Chapter III
Essential Resources Management

Chapter-III: Essential Resources Management

Adequacy of essential resources - manpower, drugs & consumables, equipment, and infrastructure for the effective functioning of the district hospitals

3.1 Standardisation of service and resources

For ensuring efficient operation of public sector hospitals, it is essential to prescribe norms for providing various resources in the hospitals. On the basis of these norms, requirement of resources should be assessed and provisions should be made accordingly. Further, facility development plans comprising of components such as infrastructure, equipment, human resources, drugs and supplies, quality assurance systems and service provisioning were to be prepared for each hospital. These plans were to be prepared on the basis of analysis of gaps in the health facilities *vis-à-vis* the norms. Audit noticed that the State Government has not prescribed separate norms for providing resources *viz.* human, infrastructure, equipment, drugs & consumables in the district hospitals but stated to have adopted IPHS norms for the purpose. Audit also observed that gap analysis to ascertain the requirement of resources and service provisioning in the hospitals was not done by the Department.

3.2 Manpower Resources

The delivery of quality healthcare services in hospitals largely depends on the adequate availability of doctors, staff nurses, para-medical and other supporting staffs. Audit noticed that the Department of Health and Family Welfare did not have any centralised database of the sanctioned strength and deployment of doctors, nurses and other paramedical staffs in the health care facilities in the State. In the absence of this information, overall shortage of staff in the state could not be ascertained. Audit scrutiny further revealed that the State Government had in position 2,068 posts of doctors, nurses and other paramedical staffs as of March 2019. However, since the state has not worked out the Sanctioned Strength, the basis on which these 2,068 posts were created was not known. The availability of doctors (including dentists), nurses and paramedics for the State's population is tabulated below:

Table 3.1: Availability of doctors, nurses and paramedics in the State

Sl. No.	Posts	Available	Population of State	Average population served
1	Doctors	399[1]	6,67,000	1,672
2	Nurses	1,193		559
3	Paramedics	476		1,401
Total		**2,068**		

Doctors include Specialists, MOs, & AYUSH MOs. Population of State 2019 – 6,67,000 (projected).

Indian Public Health Standards (IPHS) guidelines envisage that doctors and nurses should be available round the clock in the IPDs to provide due medical care to the

[1] *Including 71 Dentists.*

in-patients. These guidelines also prescribe the minimum number of doctors and nurses to be available in different hospitals upto the District level according to the number of sanctioned beds.

The State Government had not laid down any norms for allocation of human resources to the various categories of Health facilities existing in the State *(State Referral Hospital, DHs, PHCs & PHSCs)* since the State's formation in May 1975. No sanctioned strength had been notified for various human resources to be deployed in the Health facilities.

3.2.1 Shortage/Excess of Doctors, Nurses and Paramedical staffs in the test-checked DHs

The State Government had not laid down any norms for allocation of human resources to the DHs since the State's formation in May 1975. No sanctioned strength had been notified for various human resources to be deployed in the DHs. We therefore reviewed the manpower availability *w.r.t* the IPHS norms.

A summary of the availability of manpower *vis-à-vis* IPHS norms in the cadre and the shortfall or excess (**Appendix Ia**) is given below:

Table 3.2: Shortfall or Excess Manpower in District Hospitals

Sl. No.	Particulars	Essential norms (IPHS)	Gyalshing DH		Singtam DH	
			Available	Shortfall (-) /Excess (+)	Available	Shortfall (-) /Excess (+)
1	Doctors	20	11	(-) 9	19	(-) 1
2	Staff Nurse	45	36	(-) 9	37	(-) 8
3	Paramedics	22	16	(-) 6	18	(-) 4
Total		**87**	**63**	**(-) 24**	**74**	**(-) 13**

Source: Information provided by hospitals

While there was shortage of manpower in various vital departments like surgery, radiology, anaesthetic services, nursing care *etc.*, excess manpower beyond IPH Standards was found deployed in other departments like dental care, radiographer, lab technician, *etc.*

- Vital specialists in departments of General Surgery and Radiology were not in position in both test-checked DHs. Hence cases requiring services of a General Surgeon could not be managed in the two DHs and were referred to higher medical centres at Gangtok. Against requirement of two anaesthetists in each DH, they had only one anaesthetist each.
- Against requirement of 11 MOs in each DH, Gyalshing DH had only three MOs while Singtam DH had five, leading to shortfall of eight and six MOs respectively.
- Against requirement of 45 Staff Nurses (SNs) in each DH, Gyalshing DH had 36 SNs and Singtam had 37 SNs registering a shortfall of nine and eight SNs respectively.

- There was shortfall in the categories of Lab technician, pharmacist, CSSD[2] Assistant, dark room Assistant, rehabilitation therapist in Gyalshing DH.
- In Singtam DH, shortages were noticed in the cadres of pharmacist, dietician, CSSD Assistant, dark room Assistant, rehabilitation therapist and biomedical engineer.

The DH authorities (January 2020) attributed the shortfall in various medical, paramedical and nursing staffs in the DHs to non-deployment of staff by Head Office which was the cadre controlling and deploying authority. Further, reluctance of staff to be posted far from the Capital to remote places was also one of the reasons of shortfall in medical personnel in the DHs. The State government had not taken any steps to incentivise doctors and staff for posting to district/ interior places.

