noted from the data provided by the Joint Mission Director, NHM that there are 6,799 ASHA workers in place in the State as on 30 September 2020 with no reported vacancies indicating a vast network of ground level health workers. One of the roles envisaged for the ASHA workers is to mobilise the community and facilitate people's access to services available at the village/ SCs/ PHCs such as ANC and PNC check-ups as part of their role as health care facilitator. The high MMR rate in the State indicates that despite the presence of the ASHA worker at the village level, even the community mobilisation for pregnant women to avail institutional ANC and PNC services is not satisfactory.

During exit conference (16 July 2020), the Commissioner & Secretary while agreeing with the Audit observations stated that the Government is seized of the issue and is taking necessary remedial action which included an App for tracing mothers. Government's response to the high IMR and MMR rates in Tura and Jowai is only generic in nature. As reported in subsequent paragraphs of this chapter, the Government health facilities were woefully inadequate in addressing common causes of infant/ maternal mortality and in provision of ante-natal care.

6.1.3 Antenatal care

Antenatal Care (ANC) is the systemic supervision of women during pregnancy to monitor the progress of foetal growth and to ascertain the well-being of the mother and the foetus. ANC involves general and abdominal examination[28] and laboratory investigations to monitor pregnancies, management of complications, such as Reproductive Tract Infection (RTI)/ Sexually Transmitted Infection (STI) and comprehensive abortion care. Early detection of complications during pregnancy through ANC check-up is important for preventing maternal mortality and morbidity. Quality ANC includes minimum of at least four ANCs including early registration, first ANC in first trimester along with physical and abdominal examinations, two doses of tetanus toxoid (TT) immunisation, *etc.*

The total number of pregnant women in the State registered for ANC, registered within the first trimester (within 12 weeks), number of pregnant women who received up to 3-4 ANC check-up, number of pregnant women given up to TT2/ Booster, *etc.* during 2014-19 was as follows:

Table 6.3: Pregnant women (PW) registered and received ANC services

Year	Number of PW registered for ANC		No. of PWs received up to 3/4 ANC check-ups (*per cent*)	TT2 or Booster given to PW (*per cent*)	Tablets given to PW	
	Total	Within first trimester (*per cent*)			IFA	Calcium
2014-15	129,575	41,786 (32.2)	71,446 (55.1)	71,666 (55.3)	53,258 (41.1)	-
2015-16	131,945	42,309 (32.1)	75,347 (57.1)	74,206 (56.3)	46,821 (35.5)	-
2016-17	133,880	45,180 (33.7)	76,997 (57.5)	73,954 (55.2)	61,774 (46.1)	-
2017-18	131,034	45,048 (34.4)	56,960 (43.5)	72,834 (55.6)	44,512 (34.0)	25,716 (19.6)
2018-19	141,030	43,766 (31.0)	52,306 (37.1)	72,821 (51.6)	47,245 (33.5)	31,477 (22.3)
Total	**667,464**	**218,089 (33.0)**	**333,056 (50.0)**	**365,481 (55.0)**	**253,610 (38.0)**	**57,193 (21.0)**

Source: Information furnished Mission Director, NHM, Meghalaya.

[28] Weight measure, blood pressure, respiratory rate, check for pallor and oedema, abdominal palpation for foetal growth, foetal lie and auscultation of Foetal Heart Sound (FHS) *etc*.

- As can be seen from the details tabulated above, during 2014-19, the number of pregnant women registered for ANC within the first trimester was only 33 *per cent*. Further, the trend of registration for ANC during the first trimester declined from 32.2 *per cent* in 2014-15 to 31.0 *per cent* in 2018-19;
- The total number of ANC up to the 3rd or 4th of registered pregnant women showed a decreasing trend *i.e.,* the 55.1 *per cent* achieved in 2014-15 has sharply declined to 37.1 *per cent* in 2018-19;
- The number of TT2 or Booster dosages administered to pregnant women had also declined from 55.3 *per cent* in 2014-15 to 51.6 *per cent* in 2018-19;
- Similarly, the number of pregnant women given with IFA 100/ 180 Tablets has declined from 41.1 *per cent* in 2014-15 to 33.5 *per cent* in 2018-19. The reasons for low distribution of IFA tablets was attributed (September 2020) by the DHS (MCH&FW) to (a) discontinuation of ANC check-up, (b) pregnancy ending up in abortion and (c) pregnant women attending multiple health centres where record showing issuance of 180 IFA tablets are not available in any of those health centres; and
- Calcium tablets were given to pregnant women from 2017-18 onwards. In these two years, it was seen that only 19.6 *per cent* and 22.3 *per cent* of total pregnant women were covered during 2017-18 and 2018-19 respectively.

