

CHAPTER-3
ESSENTIAL RESOURCES
MANAGEMENT

CHAPTER 3: ESSENTIAL RESOURCES MANAGEMENT

Availability of adequate and essential resources - manpower, infrastructure, equipment, drugs and consumables for 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 have adopted IPHS norms for the purpose. Audit also observed that the Department had not carried out any gap analysis to ascertain the requirement of resources and service provisioning in the hospitals. Budgetary exercise to ascertain demand/need of funds by DHs was not carried out and the Department did not allocate separate funds for procurement of drugs, equipment, consumables etc., for the DHs in the State Budget.

In exit conference and subsequent reply (October 2020), Department accepted that detailed gap analysis was not done with long term perspective plans.

The Department needs to address the issue by taking into account the long term perspective plan based on the facility surveys.

3.2 Human Resources Management

Human resources are one of the health system inputs by which outcome of a health facility is assessed. Engagement of adequate and appropriate human resources with reference to number of beds is of utmost importance to obtain desired results out of a health facility.

Audit scrutiny revealed that Department of H&FW did not formulate any norms on number and type of human resources required in health facilities and IPHS norms of GoI was followed. The details of available manpower in the State is as shown in **Table 3.1**.

Table 3.1: Human Resource Status in important category of posts in the State

Category of Technical Staff	Requirement as per IPHS	In Position	Shortfall	% shortfall
a. Doctors				
- Specialist Status	279	146	133	47.67
- General Duty MO Status	288	266	22	7.64
- Non Clinical/ Administrative posts	962	530	432	44.91
- Clinical Dentist	33	51	Nil	-
- Ayush MO	32	63	Nil	-
b. Nursing Services	1152	997	155	13.45
c. Paramedical Services	1672	979	693	41.45
d. Social Worker /Female Health worker	794	326	468	58.94

Source: Departmental Figures

As can be seen from above, there is shortfall in human resources with reference to IPHS norms especially in the category of Specialist Doctors (47.67 per cent), Nursing services (13.45 per cent), Technicians (41.45 per cent), Social Worker/Female Health Workers (58.94 per cent) and Non-Clinical/Administrative posts (44.91 per cent) etc. Shortage of doctors, nurses, paramedical services is an area of concern as the patients are deprived of quality treatment. The huge shortage (59 per cent) in the category of Social Workers/Female Health Workers would have a detrimental effect on the efficacy and quality of maternal and child care services. It is also observed that there was an excess of (55 per cent) of clinical dentists and Ayush Medical Officers (97 per cent) in the State, against the IPHS norms.

Status of manpower in test checked DHs were as shown in **Table 3.2**.

Table 3.2: Manpower available in the test checked DHs

Cadre	Requirement as per IPHS norms	DH Phek		DH Wokha		DH Tuensang		DH Kohima		
		2014-15	2018-19	2014-15	2018-19	2014-15	2018-19	Requirement as per IPHS norms	2014-15	2018-19
Doctors	24	12	12	11	11	12	14	50	44	62
Staff Nurse	30	19	30	14	13	23	26	135	102	123
Paramedics	43	7	10	6	5	6	6	66	44	55

Source: Departmental figure

As can be seen from above, there was persistent shortage of doctors, nurses and paramedical staff in the three test checked DHs¹ (Phek, Wokha and Tuensang) and shortage of staff nurse and paramedics in DH Kohima. During 2014-19, the shortage of doctors in DH Phek was 50 per cent against norms and 54 per cent in DH Wokha, whereas in DH Tuensang the number of doctors slightly improved from 12 (2014-15) to 14 (2018-19) and in the case of DH Kohima, position of number of doctors has improved from 44 to 62 (40.91 per cent).

¹ In respect of DH Kohima, as per IPHS norms for 300 bedded hospitals and in respect of DH Phek, DH Wokha and DH Tuensang as per IPHS norms for 51-100 bedded hospital.