While accepting the Audit observations, the Department stated (June 2020) that human resource policy which was yet to be approved, will be a part of Health Policy and will include employment roster policy, rotational transfer policy to deal with the shortage of manpower in far flung areas. During Exit conference, the Department further stated that the Health Policy has been drafted and will be submitted to the Government for approval very soon. Regarding shortfall in human resources, it was due to shortage of qualified manpower such as Surgeon, Radiologist, etc. in the State and despite efforts made by the Department. Further, most of the MOs preferred to undergo higher education after their appointment. Thus, there was shortage of manpower in DHs. Regarding excess of Dental Surgeons, the Department justified stating that Dental Surgeons have been assigned multi-tasking functions such as District Programme Officer in addition to their own duty and they are also provided orientation sessions about the programme objectives and sensitized on the programme needs before they conduct such programme activities.

3.2.2 New STNM Hospital

The New STNM Multi-Specialty Hospital[3] (1000 bedded), Sochyagang, Gangtok started functioning from 14 January 2019. Against the capacity of 1000 beds, 603 beds had been made functional till date (March 2020).

The HFWD had not notified any sanctioned strength of manpower to run the New STNM Hospital based on job analysis and need assessment. There were no manpower norms prescribed for a 1000 bedded hospital even by GoI.

In the absence of norms, availability of manpower in the 1000 bedded hospital was examined in Audit with reference to twice the norms for a 500 bedded multi-specialty hospital (IPHS), on pro-rata basis. Details **(Appendix Ib)** are depicted in the table below:

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[2] *CSSD – Central Sterile Supply Department*
[3] *State Referral Hospital*

Table 3.3: Shortfall or Excess Manpower in New STNM Hospital

Sl	Particulars	IPHS norm for 500 BDH	Essential for 1000 BH (STNM) (pro rata)	Availability at STNM	Shortfall (-)/ Excess (+)
a	*b*	*c*	*d = 2xc*	*e*	*f =d-e*
1	Specialist Services	43	86	80	(-) 6
2	Medical Officers	25	50	75	(+) 25
3	Staff Nurse	225	450	305	(-) 145
4	Paramedical Staffs	94	186	28	(-) 158

Source: Information provided by hospital

It is observed that while there were shortages of manpower in various important specialities/ departments like General Medicine, Surgery, Gynaecology and Paediatrics, excesses were noticed in the cadre of MOs, Dental Department and Psychiatry.

- There was shortage of manpower in eight out of the 15 specialities that ranged from 25 *per cent* (Ophthalmology) to 100 *per cent* (Forensic specialist).
- Excess manpower was deployed in Dental department to the extent of 200 *per cent*, Psychiatry 150 *per cent* and in the MO's cadre by 56 *per cent*.
- Among the paramedics, severe shortages were noticed in the cadres of Pharmacists (100 *per cent*), OT technicians (93 *per cent*), Radiographers (89 *per cent*), Lab technicians (81 *per cent*) Staff nurses (32 *per cent*), *etc*.
- Twenty-five excess MOs *w.r.t* IPHS norms had been posted in the STNM hospital despite there being shortage of 14 MOs in the sampled DHs.

This indicated that the Health Department had not rationally deployed available manpower in its hospitals.

The Department stated (May 2020) that the posting of manpower in New STNM Hospital is done as per the directives of the State Government. However, the Hospital did not furnish records relating to assessment of manpower, submission of its proposal to the Government for posting/ appointment of the manpower.

3.2.3 Adequacy of Manpower

District Hospitals provide health and diagnostic services to a large number of patients in the State, besides performing surgical operations and other medical treatments for in-patients.

Audit analysed adequacy of manpower (Medical and para medical staff) *vis-à-vis* increase in the number of patients (both OPD and IPD) during the period 2014-19. The details are given in the following table:

Table 3.4: Adequacy of manpower *vis-à-vis* patient load in the test-checked DHs

DH	Number of OPD and IPD patients (*per cent* increase over previous year)					*Per cent* increase over 2014-19
	2014-15	2015-16	2016-17	2017-18	2018-19	
Gyalshing	57,668	64,900 (13)	64,434 (-1)	71,082 (10)	80,727 (14)	40
Singtam	61,227	84,251 (38)	1,01,719 (21)	1,24,257 (22)	1,38,287 (11)	126

Source: - HMIS data

It is evident from the table above that the patients registered at both the test-checked DHs showed a radical increase over the period 2014-19 specially in Singtam DH (East District), where the patient load increased by 126 *per cent.* Further, the average yearly increase in the patient load in the test checked DHs ranged between 11 and 38 *per cent* except in Gyalshing DH during 2016-17.

Despite substantial increase in the number of patients in the test checked hospitals, the State Government had not put in place any norms for allocation of manpower resources and had yet to notify sanctioned strength for various human resources in the DHs (April 2020).

The increased patient load puts an immense pressure on the existing medical system and inadequate infrastructure thereby, adversely impacting quality of patient care and patient safety.

Conclusion

Human resources, an essential resource for hospital management in the State saw shortages of manpower in various vital departments like surgery, radiology, anaesthetic services, nursing care *etc.* However, there was excess deployment in other departments like dental care, radiographer, lab technician*, etc.* State Government had not laid down any norms for allocation of human resources to the DHs since the State's formation in May 1975 and sanctioned strength had not been notified for various human resources to be deployed in the DHs (March 2019).

Further, despite substantial increase in the number of registered OPD and IPD patients in all the test checked hospitals, neither the strength of the medical and para-medical staff was revised to take care of the increasing patient load nor were the existing shortages in manpower of hospitals filled up.

The State had not implemented any positive measures such as special /hill allowances, accommodation, *etc.* to address the reluctance of doctors to serve in district hospitals.