It is clear from the above that the State Government needed to motivate the pregnant women further, to avail of ANC check-up facilities and administer the required dosages of TT, IFA and Calcium Tablets to them for improving ANC.

During exit conference (16 July 2020), the Commissioner & Secretary while agreeing with the Audit observations stated that the Department had strengthened ANC check-up at the village level through the services of ANM. He also stated that the Department has come up with new initiatives like Village Health Nutrition Day (NHND), the objective of which mainly relate to achieve full ANC check-up and Immunisation. Besides, the Government has recently launched a '**MotherApps**' where all pregnant women will be registered and give an alert thereby monitored by Doctors.

Despite these efforts, the infant and maternal mortality continues to remain a cause of concern as 877 new-borns and 61 pregnant women had died in Meghalaya during April-July 2020.

6.1.4 Institutional deliveries

During 2014-19, a total of 4.29 lakh deliveries were reported, of which, 2.34 lakh (54.5 *per cent*) were delivered in institutions (Public and Private), while 1.95 lakh (45.5 *per cent*) were delivered at home. Year-wise figures of institutional deliveries (ID) and deliveries at home in the State are given in the table below:

Table 6.4: - Institutional deliveries and delivery at home during 2014-19

Year	Details of Institutional deliveries (*per cent*)			Home deliveries (*per cent*)	Total reported deliveries
	Public Institutions	Private Institutions	Total		
2014-15	34,411 (39.8)	9,970 (11.5)	**44,381 (51.4)**	41,990 (48.6)	**86,371**
2015-16	36,648 (42.1)	9,369 (10.8)	**46,017 (52.8)**	41,108 (47.2)	**87,125**
2016-17	38,346 (44.3)	9,146 (10.6)	**47,492 (54.8)**	39,147 (45.2)	**86,639**
2017-18	37,534 (44.5)	9,889 (11.7)	**47,423 (56.2)**	36,987 (43.8)	**84,410**
2018-19	37,522 (44.5)	11,233 (13.3)	**48,755 (57.8)**	35,617 (42.2)	**84,372**
Total	**184,461**	**49,607**	**234,068**	**194,849**	**428,917**

Source: HMIS data of the Director NHM, Meghalaya.

- There was a marginal improvement of 9.9 *per cent* in institutional deliveries during the five-year period 2014-19. From 44,381 deliveries in 2014-15 to 48,755 deliveries in 2018-19, the pace of increase in institutional deliveries is too slow to achieve the target of 100 *per cent* institutional deliveries in the near future and the high percentage of home deliveries is a matter of serious concern;
- There was an overall increase of nine *per cent* in respect of deliveries at Public institutions from 34,411 deliveries in 2014-15 to 37,522 in 2018-19. On the other hand, there was an overall increase of 12.7 *per cent* in respect of deliveries at Private institutions during the same period; and
- There was a progressive increase in the number of institutional deliveries in Ri-Bhoi and West Jaintia Hills districts. However, institutional deliveries progressively reduced in the two districts-West Garo Hills district during the five-year period 2014-19 and East Khasi Hills district during the three-year period 2016-19.

Though no specific reason was furnished, lack of adequate SCs, PHCs and CHCs as pointed out in **paragraph 3.2.2** could possibly be one of the reasons for low ID in the State.

It could also be seen that there was a huge difference between numbers of pregnant women registered (667,464) and the total number of reported deliveries (428,917). The DHS (MCH&FW) attributed (September 2020) that the difference in figures was due to (i) double/triple registration, (ii) pregnancy wastage and (iii) migrant labourers who are registered in the State but deliver outside the State.