Table 3.3: Status of shortage of Specialist Doctors/General Duty Medical Officers

Name of DH	Cadres in which manpower was not available/shortage	Impact
DH Phek	Specialists/ Medical Officers were not available in the Services of Medicine, Ophthalmology, Pathology Radiology, ENT, Dermatology, Psychiatry and Forensic Specialist during the last five years. There was shortage of Specialists/ Medical Officers mainly in Surgery, Obstetrics & Gynaecology, Paediatrics, Anaesthesia, Radiology and MIs.	Since sufficient specialists/ doctors were not available, services as envisaged in IPHS norms could not be completely provided to the patients of the districts.
DH Wokha	Specialists/ Medical Officers were not available in the Services of Medicine Specialist, Surgery, Obstetrics & Gynaecology, Paediatrics, Anaesthesia, Ophthalmology, Orthopaedics, Pathology, Radiology, ENT, Dermatology, Psychiatry and Forensic Specialist during the last five years. There was shortage of Specialists/ Medical Officers mainly in Surgery, Obstetrics & Gynaecology, Paediatrics, Anaesthesia, Radiology and MIs.	
DH Tuensang	Specialists/ Medical Officers were not available in Orthopaedics, Radiology, ENT, Psychiatry and Microbiology during the last five years. There was shortage of Specialists/ Medical Officers mainly in Paediatrics, Anaesthesia, and MOs.	
DH Kohima	There was no specialist /MO in Forensic Specialist during the last five years. There was shortage of Specialists/MOs mainly in the cadre of Medicine, Surgery, Paediatrics, Ophthalmology and Pathology. In the Dental wing, there were nine excess doctors than the norms during 2018-19.	

Source: Replies to the Audit Queries

In CHC Viswema (12 bedded) against the requirement of 11 specialists and MOs, the CHC had only four specialists while eight nurses were in position against the requirement of 10. There was no Obstetrician & Gynaecologist, Paediatrician and Anaesthetist in the CHC compromising the ability of the CHC to cater to routine medical issues.

In the absence of requisite number of doctors, the CHC catered services in General Medicine, dental care and AYUSH only and had to refer patients to DH Kohima which is 30 km away for other services.

In the case of PHC Botsa, there was one Doctor (Requirement as per IPHS norms is one Doctor in PHC), one GNM and six ANM (Requirement as per IPHS norms is three Staff nurses) and one Laboratory Technician as of March 2019. Hence, there was no shortage of staff in the category of Doctors and nurses in the PHC.

Department while accepting (October 2020) the audit observation, stated that it is constrained by non- availability of sanctioned posts and ban on creation of posts by State Government. Further, during the exit conference MD, NHM stated that Government has approved the creation of 153 posts in the cadre of Medical Officers, 211 posts of nurses, 11 OT Technicians and 11 other Technical staff.

However, post creation order indicating the type of specialisation in which posts were created, likely recruitment of doctors/nurses/technicians to fill the vacant posts based on the new post creation etc. were awaited.

3.2.1 Conclusion

Human resources, an essential resource for hospital management witnessed persistent shortage in all important cadres, including in test checked DHs. There was shortfall in human resources in the State, especially in the category of Specialist Doctors, Nursing services, Technicians etc. while there was excess manpower in clinical dentist and Ayush Medical Officers. There was persistent shortage of doctors in three test checked districts hospitals of Phek, Wokha and Tuensang in important cadres of services of Medical Officers, Staff Nurse and Paramedical Staff. Shortage of doctors in DH Phek was 50 *per cent* against norms, whereas in DH Wokha, the shortage of doctors was 54 *per cent* during 2014-19. Number of doctors in DH Tuensang slightly improved from 12 (2014-15) to 14 (2018-19). In the case of DH Kohima, position of number of doctors had improved from 44 to 62 (40.91 *per cent*) during 2014-19.

3.2.2 Recommendation

The State Government needs to address:

- (i) *Shortage of human resources in DHs on priority basis.*
- (ii) *The State Government may incentivise doctors to serve in the remote and hilly areas of the State.*

3.3 Physical Infrastructure

3.3.1 Position of sanctioned and functional beds in DHs

District Hospital is a hospital at the secondary referral level responsible for a district. Its objective is to provide comprehensive secondary health care services to the people in the district at an acceptable level of quality and to be responsive and sensitive to the needs of people and referring centres. As per IPHS norms, hospitals with bed strength below 100 (31 to 100 bedded) are treated as sub-district/sub-divisional DHs. Bed strength of DHs of Nagaland are as shown in **Table 3.4**.