Recommendations

- *Keeping in view the fact that Health is a State subject, the State Government may come up with a policy intent on addressing shortfalls in the Human Resources for the State Health Sector, to improve quality of health care.*
- *The State Government also needs to take positive measures such as special allowances, availability of accommodation, etc. to incentivise doctors to get posted to rural/ hilly area of the State. They can enquire about such measures being taken by other States.*
- *They may assess and notify norms for deployment of medical and para medical staff in DHs and redistribute available manpower rationally as per requirements.*
- *The State Government may take urgent steps for recruitment of specialists to address the shortage of specialists in the health facilities of the State.*

3.3 Physical Infrastructure

To deliver quality health services in the public health facilities, adequate and properly maintained building infrastructure is of critical importance. As per IPHS, one DH should be created in each district to cater to the secondary health care needs of the public at the district level. IPHS also prescribes that the total beds required for a DH should be based on a district's population.

All four districts in Sikkim had one DH each with uniform bed strength of 100 beds each irrespective of the size of population of the district.

3.3.1 Hospital buildings

3.3.1.1 District Hospitals

As per IPHS, Hospital Management Policy should emphasise on hospital buildings with earthquake-proof, flood-proof and fire protection features. Infrastructure should be eco-friendly and disabled (physically and visually handicapped) friendly.

Audit of the sample DHs revealed the following:

- The State Government has not prescribed any norm for the size of area over which a DH was to be established. In terms of the IPHS, area of a DH with bed capacity 100 could be between 0.25 hectare to 0.50 hectare. The Singtam DH[4] was built over 0.85 hectare of area as per the Khatian (Record of Rights) of the Hospital. However, the area occupied by the Gyalshing DH[5] could not be ascertained as the hospital authorities did not have the land records of the hospital with them.
- The areas of respective functional departments within each DH, whether the buildings incorporated earthquake resistant features, *etc.* could not be ascertained as records such as DPR, layout and blueprint of the building structure were not available with the District Hospital authorities[6].
- Fire-fighting equipment were found installed in both sampled DHs. The buildings of the DHs had ramps for movement of wheel chair bound patients and for stretchers. Gyalshing DH had a functional lift in addition to a ramp.
- The DHs were accessible by vehicle and had parking space for staff vehicles and ambulances. The parking space however had not been designated separately for staff, ambulances and general public. The parking space in front of two DHs were congested and inadequate.

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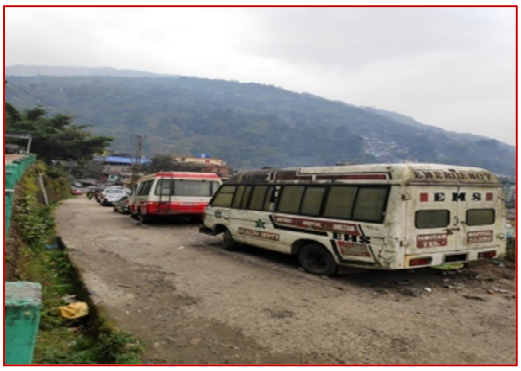
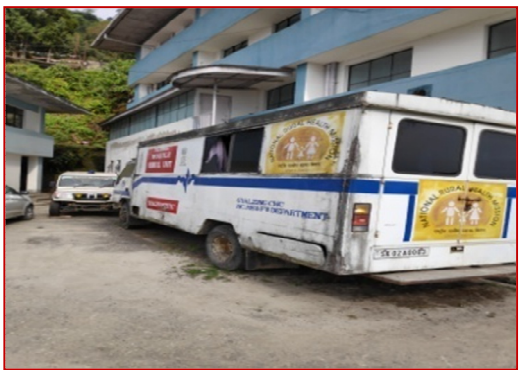
[4] *Singtam DH operates from an old three storied concrete structure constructed in 1978.*
[5] *Gyalshing DH operates from a three storied concrete structure commissioned in January 2004*
[6] *The land record documents of only Singtam DH and blue print of the newly constructed trauma centre in Singtam DH were available with the hospital authority.*



Defunct vehicles – Singtam DH

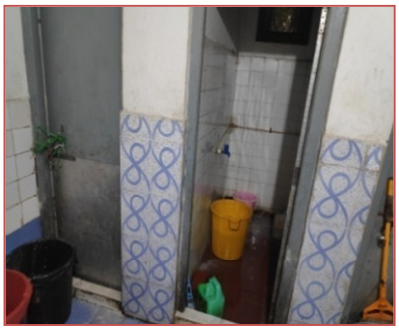


Defunct vehicles – Gyalshing DH

- Old, damaged and defunct vehicles stood parked in the narrow parking area causing further congestion and spoiling the overall ambience of the hospital complex.
- Signage were displayed in English and Local language at appropriate places in and around the hospital premises indicating the facilities available in the hospital, emergency helpline numbers, citizen charter, direction for different facilities within the Hospital, etc.
- The physical upkeep, repairs and maintenance of Singtam DH building was found wanting. Windows were found broken in several places and ceiling damaged. Floor of the hospital building at few places was found worn out and damaged.

Damaged windows and ceiling

Damaged Floors



Damaged & Non-functional Toilets

While accepting the Audit observations, the Department (June 2020) stated that the hospital building of Singtam DH is a very old structure constructed in late 70s, however, proposal for construction of a new hospital building at alternative place has already been processed. Shortcomings as compared to IPH Standards as pointed out by Audit will be looked into at the time of construction of new hospital building. No reply was received for shortage infrastructure as pointed out in Gyalshing. It was further stated that due to limited open space in DHs, only few parking spaces were available for public.

3.3.1.2 New STNM Hospital

The New STNM Multi-Specialty Hospital (1,000 bedded) was running since 14 January 2019, but handing and taking over of the facility between the contractor, the executing department *i.e.* Building and Housing Department (BHD), and between BHD and the HFW Department, however, had not been effected as of January 2020.