In absence of specific details in support of the reasons for variation provided by the DHS (MCH&FW), the fact remains that the huge mismatch in the two figures needs to be addressed by the Health Department by giving specific directions to the district hospitals in this regard to increase institutional deliveries of registered women. They also need to monitor the pregnancy outcomes of registered pregnant women in the State for improving institutional deliveries.

6.1.5 Post-natal care

Maternal mortality is a key indicator for maternal and child health. It can result from multiple reasons, such as medical, socio-economic and health system-related factors. Ensuring 48 hours stay in hospital during childbirth is an important component for

identification and management of emergencies occurring during post-natal period and reducing MMR.

The position of women who were discharged within 48 hours of delivery in the four selected districts is shown in the following table:

Table 6.5: Number of women discharged within 48 hours of delivery in the selected districts

Year	East Khasi Hills			Ri-Bhoi			West Jaintia Hills			West Garo Hills		
	No. of ID	Dis-charged within 48 hours	%	No. of ID	Dis-charged within 48 hours	%	No. of ID	Dis-charged within 48 hours	%	No. of ID	Dis-charged within 48 hours	%
2014-15	14205	4648	32.7	1656	1546	93.4	3470	2630	75.8	5886	4567	77.6
2015-16	15358	3827	24.9	1853	478	25.8	3940	3040	77.2	5678	4324	76.2
2016-17	15552	5995	38.5	2120	470	22.2	4016	3197	79.6	5516	3997	72.5
2017-18	14122	6138	43.5	2229	462	20.7	4305	3759	87.3	5293	2369	44.8
2018-19	13004	4090	31.5	2373	809	34.1	4553	3966	87.1	5209	2845	54.6
Average			**34.2**			**39.2**			**81.4**			**65.1**

Source: HMIS data of test-checked districts.

The table above shows that during 2014-19, average of the four test checked districts with respect to minimum 48 hours of hospital stay for all women after delivery for proper post-natal care was 55 *per cent*. The average percentage of women discharged within 48 hours of delivery in West Jaintia Hills district (81.4 *per cent*) and West Garo Hills district (65.1 *per cent*) were higher than the average.

During exit conference (16 July 2020), the DHS (MCH *cum* Jt. Mission Director, NHM) stated that it was mainly due to lack/ shortage of beds in the DHs where post-delivery mothers were forced to be discharged. She however, stated that regular monitoring by ANM are ensured through home visit at regular intervals.

Response of the Government, regarding shortage of beds in DHs only reiterates the need for adequate capital investment in public health facilities, which has been repeatedly observed.

6.1.6 Special New born Care Unit (SNCU)

Special New-born Care Units (SNCU) are meant primarily to reduce the case fatality among sick children born within the hospital or outside, including home deliveries, within the first 28 days of life. Therefore, SNCU plays a vital role in Post Natal Care (PNC). IPHS envisages that every DH should provide facilities of SNCU with at least 12 beds with specially trained staff. Table 6.6 shows the number of sick new borns admitted in the SNCU during 2014-19:

Table 6.6: No. of new-borns admitted in test checked DHs during 2014-19

Year	2014-15	2015-16	2016-17	2017-18	2018-19
Tura MCH	351	360	292	312	292
Jowai CH	NA	NA	NA	188	414

Source: Records of test-checked DHs.

It was seen that SNCU was available only in two test-checked DHs (i) Tura MCH (14 beds) & (ii) Jowai CH (seven beds) w. e. f. October 2017. In the absence of SNCU at Shillong and Nongpoh CH and less number of requisite beds at Jowai CH as per norms,

the sick new-born had been deprived of the proper Post Natal Care (PNC) which is essential to reduce fatality.