Table 3.4: Bed strength of DHs in Nagaland

Sl. No.	Name of District	Sanctioned Bed strength	Functional beds	Sl. No.	Name of District	Sanctioned Bed strength	Functional beds
1	Kohima (NHAK)	300	252	7	Mokokchung	150	100
2	Mon	100	53	8	Wokha	50	50
3	Dimapur	150	150	9	Phek	75	68
4	Tuensang	100	100	10	Longleng	16	16
5	Zunheboto	50	50	11	Peren	50	30
6	Kiphire	38	38				

Out of 11 districts, there are five DHs which have a sanctioned bed strength of 100 and more. Thus, six DHs have infrastructure and facilities commensurate with a sub-district/sub-divisional hospital. Therefore, the people of these six districts were deprived of health care services of full-fledged district hospital. Further, five DHs are functioning with less than the sanctioned bed strength.

As referred in Chapter 2 earlier, the State had neither utilised the available funds for asset creation in the health sector nor increased its capital spending resulting in six DHs working as sub-district hospitals instead of full-fledged DHs, thereby defeating the objective of providing comprehensive health care services to the people in the district.

Department replied (October 2020) that bed strength of DH Kohima was reduced to 252 from 300 due to dismantling of Oncology ward to pave way for construction of Tertiary Cancer Care Centre and also conversion of some private wards to accommodate Dialysis unit. In the case of DH Phek, Department replied during exit conference that there were sufficient beds to run the DH as per the sanctioned bed strength but due to less patient load, full sanctioned bed strength was not utilised. The Department did not offer any reply in respect of the three DHs (Mon, Mokokchung and Peren).

3.3.2 Shortage of Sub Centres and CHCs

The IPHS norms for creation of health facilities are based upon population criteria, as shown in the table below:

Table No. 3.5: Norms for creation of health facilities

Health facility	As per IPHS Norms	Requirement as per IPHS norms	Actually available	Non-functional	Actually functional	Shortage
Sub-Centre (SC)	One SC for every 3000 people	660	583	204	379	281
Primary Health Centre (PHC)	One PHC for every 6 SCs or for every 20,000 people	99	142	39	103	Nil
Community Health Centre (CHC)	One CHC for every 4 PHCs or for every 80,000 people	25	35	14	21	4


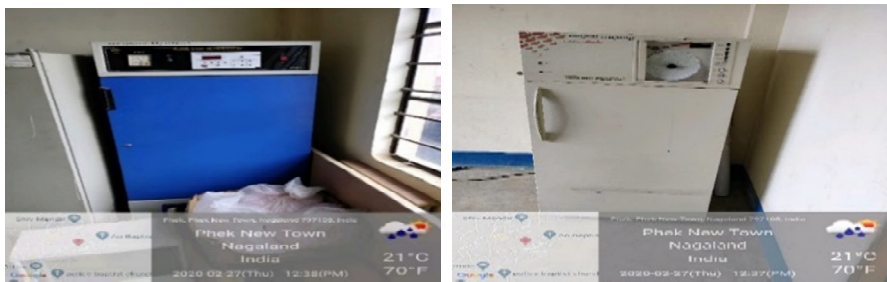
Source: Departmental reply

It is observed that there was no shortage in availability of PHC in the State as per IPHS norms, while there were shortages (42.5 *per cent*) in availability of functional SCs and (16 *per cent*) in CHCs in the State. This indicates that some habitations were deprived of health care facilities in their close proximity.

The reason for shortage of health units was stated to be lack of infrastructure and manpower. The reply is not acceptable as the department could not utilise the available capital budget during the period of audit which adversely affected creation of health facilities infrastructure at the lowest level. Further, 35 *per cent* of the SCs, 27 *per cent* PHCs and 40 *per cent* CHCs remained non-functional despite the fact that availability of funds was not a problem in the Department. As explained in paragraph 2.2.1 and paragraph 2.2.2 there were savings under both Capital and Revenue heads.