Audit observed the following:

- Against the capacity of 1000 beds, 603 beds had been made functional till date (March 2020). One hundred and fifty-four rooms constructed for Laboratory and OTs, Private Cabins, Doctors' Room, Nurses station, Inpatient Wards, etc. were yet to be utilised. Ninth floor comprising of six 24 bedded wards, two three bedded rooms along with four other rooms, two stores and one hall were vacant and under locked condition.
- Patient waiting areas were severely insufficient at various locations (General OPD, Medicine OPD, *etc.*) leading to overcrowding.

The Department stated (June 2020) that most of the vacant rooms at New STNM Hospital have been occupied and 8th and 9th floors have been developed as dedicated Covid Centre for treatment of patients.

3.3.2 Availability of CHCs, PHCs and SCs

To ensure universal availability and accessibility of healthcare, the IPHS/NRHM has specified the following norms / criteria for setting up healthcare facilities in the categories of SCs, PHCs and CHCs, as detailed in the table below:

Table 3.5 -Norms for creation of health facilities

Health facilities	Norms
Sub-centre (SC)	One SC for every 3,000 people
Primary Health Centre (PHC)	One PHC for every 20,000 people
Community Health Centre (CHC)	One CHC for every 80,000 people

The population of Sikkim in terms of the Census of 2011 was 6,10,577. The State was accordingly required to have 204 SCs, 31 PHCs and eight CHCs, in terms of the IPHS / NRHM. The position of health centres as on March 2019 in the State *vis-à-vis* the IPHS norms was as under:

Table 3.6: Position of health centres as on March 2019 in the State *vis-à-vis* the IPHS norms

Healthcare facility	Requirement as per population	Actually available	Shortfall wrt population norms	Percentage Shortfall
a	b	c	d=b-c	e
SC	204	147	(-) 57	28
PHC	31	24	(-) 07	23
CHC	08	02	(-) 06	75

As can be seen from the table above, the shortfall of SCs, PHCs and CHCs was 57 (28 *per cent*), seven (23 *per cent*) and six (75 *per cent*) respectively. The Health and Family Welfare Department, however, had not planned the establishment of the SCs, PHCs and CHCs based on the State's population and other characteristic features such as mountainous terrain, connectivity constraints and sparse population. Availability of universal health services is required so as to reduce the physical distances of availability of health centres for rural habitations.

Further, even the only test-checked CHC (Rhenock CHC) was found to be not well equipped with to various OT and Labour equipment such as Diathermy Machine, Lamps shadow less, Sterilizer, OT Table (Hydraulic) etc. for OT and Cradles baby, Cabinet Instrument, Shadow less lamps and Table for Obstetric Labour/Examination for Labour Room.

Besides, there was shortfall in specialist services, MOs, para-medical as well as staff nurse. However, in the test-checked PHC, excess deployment of manpower in cadres of MO, Pharmacist and Staff nurse was noticed.

3.3.3 Non-establishment of Blood Banks

As per IPHS, blood bank is one of the essential services which is to be provided to a District Hospital. Blood bank should be in close proximity to pathology department and at an accessible distance from operation theatre, intensive care units and emergency & accident departments. The GoI formulated the National Blood Policy (NBP) in 2002 which was adopted by the State Government in 2005. The Sikkim State Blood Transfusion Council (SSBTC) implements the NBP in the State.

It was seen in audit that Blood Banks had not been established in the two DHs during the period covered by Audit (2014-19). Blood required by these two DHs were arranged from Namchi DH and the State Referral Hospital, Gangtok, which were at a distance of 20-50 km and 61-115 km respectively.

The Department stated (June 2020) that the Blood Banks in all DHs including the sampled DHs have been set up and are now fully operational.

Conclusion

The physical upkeep and maintenance of the DHs were found wanting. We could not ascertain whether the DH buildings were earthquake resistant, considering the State's geographical vulnerability to earthquakes. The 1000 bedded STNM Multi speciality hospital was yet to be made fully functional with the balance 370 odd beds and the patient waiting areas were found to be overcrowded. The shortage in availability of health care facilities of SCs/PHCs/CSCs during the period ranged from 23 to 28 *per cent.*

Further, Blood Banks had not been established in the two DHs during the period covered by Audit (2014-19) requiring blood to be arranged from Namchi DH and the State Referral Hospital, Gangtok, which were at a distance of 20-50 km and 61-115 km respectively.

Recommendations

- *The State Government may review the earthquake resistance measures for the DHs and ensure that they are made safe to the extent possible.*
- *The State may plan to augment the health care facilities in the rural areas in accordance with the population norms. The STNM Multi speciality hospital may be made fully functional with complete infrastructure and equipment so as to boost the healthcare facilities in the State.*
- *The State Government may ensure establishment of blood bank in all the DHs as per IPHS norms.*

3.4 Equipment for Health Facilities

3.4.1 District Hospitals

IPHS has prescribed norms of equipment for DHs under different categories based on the number of beds, keeping in view the assured services recommended for various grades of the DH.

The State Government did not formulate Equipment Procurement Policy (EPP) or any Standardised norms/ procedures for procurement of equipment for different health facilities. However, the State authorities stated that they have adopted IPHS norms for procurement of equipment *etc.*

Audit observed that in the two selected DHs against the requirement of a total 1,420 equipment prescribed by IPHS for various services, only 627 equipment were available. Thus, there was shortfall of equipment by 56 *per cent* in the sampled DHs as shown in the following table:

Table 3.7: Shortfall of Equipment in District Hospitals

District Hospital	No. of equipment required as per norms	No. of equipment actually available	Shortage (2-3)	No. of equipment functional	No. of equipment non-functional	No. of equipment functional but not operational
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Singtam	710	190	520	183	7	0
Gyalshing	710	437	273	433	4	1
Total	**1,420**	**627**	**793**	**616**	**11**	**1**

Source: Information from hospitals

Further, out of the 627 equipment available in the sample DHs, 616 (98 *per cent*) were functional, 11 (two *per cent*) non-functional and one remained idle during the period covered in the audit.