6.1.7 Availability of Labour Ward, Neonatal and SNCU equipment in DHs

The IPHS prescribed 28 types of essential equipment for Labour Ward, Neonatal and Special Newborn Care Unit (SNCU). Of these 28, Audit has sampled nine equipment to ascertain the physical status of the equipment against the test-checked DHs having labour room and neonatal unit or SNCU. The details of the sampled equipment and audit findings are highlighted in the table below:

Table 6.7: Shortage/ non-availability of Neonatal and SNCU equipment in the test-checked DHs

Sl. No.	Equipment	Utility of the equipment	Audit findings
1	Baby Incubators	Incubators are clear boxes which help keep the baby warm. Premature or sick babies can struggle to stay warm on their own.	None of the test-checked DHs had this essential equipment.
2	Foetal Doppler	It is a hand-held ultrasound transducer used to detect the foetal heart beat for prenatal care	Nongpoh CH did not have this essential equipment. Jowai CH had one against requirement of two. Only Tura MCH had adequate No. of this equipment.
3	Cardiotocography Monitor	Cardiotocography (CTG) is a technical means of recording the foetal heartbeat and the uterine contractions during pregnancy.	Jowai CH did not have this essential equipment. Tura MCH and Nongpoh CH had one each against requirement of two Nos.
4	Vacuum extractor metal cup	A vacuum extraction, also known as a vacuum-assisted delivery, is used to help move the baby through the birth canal during delivery when a mom's labour has stalled.	Nongpoh and Jowai CH did not have this essential equipment, only Tura MCH had the equipment (two Nos.).
5	Cardiac monitor baby & adult	A device to monitor the heartbeat.	None of the test-checked DHs had this essential equipment.
6	Nebuliser baby	A nebuliser is a device that turns liquid medicine into a mist, used to treat the swelling in child's airway, shortness of breath, coughing, and wheezing.	Nongpoh and Jowai CH have one each against the requirement of two. Only Tura MCH has adequate number.
7	Weighing machine infant	For measuring the weight of baby	Jowai CH has one and Nongpoh CH has two against requirement of three. Only Tura MCH has adequate number.
8	Haemoglobinometer	A haemoglobinometer is an instrument used to determine the haemoglobin content of the blood by spectrophotometric measurement.	Jowai CH did not have this essential equipment.
9	Glucometer	A blood glucose meter is a small, portable machine that's used to measure how much glucose (a type of sugar) is in the blood (also known as the blood glucose level).	All the DHs have this equipment

Source: Information furnished by health centres.

Thus, incubators (*an essential equipment, especially required for premature or sick babies to keep them warm*) and cardiac monitor (*a device to monitor the heartbeat of babies and mother*) were not available in any of the test-checked DHs. Other essential equipment to assist deliveries and for care of new born babies were either not available or inadequate in number.

6.1.8 Immunisation of new borns

As per Maternal New born Health Toolkits 2013, four vaccines *viz.* (i) Oral Polio Vaccine 0-OPV0, (ii) Bacille Calmette Guerin – BCG, (iii) Hepatitis-B0 and (iv) Inj. Vitamin-K are to be administered on the day of birth of the child.

The position of immunisation of OPV0, BCG, Hepatitis B0 and Inj. Vitamin K of the test-checked DHs during 2017-18 to 2018-19 was as given in the table below:

Table 6.8: Position of immunisation of OPV0, BCG, Hepatitis B0 and Inj. Vitamin K

Name of the Hospital	Total Live births during 2017-19	No. of children immunised with Inj. Vitamin-K	No. of children immunised with BCG	No. of children immunised with OPV0	No. of children immunised with Hepatitis B0
Nongpoh CH	1381	1108 (80)	763 (55)	1341 (97)	1135 (82)
Jowai CH	5670	5651 (99)	4773 (84)	4929 (87)	4946 (87)
Tura MCH	3176	3049 (96)	3547 (112)	3486 (110)	2941 (93)
Total	**10227**	**9808 (96)**	**9083 (89)**	**9756 (95)**	**9022 (88)**

Source: HMIS of test-checked DHs.

We noticed that the average percentage of immunisation achieved in the four DHs ranged between 88 *per cent* (Hepatitis-B0) and 96 *per cent* (Inj. Vitamin-K). Nongpoh CH lagged behind in respect of BCG vaccine (55 *per cent*).