3.3.3 Blood Bank & Blood Storage Units

IPHS norms prescribe that all DHs should have functional blood banks. Blood bank shall be in close proximity to the pathology department and at an accessible distance to operation theatre, intensive care units and emergency and accident department. Further, blood bank should also follow all existing guidelines and fulfil all requirements as per the various Acts pertaining to setting up of the Blood Bank. The details of Blood Bank and Blood Storage Units in test checked DHs is given below:

Audit Observation	Department Reply
<p>In the test checked DHs, blood bank and blood storage unit was functional only in DH Kohima.</p> <p>The blood bank and blood storage units were non-functional in other DHs (Wokha, Phek and Tuensang). The main reason for non-functioning of blood storage unit was non-functioning of the blood bank refrigerators.</p>  	<p>Department replied (October 2020) that blood bank at DH Tuensang was almost complete with only electrification and plumbing work left.</p>
<p>Photograph 3.1: Non-functional blood bank refrigerator at DH Wokha</p> <p>Photograph 3.2 Non-functional blood storage units at DH Phek</p>	

The Department did not offer any comment on non-availability of blood banks and non-functioning of blood storage units in the two test checked DHs (Wokha & Phek).

3.3.4 Conclusion

Inadequate health system infrastructure limits the access of health facilities and also contributes to poor quality of care and outcomes, particularly among vulnerable sections of the society.

In five DHs, the functional beds were less than the sanctioned bed strength. Six DHs are functioning with less than 100 sanctioned bed strength which indicates that six districts were having inadequate health facilities of the level of sub-district/sub-divisional DHs to cater to growing population. Despite availability of funds there was shortage of 281 functional Sub Centers and four Community Health Centres in the State with reference to population criteria. There was no Blood Bank in three out of four test checked DHs. Blood Storage Unit at DH Wokha, Phek and Tuensang were also non-functional.

3.3.5 Recommendation

- (i) *State Government may ensure increasing the bed strength in deficient DHs taking into account population served and set up sufficient Sub-Centres and Community Health Centres to impart proximate health care services.*
- (ii) *State Government may ensure availability of Blood Banks in all DHs as per norms and expedite installation of available blood bank equipment.*
- (iii) *The Department may take steps to make DHs functional with Blood Banks.*

3.4 Management of Drugs and Consumables

3.4.1 Assessment of requirement of drugs and consumables

Timely supply of drugs of good quality, which involves procurement as well as logistics management, is of critical importance in any health system. As per the framework of implementation of National Health Mission (NHM) 2012-17 and NHM Free Drugs Service Initiative, a Corporation/Body was to be established for procurement and logistics of equipment and supplies. Further, procurement of drugs was to be done by the Central Procurement Board or equivalent body at the State level and suppliers were required to supply the tendered drugs to the district level. To ensure that there are no disruptions in availability of free drug, provision for cash transfer to Health Units (HUs) may be allowed, preferably up to 10 *per cent* but not exceeding 20 *per cent* of the resources for local purchase. Mention was also made in 'Nagaland Drugs and Diagnostic Policy 2013' to procure drugs timely, taking into account the consumption pattern and capacity of ware house to ensure uninterrupted availability of drug to patients.

Requirement of drugs and consumables in HUs are to be assessed taking into account the patient load, number of OPD, IPD, ICU, emergencies and other services being provided by the DHs and other HUs.

Audit observed that CMOs and MSs of the selected four districts did not assess the requirement as per Essential Drug List (EDL). Indents were also not sent to the Directorate of Health Services or Managing Director, NHM for procurement of drugs and consumables. DHFW/NHM also did not monitor the receipt of such demands from the CMOs/ MSs of the Districts.

Further, it was also observed that the State followed the centralised procurement policy, the Procurement Board constituted at the Directorate, identified the quantity and type of drugs and consumables to be procured without following prescribed norms of assessing the requirements for each HU. Further, cash was also not transferred to HUs (10 *per cent* to 20 *per cent*) as envisaged in the Free Drugs Service Initiative.

During 2014-19, against requirement of 255 EDL drugs only 102 drugs were procured. The shortage of EDL drugs ranged between 17 to 100 *per cent* while the overall shortage of EDL drugs was 60 *per cent* (**Appendix-I**). The shortage is explained inter alia, by the declining expenditure under drugs and medicines and has been detailed in paragraph 2.2.2.

Department replied (October 2020) that under free drug initiative, fund made available was not sufficient to sustain the availability of drugs and consumables for the whole year. Therefore,

cash to the health units for procurement of medicines and consumable as envisaged in the guidelines could not be provided.

Reply of the Department only corroborates the audit findings of low spending on drugs.