Shortfall in availability of equipment in different departments of DHs are detailed below:

Table 3.8: Department-wise Shortfall of Equipment in District Hospitals

Sl. No.	Department	Essential (IPHS)	DH Singtam		DH Gyalshing	
			Available	Shortfall *(Per cent)*	Available	Shortfall *(Per cent)*
1	Imaging Equipment	5	1	4 (80)	3	2 (40)
2	X-Ray Room Accessories	25	11	14 (56)	25	0
3	Cardiopulmonary Equipment	69	5	64 (93)	43	26 (38)
4	Labour Ward, Neo Natal Equipment	57	18	39 (68)	51	8 (14)
6	Equipment Newborn Care Unit (SNCU)	34	8	26(76)	4	30 (88)
7	Equipment for disinfection of SNCU	17	7	10(59)	2	15(88)
8	Equipment for individual patient care in SNCU	14	10	4(29)	12	2 (14)
9	Immunisation Equipment	26	19	7 (27)	24	3(11)
10	Ear, Nose, Throat Equipment	20	4	16(80)	5	15(75)
11	Eye Equipment	26	19	7(27)	20	6(23)

Sl. No.	Department	Essential (IPHS)	DH Singtam		DH Gyalshing	
			Available	Shortfall *(Per cent)*	Available	Shortfall *(Per cent)*
12	Operation Theatre Equipment	39	8	31(79)	27	12(31)
13	Laboratory Equipment	119	45	74 (62)	76	43 (36)
14	Surgical Equipment	108	4	104(96)	32	76(70)
15	PMR Equipment	16	4	12(75)	0	16(100)
16	Endoscopy Equipment	3	0	3 (100)	0	3(100)
17	Anesthesia Equipment	97	26	71 (73)	95	2 (2)
18	Post Mortem Equipment	35	2	33 (94)	18	17 (49)

Source: Information from hospitals

From the table above, it can be seen that there was a shortfall in essential equipment like Immunisation, Eye Equipment and Endoscopy Equipment in Singtam DH, whereas in Gyalshing DH, Endoscopy and PMR Equipment were not at all available. Details of equipment of Singtam and Gyalshing DHs are given in ***Appendix– IIa & IIb)***. Though requirement of equipment and manpower are reflected in annual Programme Implementation Plan (PIP), these were not provided by the Department. Non-availability of essential equipment [7]was bound to have adverse impact on health care which these DHs were supposed to provide to the public.

3.4.2 New STNM Hospital

The Hospital was not provided with a number of essential equipment as compared to the norms for a 500 bedded hospital on pro-rata basis, as shown below:

Table 3.9: Department-wise Shortfall of Equipment in New STNM Hospital

Sl. No.	Equipment	Essential for 500 bedded hospital (IPHS)	Essential (on pro-rata) basis for 1000 bedded hospital	Available (*per cent*)	Not Available (*per cent*)
1	Imaging Equipment	9	18	5 (28)	13 (72)
2	X-Ray Room Accessories	44	88	6 (7)	82 (93)
3	Cardiopulmonary Equipment	129	258	47(18)	211(82)
4	Labour Ward, Neo Natal Equipment	39	78	33(42)	45(58)
5	Equipment for Eclampsia Room	26	52	00(00)	52(100)
6	Equipment Newborn Care Unit (SNCU)	34	68	10(15)	58(85)
7	Equipment for disinfection of SNCU	11	22	3(14)	19(86)
8	Equipment for individual patient care in SNCU	14	28	9(34)	19(66)
9	Immunisation Equipment	27	54	5(9)	49(91)
10	Ear, Nose, Throat Equipment	43	86	15(17)	71(83)
11	Eye Equipment	45	90	33(37)	57(67)
12	Operation Theatre Equipment	55	110	32(29)	78(71)
13	Laboratory Equipment	4154	8308	75(1)	8233(99)
14	Surgical Equipment	187	374	22(6)	352(78)
15	PMR Equipment	16	32	4(12)	28(88)
16	Endoscopy Equipment	8	16	1 (6)	15(94)

[7] *Reference Paragraph no. 4.3.1*

Sl. No.	Equipment	Essential for 500 bedded hospital (IPHS)	Essential (on pro-rata) basis for 1000 bedded hospital	Available (*per cent*)	Not Available (*per cent*)
17	Anaesthesia Equipment	147	294	8(3)	286(97)
18	Post Mortem Equipment	50	100	4(4)	96(96)

Source: Information from hospital

Non-availability of medical equipment in different departments of the New STNM Hospital ranged from 58 *per cent* (Labour and Neo-natal Equipment) to 100 *per cent* (Eclampsia Room). Similarly, essential equipment (42 *per cent)* was not available (Labour, Neo-natal Equipment.). In absence of essential equipment, patients had to be referred to private hospital (CRH Tadong) or outside the State for medical treatment.