The Medical Superintendent of Nongpoh CH stated (30 July 2020) that shortfall in administration of BCG vaccine was due to non-availability of the vaccine in stock and in some cases when there was only one or two new born, the BCG vials were not opened to avoid wastage. The reply is not acceptable since the vaccine has to be administered to each and every new born. The response also indicates an apathetic attitude towards child immunisation by the health authorities, and needs to be urgently addressed at the highest level in the Government.

6.1.9 Pregnancy outcomes

With a view to gauge the quality of maternity care provided by the hospitals, Audit test-checked the pregnancy outcomes in terms of live births, still births[29] and neonatal deaths pertaining to 2014-19, as discussed below.

6.1.9.1 Still births

Still birth or intrauterine foetal death is an unfavourable pregnancy outcome and is defined as complete expulsion or extraction of baby from its mother where the foetus does not breathe or show any evidence of life, such as breathing of the heart or a cry or movement of the limbs[30]. World Health Organisation (WHO) defines Still Birth for international comparison as a baby born with absolutely no signs of life at or after 28 weeks of gestation. Still birth rate is a key indicator of quality of care during pregnancy and childbirth.

Audit observed that still birth rate of three test-checked DHs during 2014-19 was between 0.7 and 3.6 *per cent* as given in the following table:

[29] Mismanaged ANC and delivery process convert a normal delivery into stillbirth.
[30] As per GoI Operational guidelines for establishing sentinel stillbirth surveillance system 2016.

Table 6.9: Hospital wise Stillbirths during 2014-19

Hospital	No. of deliveries during 2014-19	No. of live births (%)	Still births (%)
Jowai CH	13024	12606 (96.8)	465 (3.6)
Nongpoh CH	2685	2564 (95.5)	20 (0.7)
Tura MCH	8251	8114 (98.3)	201 (2.4)
Average			**686 (2.3)**

Source: Records of test-checked DHs.

The still birth rate of Jowai CH and Tura MCH with 3.6 and 2.4 *per cent* were higher than the average of the three test-checked DHs (2.3 *per cent*).

6.1.9.2 Neonatal deaths

Neonatal death is death during the first 28 days of delivery. Neonatal death rate is also an indicator of quality of maternity and new born care services. MNH Toolkit requires hospitals to record the number of neonatal deaths per month with causes of such deaths in the labour room register.

Table 6.10: Position of neonatal deaths in the test-checked DHs during 2014-19

Year	Tura MCH		Jowai CH		Nongpoh CH	
	Infant mortality cases	Neo-natal cases	Infant mortality cases	Neo-natal cases	Infant mortality cases	Neo-natal cases
2014-15	104	55 (53)	81	56 (69)	Records not available	
2015-16	119	57 (48)	94	57 (61)		
2016-17	122	56 (46)	68	39 (57)		
2017-18	115	50 (43)	116	69 (59)	3	0 (0)
2018-19	125	64 (51)	92	60 (65)	4	3 (75)
Total	**585**	**282 (48)**	**451**	**281 (62)**	**7**	**3 (43)**

Source: Records of test-checked DHs.

The table above shows that neonatal deaths represented 62 *per cent* of IMR in Jowai CH, 48 *per cent* in Tura MCH and 43 *per cent* in Nongpoh CH. Thus, neonatal deaths continued to be one of the main contributors of IMR. Reason attributed for neonatal death by the three hospitals were (i) asphyxia (ii) severe anaemia and (iii) sepsis.

During Exit conference (16 July 2020), the DHS (MCH *cum* Jt. Mission Director, NHM) while agreeing with the Audit observations stated that neonatal death is also attributable to traditional/ cultural belief that 'normal delivery is on completion of 10 months', which normally resulted in overgrowth of the foetus inside the womb and complicates the delivery, leading to neonatal death in many occasions known as death due to Asphyxia. In regard to neonatal death due to Sepsis, she stated that it generally happened to those deliveries at home. While cultural beliefs could be one of the reasons for neo-natal deaths, the fact that only 33 *per cent* women registered for ANC in the 1st Trimester **(Paragraph 6.1.3)** remains a critical shortcomings to be addressed by the hospitals and DHS. The State Government also needed to increase its awareness campaigns in rural/ hilly areas to address and prevent late deliveries by women.