3.4.2 Procurement of Drugs with less shelf life

Terms & conditions for supply of Drugs under NHM & State Budget stipulates that all the supplied drugs should have a minimum life of 18 months. During 2017-19, 20 number of supply orders (₹ 19.98 crore) involving supply of 414 number of drugs under NHM and State budget were issued. Out of these procurements, it was observed that in 13 cases, 123 numbers of drugs were supplied with less than stipulated shelf life of 18 months.

Drugs with reduced shelf life result in early stock out position of essential drugs. An analysis of availability of essential drugs in the four selected districts revealed that essential drugs were regularly shelf out in the hospitals as shown in **Table 3.6**.

Table 3.6: Essential drugs shelf out period

Districts Hospitals	Shelf out period of Essential drugs				
	1 month to 3 months	3 months to 6 months	6 months to 9 months	9 months to 1 year	More than 1 year
Kohima	5	17	14	0	45
Phek	14	11	7	4	31
Wokha	50	43	42	51	102
Tuensang	25	09	14	12	19

Source: Records of the Hospitals

The shelf out period of essential drugs for more than a year is an alarming trend.

Thus, improper procurement and lack of verification of supplies received from suppliers resulted in reduced shelf life and shelf out of essential drugs. In absence of the availability of essential drugs, the patients would be compelled to purchase them from the open markets.

Department stated (October 2020) that some categories of drugs have shorter shelf life. In cases where drugs procured were of lesser quantities, the manufacturing companies did not entertain to supply the same which compelled the Department to procure the latest batch available in the market. Reply furnished by the Department is not acceptable as all supply orders stipulate that all the supplied drugs should have a minimum life of 18 months and the verification board had the right to reject any items of drugs, if it was found not according to the terms & conditions of supply order.

3.4.3 Quality assurance

Quality Assurance in public procurement is extremely critical. Drugs must be sourced from manufacturers who comply with Good Manufacturing Practices (GMP). All supply orders issued by the H&FW Department also includes the clause to enforce suppliers to furnish Quality Test Certificate from the manufacturer or from the Government empanelled testing laboratory. As per Nagaland Drugs & Diagnostic Policy 2013, Purchase Committee is to verify the manufacturing company, GMP certificate, Company authorisation letter to stockist/supplier, company price list and valid whole sale drug license before awarding the

supply orders. Besides, quality of drugs are also to be checked by sample testing of every batch before distribution. The State does not have a drug testing laboratory and for testing, drugs are sent to Regional Drug Testing Laboratory (RDTL), Guwahati.

Scrutiny of records revealed that suppliers (both from NHM and State budget) did not submit Quality Test Certificate either from the manufacturer or from the empanelled laboratories. Further no record on verification of Quality Test Certificate and other mandatory documents were available in the records.

Examination of records of Drug Controller (DC), Nagaland, Kohima revealed that 425 samples were drawn from different HUs and pharmacies across the State and 13 samples were declared as substandard. However, details of all the samples taken were not furnished to audit. Details of drugs declared as substandard by DC are shown in **Table 3.7**.

Table 3.7: Drugs declared as substandard by DC during 2014-15 to 2018-19

Year	No. of drug samples tested	No. of drug samples declared substandard
2014-15	52	0
2015-16	98	5
2016-17	50	1
2017-18	42	1
2018-19	183	7
Total	425	13

Source: Records of Drug Controller, H& FW Department, Government of Nagaland

Further, it was noticed that:

- Drug Inspector under CMO Wokha sent (July 2017) a sample of Metronidazole – 400 (batch No. 1712025) to Regional Drug Testing Laboratory (RDTL) Guwahati which was declared not of the standard quality (October 2018). Though recall order (October 2018) was issued, entire drug was dispensed to HUs (January & February 2019) after declaring it as substandard.
- NHM purchased 488700 tablets (August 2018) of Zinc Tablet DT- 20 (Batch No G-180018). The sample of the medicine from CMO store, Wokha, collected by Drug Inspector, Wokha (August 2018) was declared as not conforming to standards by RDTL Guwahati (October 2018). Drug inspector, Wokha seized 1400 tablets out of 7000 received by CMO. Call back order of remaining tablets of the batch issued to all districts was not on record.
- Sample of Iron Folic Acid tablet -0.05mg (Batch No. T. 5214) collected from CMO Store, Wokha (August 2018) also did not conform to the standards as declared (October 2018) by RDTL Guwahati.
- Sample of Albendazole Tablet IP 400mg (batch No. 9410) drawn (November 2018) from CMO Store, Tuensang was also found to be substandard (February 2019).