3.4.3 Idle equipment in New STNM Hospital

A joint physical inspection (March 2020) of the Hospital revealed that a number of hospital equipment was either idling in disuse, non-functional for want of repair or lying unused due to want of technical personnel to operate them, etc. Some equipment was also found dumped in the store of the central blood bank which could not be identified, with no timeline or plan for their installation and usage on record. Details of idle equipment are given below:

Table 3.10: Idle equipment in New STNM Hospital

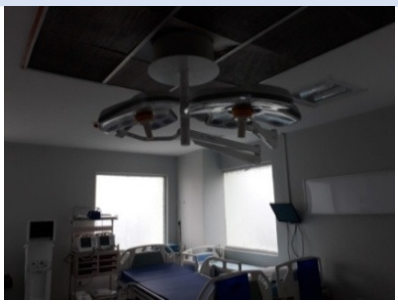
Sl. No.	Asset/ Equipment	Nos.	Status
1	Heart Lung Machine	1	Idle since installation for want of Surgeon and technical staff.
2	OT for Open Heart Surgery	1	
3	Cardiopulmonary equipment	1	Idle since installation due want of space as it has been placed in the OT of Open-Heart Surgery.
4	Ventilator	1	
5	Cardiac Monitor	1	
6	Bone Testing Machine	1	Idle since installation as the equipment has been kept in standby for future use.
7	Blood Separators	2	
8	Refrigerators & Deep Fridges	30	Unused and in packed condition as it has been kept in buffer for future use.
9	Dialysis Equipment for Kidney patients	1	Idle for want of accessories
10	Whole Body Phototherapy Unit	1	Idle since installation as it has been kept in standby for future use.
11	Endoscopic Equipment for Pediatric Department	1	Idle since installation due to want of proper handing and taking over of the equipment with the executing agency.
12	Hematology Equipment for Complete Blood Test	2	Idle since installation due to non-availability of reagents.
13	Blood Gas Analysers	7	
14	OPG equipment for Dental X-ray	1	Non-functional due to damage.
15	Fluorescent Microscope for histopathology	1	Idle since installation as it has been kept for future use.
16	Auto analysers for Pathology Department	2	Idle since installation due to want of reagents.
17	Bone Cutting Machines	2	Idle since installation as these have been kept in standby for future use.
18	Roller Iron for Laundry	1	
19	Tumble Driers	2	Non-functional due to want of repair.
20	Physiotherapy Equipment	2	Non-functional due to damage.

Sl. No.	Asset/ Equipment	Nos.	Status
21	Hydraulic Beds	2	Idle since installation due to damage.
22	Unidentified Miscellaneous Equipment dumped in Stores	NA	Idle since installation due to non- handing and taking over of the equipment.
	Total	**63**	

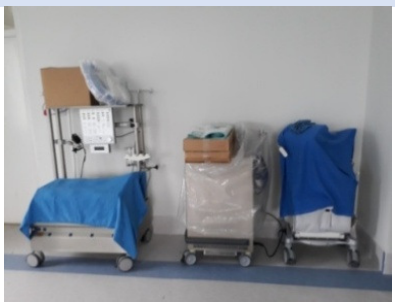
Source: Physical verification

Photographs below exhibit some of the important equipment/ assets lying idle in the New STNM Hospital.

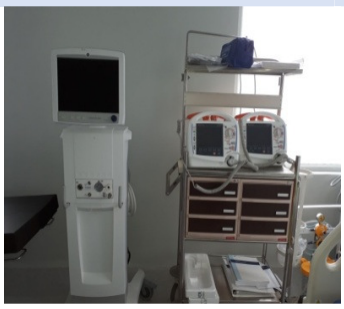
Equipment lying idle in Cardiology Department for want of surgeon



Unused OT for Open heart surgery

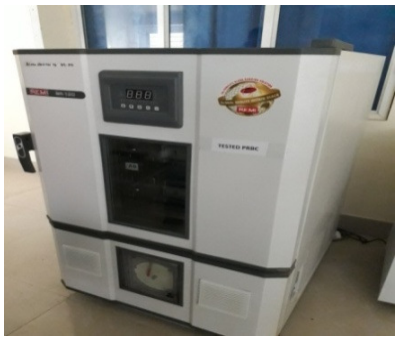


Heart Lung Machine

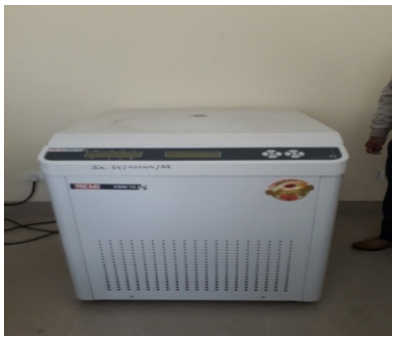


Ventilator

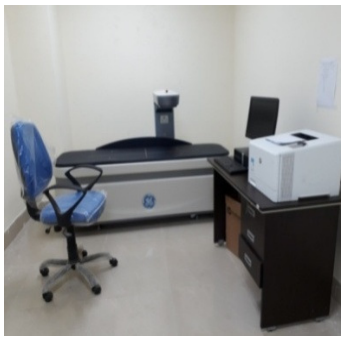
Two blood separators (six chamber) for blood component separation and four refrigerators / deep fridges meant for storage of blood had not been put to use since inception (January 2019).



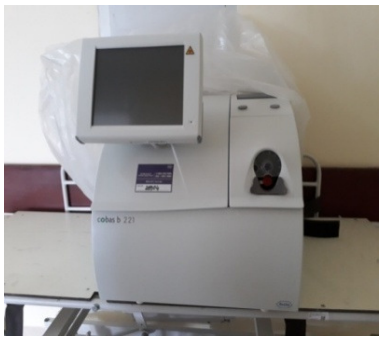
Idle blood separators (two units)

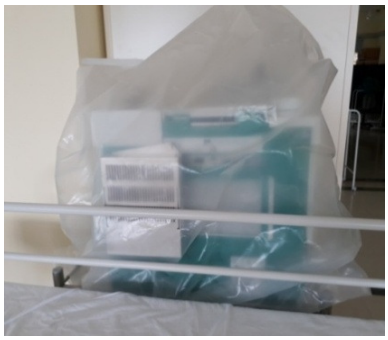


Idle blood storage refrigerators (four units)