6.1.10 Veracity of HMIS data

In order to ascertain the correctness of data/ information submitted to the Ministry of Health & Family Welfare, Government of India, Audit has examined records of three parameters pertaining to the period from 2017-18 to 2018-19 of the three selected

DHs[31]. It was observed that the data reported to the Ministry in respect of the three selected parameters during the sampled years were all higher than the actual data recorded in the respective DHs. The details are given in the following table:

Table 6.11: Comparison of HMIS data with records of Nongpoh CH, Tura MCH and Jowai CH

Month/ Year	Total No. of pregnant women registered for ANC as per		Total No. of pregnant women given TT1 as per		Total No. of pregnant women given TT2 as per	
	HMIS data	DH records	HMIS data	DH records	HMIS data	DH records
2017-18	3561	2874	1532	1352	1227	1040
2018-19	4000	2908	1469	1402	1055	996
Total	**7561**	**5782**	**3001**	**2754**	**2282**	**2036**
Difference	**1779**		**247**		**246**	
Percentage	***24%***		***8%***		***11%***	

Source: Records of Nongpoh CH, Tura MCH and Jowai CH and HMIS data.

As can be seen from the Table above, the HMIS data for pregnant women registered for ANC was inflated by 24 *per cent* and the number of pregnant women administered with TT1 and TT2 was inflated by eight and 11 *per cent* each. These discrepancies in the HMIS data submitted to the GoI with reference to actual data needed to be corrected.

Conclusion

Though the State's MMR and IMR showed a positive decline during the period, the State's IMR target of 150/100000 live births (2014) to be achieved by 2017 had not been achieved even by 2019. The State's MMR at 197 continues to be higher than the all India MMR of 113 for 2016-18. During 2014-19, the average IMR of two test-checked DHs *viz.* Tura MCH and Jowai CH with 72 and 36 per 1000 live births was much higher than the State average of 28 per 1000 live births. Neonatal deaths was the main contributor to the State's IMR.

The ANC coverage was also poor, with 67 *per cent* pregnant women not registering for ANC within the first trimester. Further, the trend of registration for ANC during the first trimester has declined from 32.2 *per cent* in 2014-15 to 31.0 *per cent* in 2018-19.

The huge mismatch of figures (667,464) between pregnant women registered and the deliveries (428,917) in the State could not be convincingly explained/addressed by the State.

A review of only nine sampled types of essential equipment for Labour Ward, Neonatal and Special New born Care Unit (SNCU) revealed that the test checked hospitals did not have all the essential equipment such as incubators, foetal Doppler and vacuum extractors, required for child deliveries and care of new born babies.

None of the test-checked DHs had achieved 100 *per cent* immunisation of the four Zero day vaccines.

[31] Jowai CH, Tura MCH and Nongpoh CH under the DM&HO Ri-Bhoi. Shillong CH did not implement RCH.

Recommendations

i. *Concerted efforts may be made to reduce the IMR to the target of* 150/100000 live births *set by the State Government. This can be achieved to a great extent by providing adequate and timely ANC and PNC to all pregnant women.*

ii. *The State Government may ensure achievement of 100 per cent institutional delivery to improve its MMR and also ensure Immunisation of all new born babies.*

iii. *The Government may ensure that the hospitals are equipped completely with all the essential equipment for child deliveries and new born baby care.*

iv. *Pregnancy outcomes of stillbirths and neo natal deaths needed to be addressed by the State Government by more positive measures including awareness/ communication campaigns.*

6.2 Cancer

6.2.1 Cancer incidence, common type of cancer and cancer mortality in the State

The Population Based Cancer Registry (PBCR), Shillong, Meghalaya as part of National Cancer Registry Programme (NCRP) was started (August 2009) in Civil Hospital, Shillong, and its office is now located at Pasteur Institute, Polo, Shillong. The PBCR, Shillong, Meghalaya covers a defined population (18, 63,347) of four districts[32] of Meghalaya. The PBCR, Shillong, Meghalaya, registers all malignant neoplasm (cancers), with a morphology behaviour code of "3" (primary) and "6" (secondary) as defined by the International Classification of Disease – Oncology (ICD-O).