The details of recall of substandard drugs and status of disposal were not on record.

The above cases of supply & distribution of substandard medicines were the result of non-adherence to purchase protocols formulated by the Department. This had also resulted in

probable distribution of sub-standard drugs to the health units, endangering the health of patients.

Department replied (October 2020) that quality test certificates were produced by the supplier and counter checked by the verification board. In the case of call back of substandard drugs, Drug Controller, Nagaland stated (November 2020) that except Zinc Tablet DT- 20 (Batch No. G-180018), other tablets could not be recalled due to stock out position of the same in the respective health units.

Reply furnished by the Department is not acceptable as none of verification formats contained the remarks that quality test certificates were produced by the suppliers during verification. Further, call back order of sub-standard drugs would not have arisen, if the drugs supplied had the quality test certificates from the manufacturer. The reply is also an admission of the fact that sub-standard medicines were supplied to health units, much to the detriment of health of patients.

3.4.4 Conclusion

Requirement of drugs was not assessed prior to procurement and the selected DHs did not send indents to the Directorate Health Services or NHM for procurement of drugs and consumables and the Procurement Board constituted for procurement of drugs at Directorate level, procured drugs and consumables without assessing the requirement of each HU. Due to decline in expenditure on drugs and medicines from 0.52 *per cent* to 0.38 *per cent* of the revenue expenditure, there was a huge shortage (54 *per cent*) in availability of essential drugs in the State. Out of 414 number of drugs procured, 123 drugs had a shorter shelf life than required and the quality of drugs supplied remained suspect as the manufacturers did not furnish quality certificates as required in the supply orders and the Nagaland Drugs & Diagnostic Policy 2013. There were instances where drugs declared as sub-standard by the Regional Drug Testing Laboratory were issued to the health units, jeopardising the health of patients.

3.4.5 Recommendation

- (i) *The Department may ensure that the procurement of drugs is based on realistic assessment of requirements of health units and ensure that Free Drugs Service Initiative is actually implemented in the State's Health Facilities.*
- (ii) *Procurement of drugs, consumables etc. should be made in a timely manner to avoid stock of drugs with reduced shelf life.*
- (iii) *The State Government may make it mandatory for suppliers to furnish quality report for medicines so as to ensure quality drugs to patients besides setting up of a Drug Testing Laboratory.*

3.5 Availability of Equipment

In order to provide quality health services, DHs should be well equipped with all necessary lifesaving equipment, diagnostics and therapeutic equipment, furniture and other hospital accessories. Norms for requirement of equipment by various departments is provided by IPHS. Audit scrutiny revealed that sufficient number of equipment required as per IPHS norms were not available in test checked DHs as detailed in table 3.8 below:

Table 3.8: Shortage of important equipment in test checked DHs

Name of the Equipment	Upto 100 beds				201-300 Bedded	
	Norms	DH Tuensang	DH Wokha	DH Phek	Norm	DH Kohima
300 M.A X-ray machine	1	0	0	1	1	0
100 M.A X-ray machine	1	0	0	0	1	1
60 MA X-ray	1	0	0	0	1	0
Dental X-ray machine	1	0	0	0	1	1
Colour Doppler Ultrasound machine with 4 probes)	2	0	0	0	3	1
Safe light X-ray darkroom	2	1	0	2	3	1
Cassettes X-ray	10	4	0	2	15	2
X-ray lobby single	4	1	0	0	8	1
X-ray lobby Multiple	0	0	0	0	1	0
ECG machine	1	0	0	0	2	0
Ventilators (Adult)	1	0	0	0	4	1
Ventilators (Paediatrics)	1	0	0	0	1	
Pulse oximeter	3	1	0	0	8	1
Infusion pump	1	0	0	0	2	0
B.P. apparatus table model	12	1	0	0	25	3
Stethoscope	15	1	3	3	40	11
Phototherapy Unit	1	0	0	0	3	0
Total availability w.r.t norms (Per cent)	56	9 (16%)	3 (5%)	8 (14%)	118	23 (19%)