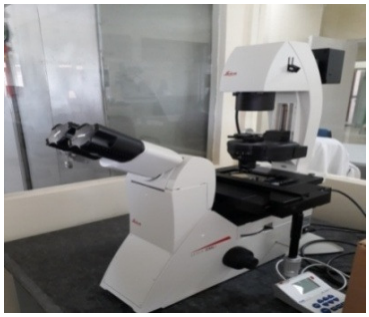


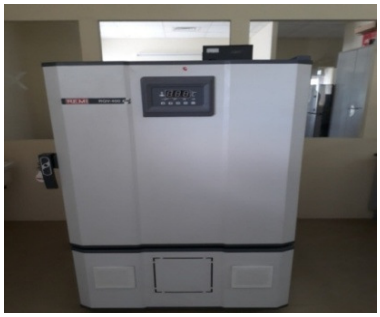
Idle Bone testing Machine



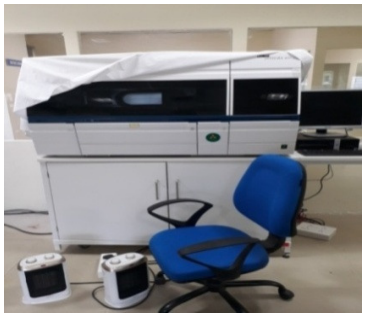


Blood gas analyser equipment lying idle for want of reagents

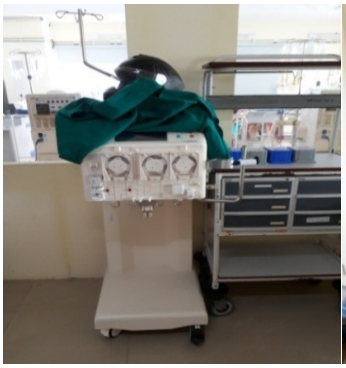




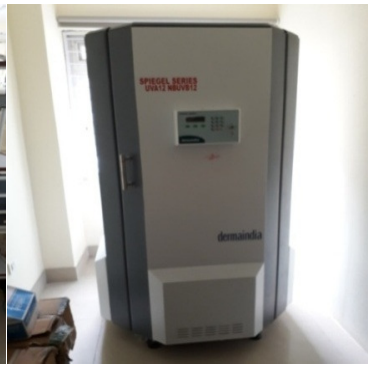
Idle fluorescent microscope and deep freezer at Histopathology Department



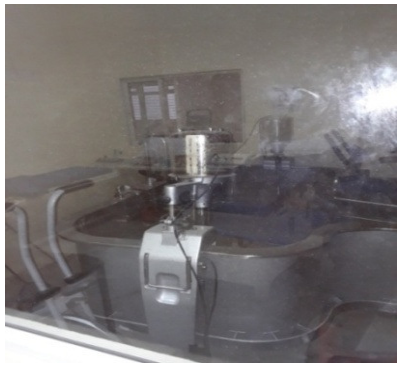
Idle auto analysers equipment (Pathology Department)



Idle Dialysis equipment



Idle dermatology equipment



Idle Physiotherapy machine

Thus, while a number of essential equipment as compared to the IPHS norms for a 500 bedded Hospital were not available in the 1,000 bedded hospital, a large number of other equipment procured by the Department were idling in disuse. The idling of equipment in the hospital indicated unplanned and excessive procurement without framing plan for their utilisation. The hospital had no plan and strategy for using the procured equipment. The chances of warranty/ guarantee of the equipment expiring before use cannot be ruled out. Release of payment to the suppliers/ contractors without installation and test-run of these equipment was not only irregular but indicated also lack of internal control in the hospital.

While accepting Audit observations, the New STNM authority stated (May 2020) that most of the equipment were idle due to non-availability of Surgeons and required technical personnel and also due to want of repairs. Some equipment were kept as stand by for future use.

3.4.4 Maintenance and Downtime of Equipment

For smooth operation of the equipment, regular maintenance and repair is to be done as per requirement. It was observed that annual maintenance contracts were executed by the Department with private service providers during the period covered under audit.

In the event of breakdown of equipment, a complaint was to be lodged telephonically to the designated officer stationed at Head Office, who in turn would instruct the service providers for necessary remedial action. As per agreement, equipment was to be repaired by the service providers immediately on receipt of complaint**.** Records relating to complaint lodged and action taken by the service providers were not produced and

hence, audit could not verify the promptness in attending to the complaints by the service providers.

The equipment of the New STNM Hospital had been supplied by the contractor of the hospital as part of turnkey contract under which the hospital was constructed. Despite inauguration and commissioning of the hospital in January 2019, the handing and taking over of the facility between the contractor, the executing agency (Building & Housing Department) and the Health and Family Welfare Department had not been effected till date. Consequently, modality for ensuring maintenance of the equipment could not be ascertained.

Conclusion

Audit noted absence of Equipment Procurement Policy (EPP) or any Standardised norms/ procedures for procurement of equipment for different health facilities. Thus, the types of equipment available in the test-checked DHs differ from one DH to another DH. In two test checked DHs, against the requirement of a total 1,420 equipment prescribed by IPHS for various services, 627 equipment were available resulting in shortfall of equipment of 56 *per cent.* Further, out of the 627 equipment available in the DHs, 616 (98 *per cent*) equipment were functional, 11 (two *per cent*) non-functional and one remained idle. Critical equipment required by Departments were found wanting. In STNM Hospital, costly equipment procured were either idling in disuse, non-functional for want of repair or lying unused due to want of technical personnel to operate them, etc. The Hospital/Department had formally not taken over the STNM hospital and equipment from the contractor and hence maintenance contracts for existing building and equipment in the hospital were not done.