The Cancer incidence registered by the PBCR, Shillong during 2014-19 (up to November 2019) and some of the common types of cancer in Meghalaya are given in the table below:

Table 6.12: Incidence of common types of cancer in Meghalaya during 2014-19

Year	Common types of cancer in Meghalaya							Total
	Oesophagus	Oral[33]	Hypopharynx	Stomach	Cervical	Breast	Other	
2014	360	195	94	83	48	37	431	**1248**
2015	399	253	91	75	49	47	503	**1417**
2016	431	227	104	104	52	45	529	**1492**
2017	434	235	114	91	48	50	480	**1452**
2018	501	214	107	90	69	69	571	**1621**
2019	354	166	88	65	35	23	301	**1032**
Total	**2479**	**1290**	**598**	**508**	**301**	**271**	**2815**	**8262**
Per cent	***30***	***16***	***7***	***6***	***4***	***3***	***34***	

Source: Records of the PBCR, Shillong.

It can be seen from the Table above that:

- the number of cancer incidences in the State has increased by 30 *per cent* from 1248 in 2014 to 1621 in 2018;

[32] Viz. (i) East Khasi Hills; (ii) West Khasi Hills; (iii) Ri-Bhoi and (iv) Jaintia Hills district.

[33] Oral cancer includes (i) Lip; (ii) Mouth; (iii) Salivary gland; (iv) Tonsil and (v) Oropharynx cancers.

- Oesophagus/Oesophageal cancer with 30 *per cent* followed by Oral (16 *per cent*) and Hypopharynx (seven *per cent*) all associated with the use of Tobacco also known as Tobacco Related Cancer (TRC), were the three most common cancers in the State.

During the year from 2014 to 2019, out of the total deaths due to cancer, East Khasi Hills district with 64 *per cent* deaths is leading in cancer deaths, followed by Jaintia Hills district (14 *per cent*); Ri-Bhoi district (13 *per cent*) and West Khasi Hills district (nine *per cent*).

6.2.2 Assessment and conduct of population based screening of common cancers

As per NPCDCS guidelines, assessment of target population (aged 30 years and above and pregnant women) was to be conducted. After assessment, screening of target population was to be conducted either through opportunistic and/or camp approach at different levels of health facilities. Working towards this aim, in every district, a mix of PHCs and sub centres/ Urban PHCs/ Urban CHCs were to be selected so that the population coverage envisaged annually over the three-year time frame is achieved.

In this regard, Audit observed the following:

- None of the test-checked districts achieved the target for assessment of population (30 years and above) till date (January 2020). The target *vis-à-vis* achievement in the test-checked districts and reasons thereof were as under:

Table No. 6.13: Population based screening of Common Cancers

Year	Targeted coverage	Achievement and reasons for shortfall			
		EKH district	Ri-Bhoi district	WJH district	WGH district
1st year	50 *per cent*	10% (2019-20) Screening started from January 2019	20% most of the HWCs recently started CBAC assessment	49 % Reason not stated.	62% implementation started from 2018. Reason not stated
2nd year	65 *per cent* (1st year +15%)				
3rd year	80 *per cent* (2nd year +15%)				

Source: Records of DM&HOs of test-checked districts.

- As per Operational Guidelines for Screening of common Non-Communicable Diseases (NCDs), screening for all cancers is to be provided as close to the home as possible by competently trained personnel with well-equipped facilities and ensuring privacy.

  Audit observed that adequate number of Sub-centres/ PHCs/ Urban CHCs were not selected for screening of common NCDs in the test-checked districts as tabulated below:

Table 6.14: Sub-centres/ PHCs/ Urban CHCs not selected for NCDs in test-checked districts

Facility centre	Total No.	No. selected for screening	No. not selected for screening
Sub-centre	217	103	114 (53%)
PHCs	55	49	6 (11%)
CHCs	18	2	16 (88%)

Source: Records of DM&HOs of test-checked districts.

Due to fewer number of screening centres, the target set for screening for common cancers are yet to be achieved by any of the test-checked districts.