Source: Records from District Hospitals

It is observed from the table that important equipment such as 100 M.A X-ray machine, Dental X-ray machine, Colour Doppler ultra sound, ECG machine, Ventilators (adult & paediatrics), Infusion pump, Phototherapy unit were not available in 3 out of 4 DHs. While 300 M.A X-ray, X-ray lobby multiple, ECG machine, Infusion pump and Phototherapy unit were not available in Kohima DH. The availability of essential equipment in the three test checked DHs (Tuensang, Phek & Wokha) ranged between five to 16 *per cent*, while the availability of equipment in DH Kohima is only 19 *per cent*, which is a multispecialty hospital and the State's only referral hospital. This would severely impact effective diagnosis of the patient maladies. As referred in Chapter 2 earlier, less allocation on Capital head and non-utilisation of available funds is reflected in the poor availability of equipment in the test check DHs.

Department did not offer any comment (November 2020) on non-availability of important equipment in the test checked DHs.

3.5.1 Incomplete Supply and Non-utilisation of Available Equipment

Apart from shortages in equipment outlined above, audit also observed that in the following cases, though equipment was procured, its optimum use could not be ensured.

Supply order for 27 equipment for establishment of blood separation unit at DH Kohima was issued (January 2018) by State Health Society (NHM) for ₹ 72.78 lakh to the supplier with the terms & condition of the supply order that supplies should be completed within 60 days from the date of issue of supply order. It was also mandatory to produce quality test certificate from

the manufacturer or from the Government empanelled testing laboratory and up to date good manufacturing practices certificate as per the supply order. It was noticed that as per the verification report, items were supplied (September 2018) and were installed in Pathology Department of DH Kohima. However, five equipment² were not supplied by the supplier and payment was released (March 2019) by NHM based on an undertaking by the supplier to supply the same within 20 days. However, it was observed that the Blood Separation Unit could not be made functional as of March 2020 as the supplier did not supply all equipment despite full payment.

Department replied that equipment which were not supplied earlier have been supplied now (October 2020). However, blood separation unit could not be made functional due to defects arising in few of the supplied equipment. Reply is an acknowledgement of the fact that the quality conditions envisaged in the supply order were not complied with the supplier. Notwithstanding this defect, payment was released to the supplier.

3.5.2 Non-functional Biomedical Equipment

Department of H&FW entered into an agreement (October 2016) with a firm for maintenance of Bio-Medical Equipment in all the public health care delivery institutions for an amount of ₹ 2.60 crore per year for a period of five years. As per the term & conditions of the agreement, the service provider had to maintain an up-time of 24x7, 365 of 95 *per cent* of the equipment in DHs, 90 *per cent* in CHCs and 80 *per cent* in PHCs. Appropriate penalty clause was included in the scope of work for non-maintenance of required up-time. The firm had been paid ₹ 5.18 crore up to July 2018. No payment was released after that due to unsatisfactory service by the service provider. The Department did not cancel the agreement with the firm and also did not select any new service provider (April 2020).

Audit could not assess the status of maintenance of up-time of equipment installed in test checked DHs as DHs did not maintain Call record register. It was however observed that there were 75 different equipment³ lying non-functional in test checked DHs. Number of months for which these equipment were lying non-functional could not be calculated as three⁴ out of four test checked DHs did not furnish date from which the equipment were non-functional. In the case of DH Phek, down time of equipment ranged from two months to 15 years.

Photograph of some of the non-functional equipment are depicted below:

² Platelets Agitator, Automated Plasma Expresser, Electronic Weighing Balance and Elisa Rader and table top centrifuge.

³ DH Wokha – 26 equipment, DH Tuensang- 24 equipment, DH Kohima - 17 equipment, DH Phek- 8

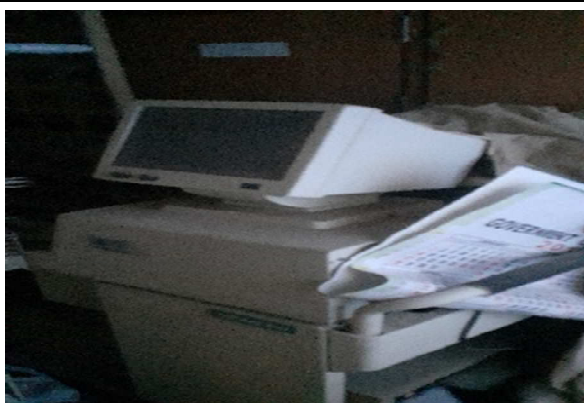
⁴ DH Tuensang, Kohima and Wokha.