Recommendations

- *State Government may ensure availability essential equipment in every hospital, particularly in view of the increasing reliance on diagnostics for treatment of patients.*
- *Proper utilisation of equipment may be ensured with requisite manpower for smooth delivery of healthcare services.*
- *Regular maintenance of equipment especially in the STNM multi-speciality hospital may be ensured through Annual Maintenance Contracts so as to reduce the breakdown time of critical equipment for diagnosis and improve the quality of health care.*

3.5 Drugs and Consumables Management

The State Government has adopted policy of providing free medical treatment *(registration & doctors' charges, medicines, diagnostic services, food for in-patients, etc.)* to the people of the State. Accordingly, no charges are imposed on patients visiting the hospital for treatment. Medicines, consumables and equipment are procured centrally by the Central Health Stores Organisation (CHSO), Gangtok and sent to the State Hospital/ DHs, CHCs, PHCs and PHSCs as per requirement.

The Department stated that it had adopted the IPHS norms for the facilities and services to be provided in the DHs. In terms of the IPHS, a DH is required to have at least

458 types of essential drugs and consumables in stock for patients visiting the hospital for providing minimum assured services. The status of availability of essential drugs and consumables in the sample DHs and New STNM Hospital during 2014-19 and stock out situations is depicted in the tables below:

Table 3.11: Availability of Drugs and Consumables in District Hospitals

District Hospital	Types of drugs/ consumables essential for a DH as per IPHS	Types of drugs/ consumables received 2014-19	Types of drugs/ consumables actually available on date of Audit (spot verification)	Status of stock-out of available drugs
Singtam	458	104	78	94 Stock-out situations ranging between 7 days to 2 years
Gyalshing	458	126	48	123 Stock-out situations ranging between 7 days to 5 years

Source: Information from hospitals

Table 3.12: Availability of Drugs and Consumables in New STNM Hospital

Hospital	Types of drugs/ consumables essential for a 500 bedded hospital as per IPHS	Types of drugs/ consumables received during Jan 2019 to Dec 2019	Types of drugs/ consumables actually available on date of Audit (spot verification)	Status of stock-out of available drugs during Jan 2019 to Dec 2019
New STNM	458	163	63	122 cases ranging between minimum 7 days to 1 year

Source: Information from hospital

- It was seen that against 458 essential drugs and consumables prescribed in IPHS, only 104 drugs / consumables were supplied to Singtam DH and 126 drugs/ consumables to Gyalshing DH during 2014-19. Further during spot verification by Audit, only 78 and 48 drugs/ consumables were available in stores in Singtam & Gyalshing DH respectively.
- Out of the 163 types of drugs and consumables supplied to New STNM Hospital, only 63 types of drugs and consumables were available in stock, during spot verification (February 2020).
- There were stock-out situations in 94 to 123 instances lasting up to seven days to five years in the two DHs and the New STNM Hospital had 122 cases of stock out that ranged from seven days to one year.
- Despite shortage of medicines in the DHs, it was seen that ₹ 6.09 crore allotted in the State Budget (2014-15) for purchase of medicines were diverted by the Department for repair of hospital equipment and vehicles.

During physical verification and patient survey, it was noticed that most of the medicines prescribed by the doctors could not be provided from the pharmacies of the DHs and the patients had to purchase the same from outside. Thus, the objective of providing medicines free of cost to the patients of the State was not fully achieved.

The Department stated (June 2020) that the funds provided for procurement of drugs and consumable was not sufficient to cater to the demands resulting in the shortage of drugs and consumables.

3.6 Quality Control and Testing of Drugs

The Department did not have any laboratory facility in the State for testing of drugs. Drug samples were drawn and sent to Guwahati for testing which took on an average of six months for analysis and receipt of test reports. Scrutiny of samples sent for analysis and the test reports thereof revealed that all drugs tested were found qualified and termed as standard. However, till receipt of analysis reports, drugs were already issued to health facilities and utilised by health facilities. Thus, the absence of drug testing facilities in the State led to considerable time lag in testing of the drugs and receipt of test results, causing the risk of consumption of untested drugs by patients.

While accepting the Audit comments, the Department stated (June 2020) that construction of Drug Testing Centre is being taken up, and the issue of testing of drugs within shortest possible time will be solved after construction of the Centre in the State.

Conclusion

During 2014-15, out of 458 essential drugs and consumables prescribed in IPHS, only 104 drugs / consumables were supplied to Singtam DH and 126 drugs/ consumables to Gyalshing DH. There were stock-out situations in 94 to 123 instances lasting between seven days and five years in the two DHs and the New STNM Hospital had 122 cases of stock out that ranged from seven days to one year. The serious non-availability of essential drugs in the test-checked DHs, compelled the patients to purchase the prescribed medicines from the open market by paying out of their pocket. Diversion of funds for drug purchases was seen in one year and considering the shortage of drugs, further diversion of funds cannot be ruled out for the period. The absence of drug testing facilities in the State led to considerable time lag in testing of the drugs and receipt of test results, causing the risk of consumption of untested drugs by patients.

Recommendations

- *The State Government may put in place a comprehensive drug policy according to the need of hospitals to ensure all time availability of essential drugs in each hospital in order to avoid 'stock outs'.*
- *They may ensure that a formulary of drugs is prepared by each hospital on the basis of disease patterns and inflow of patients. The State Essential Drug List (SEDL) be updated accordingly.*
- *Drug Testing should be taken seriously and the Government may ensure to set up a Drug Testing laboratory in the State, considering its geographical distance to avail of these facilities from other States.*