6.2.3 Provision of confirmatory test services

As per the programme guidelines, to provide confirmatory tests for those screened and suspected of abnormal test results, all CHCs in the State were to be strengthened.

Audit observed that three out of four test-checked districts did not provide confirmatory tests facility in the CHCs, resulting in referrals to DHs for confirmation. The DM&HOs of the test-checked districts (except East Khasi Hills district) accepted that all the CHCs were not strengthened to enable them to conduct confirmatory tests.

6.2.4 Delay in completion of Cancer hospital at Shillong

For establishment of a comprehensive and modern Cancer care facilities in the State of Meghalaya, Department of Atomic Energy (DAE), GoI sanctioned (December 2008) ₹ 26.16 crore for Cancer Treatment Centre at Shillong CH.

As per the MoU signed between GoI and GoM, the project was scheduled to be completed by 31 March 2012[34] and the State Government was responsible to (i) provide space and necessary infrastructure for the project; (ii) provide necessary manpower to run the facility efficiently; (iii) meet all recurring expenditures and the project is to be implemented through the State Cancer Society.

Scrutiny of records of the State Cancer Society, Meghalaya showed that the Cancer hospital at Shillong was far from being completed as of January 2020.

Reasons for delay in commencement of the work and delays in completion of the project were attributed to (i) delay in vacating the occupants from the site as well as in dismantling the old building at the site identified for construction of the cancer hospital building. The old building housed nursing students and staff and (ii) delay in shifting of electric pole, *etc*. The total expenditure resultantly incurred was only ₹ 9.77 crore (UCs for the amount furnished to GoI) out of ₹ 19.84 crore[35] received by the State.

Due to non-completion of the main cancer hospital building, the required equipment was also not purchased and the Cancer Hospital was non-functional till date (February 2020) despite availability of funds. Thus, the objective of having comprehensive and modern cancer care facilities in the State of Meghalaya has not been achieved and cancer patients are required to be referred to North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong.

The inordinate delay in completion of the cancer hospital in the State which has one of the highest incidence of cancer cases, reflects serious negligence on the part of the implementing authority, *i.e.* the State Cancer Society, for which the State Government needs to fix responsibility and take appropriate action against those responsible for the delay.

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[34] Which was extended up 31.03.2013 on 29th March 2012.

[35] ₹ 10.47 crore (February & March 2009) and ₹ 9.37 crore (August 2019).

Conclusion

The number of cancer incidences in the State had increased by 30 *per cent* from 1248 in 2014 to 1621 in 2018; with Oesophagus/ Oesophageal cancer with 30 *per cent* followed by Oral (16 *per cent*) and Hypopharynx (seven *per cent*) all associated with the use of Tobacco also known as Tobacco Related Cancer (TRC).

During the period 2014 - 2019, out of the total deaths due to cancer, East Khasi Hills district with 64 *per cent* deaths is leading in cancer deaths, followed by Jaintia Hills district (14 *per cent*); Ri-Bhoi district (13 *per cent*) and West Khasi Hills district (nine *per cent*).

The Department had not provided adequate number of SCs/ PHCs/UPHCs/CHCs for screening of common NCDs in the population for early detection and treatment of cancer.

For establishment of a comprehensive and modern Cancer care facilities in the State, Department of Atomic Energy (DAE), Government of India (GoI), had sanctioned (December 2008) ₹ 26.16 crore for Cancer Treatment Centre at Civil Hospital, Shillong. However, due to the serious negligence of the State Cancer Society, the objective of having comprehensive and modern cancer care facilities in the State of Meghalaya could not be achieved despite availability of funds.

Recommendations

i. *Screening centres for early detection and treatment of cancer may be provided adequately in the CHCs, PHCs and SCs to ensure that target set for coverage of population based screening of common cancer is achieved and all CHCs are strengthened to enable them to conduct conformity test.*

ii. *The Commissioner & Secretary of Health and Family Welfare Department cum Chairman of the State Cancer Society may ensure early completion of the Cancer Hospital at the Shillong CH, funded by GoI. They also need to make an enquiry and fix responsibility on those responsible for the delay in completion of the facility.*