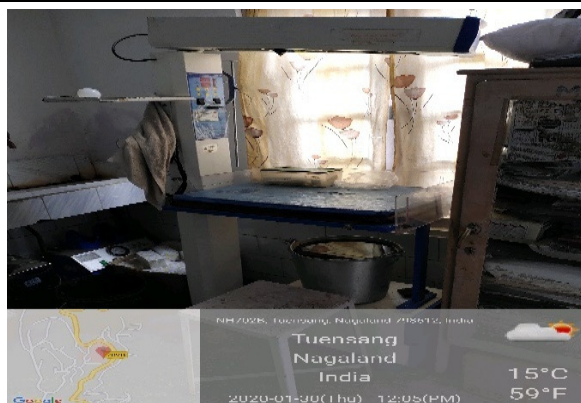
Photograph 3.3: Mammography Machine installed (March 2015) in DH Kohima was not functioning since October 2019. There was frequent break down and was functional only for 31 days since its installation.



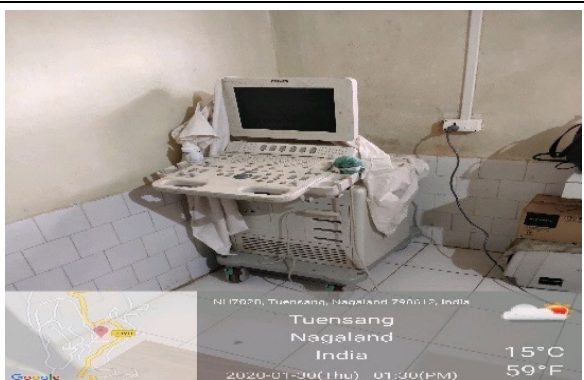
Photograph 3.4: Non-functional X-ray machine kept near dental X-ray room in DH Kohima



Photograph 3.5: Non-functional ultra sound machine since March 2014 in DH Kohima



Photograph 3.6: Non-functional radiant warmer since 2018 in DH Tuensang



Photograph 3.7: Non-functional Ultra sound Machine since November 2018 in DH Tuensang.



Photograph 3.8: Non-functional dental x-ray machine since May 2018 in CHC Viswema.

Further, Department also did not invoke penalty provisions as stipulated in the contract agreement for non-maintenance of up-time.

Thus, due to non-maintenance of up-time, expected service could not be provided to the patients.

Department while accepting (October 2020) the audit findings replied that in view of the non-maintenance of up time as per agreement and in the light of non-repair of equipment lying in DHs, the payment for the month of April 2019 to December 2019 had not been released and the agreement also cancelled with effect from 1st of January 2020. It was also stated that proposal was made for management of Bio-Medical Equipment in house which has been approved in ROP 2020-21 and the State is to initiate the pilot project in one or two districts.

Fact however, remains that equipment are still remaining non- functional as no new agency has been entrusted for the repairs of the equipment (November 2020) depriving the intended benefit out of these equipment to the patients.

3.6 Conclusion

For quality healthcare services, appropriate medical equipment must always be available and should function effectively. Audit scrutiny revealed deficiencies in availability and functionality of equipment in test checked DHs. Important equipment like Dental X-ray, Ultra sonogram, Computerized ECG Machine, Cardiac Monitors, Ventilators, Photo Therapy Units, Equipment for ENT *etc.* were not available in three test checked DHs (Phek, Wokha and Tuensang). The availability of essential equipment in DH Tuensang, DH Phek and DH Wokha ranged between five to 16 *per cent* whereas the availability of equipment in DH Kohima was 19 *per cent*, though it is a multispecialty hospital and the State's only referral hospital. There were 75 different equipment which were lying non-functional in test checked DHs, for want of maintenance of equipment, affecting the service delivery.

3.7 Recommendations

- (i) *State Government may ensure the availability of full range of essential equipment in every DH, particularly in view of the increasing reliance on diagnostics for treatment of patients.*
- (ii) *The Department may ensure proper maintenance of equipment through Annual Maintenance Contract to reduce the breakdown time of critical equipment for diagnosis.*